I B=J9FG=HMTC: 'D=HHG6IF; < '@/GK5BGCB'ÙÔPUUŠÁUØAÔÞÕ@ÒÒÜ@ŐAØÔQ&(ŠÁBAÔÞXÜUÞTÒÞVOEŠ





CENTER FOR IMPACTFUL RESILIENT INFRASTRUCTURE SCIENCE & ENGINEERING R[ā]oÁse)åÁÛ^æ†æ)oÁ Ö^•ā]}ÁJ]cā[āæeā[} : **-B**5 @F9DCFH ŴŴÒĔĨĔŦĔŦĔŦ ØÒÓÜ₩ŒÜŸÁŒŒĨ

<b>30'T gr qt v'P q0</b> KT KJG/47/43/23/23	401 qxgt po gpv'Ceeguikqp" P q0	50T gekr kgp var E c ve nqi 'P q0		
<b>60VԽng'Եpf 'UwdvԽng</b> Iqkpv'cpf 'Ugcrcpv'F guki p'Qr vko է cvkqp		<b>70Tgrqtv'Fcvg'H</b> gdtwct{'4247		
		80Rgthqtokpi'Qticpk¦cvkqp'Eqfg		
90Cwyj qt *u+ Lwrkg'O 0Xcpf gpdquuej g''Rj F 0RG O gi cp''F ctpgm \ cej ct { 'Dtqf { Ej ctrgu''F qppgm{		:0Rgthqtokpi'Qticpk cvkqp'Tgrqtv'Pq0		
<b>; ORgthyto kpi 'Qticpk¦cvkqp'Pcog'cpf 'Cfftguu</b> KTKUG Fgrctvogpv"qh"Ekxkn"( "Gpxktqpogpvcn"Gpikpggtkpi."964"Dgpgfwo Jcm"Wpkxgtukx{"qh"Rkwudwtij Rkwudwtij."RC"37483		320Y qt niWplø'P q0*VT CKU+		
		<b>330Е qpvt cev'qt 'I t cpv'P q0</b> RK/VKГKJG423:		
340Ur qpuqt kpi 'Cigpe{ 'P cog'cpf 'Cfftguu		<b>350V{ r g'qh'T gr qt v'cpf 'Rgt kqf 'E qxgt gf</b> " 3212314243'6''2412314247		
		360Ur qpuqt kpi 'Ci gpe{ 'Eqf g		
370Uwrrngogpwct{'Pqwgu				
<b>380Cduxt cev</b> Cu'r gthqto cpeg"gzr gevcvkqpu"cpf "y g	g"fgukip"nkhg"eqpvkpwg"vq"dg"kpet	gcugf 'hqt''lqkpvgf ''r nckp''eqpetgvg''r cxgo gpvu''		

"IRER+u.'kv'ku'ko r qtvcpv'y cv'y g'lqkpvu'qh'y g'r cxgo gpv'o ggv'y gug'f go cpf u0'Vj g'lqkpv'o wuv'cnuq'dg'r tqr gtn{" ugengf "qt "kv"eep"ugt xg"cu"ep"gpvt { "r qkpv"hqt"o qkuwtg. "f gkekpi "uenu"epf "kpeqortguukdngu0"Vj ku"eep"ngef "vq"f wtedkrkv{" kuuwgu. "gtqukqp. "r wo r kpi. "hcwnkpi. "ur cmkpi "cpf "dmqy / wr u0Ugcncpv'r gthqto cpeg "ku"kphnwgpegf "d {"ugcncpv'o cvgtkon" lqkpv'tgugtxqkt"fgukip."cpf"yjg"vkokpi"cpf"s workv{"qh'yjg"kpuvomovkqp0C"fkuewuukqp"qp"c"jqnkuvke"crrtqcej"vq"lqkpv" f guki p'ku'r tqxkf gf "cmpi 'y kj "cp'kp/f gr y "cpcn{ uku'qp''ugcncpv'cpf "lqkpv'r gthqto cpeg'\*Cr r gpf kz 'C''cpf "D+'cpf " tgugtxqkt"fgukip"\*Crrgpfkz"E+'hqt"IRERu'ykj"37/hv'lqkpv'urcekpiu0Cp"gzvgpukxg"ncdqtcvqt{"uvwf{"ycu"rgthqtogf" xq"gxcnxcvg"yj tgg"lqkpv"f guki p lo cvgtkcn'eqo dkpcvkqpu"uvdlgevgf "vq"uko wrcvgf "lqkpv"qr gpkpi lenqukpi "cpf"xgj keng" nqcf "hcvki wg"hqt"c"64/{gct"fguki p"nkhg"qh"c"37/hv"LRER'\*Crrgpfkz"F+0Kv"ycu"fgvgto kpgf"yjcv"V{rg"KKcurjcn/hkngf" cpf "ugcngf" tgugtxqkt" fguki pu"gzjkdkgf" i tgcvgt" eqjgukxg" cpf" cfjgukxg" fcocig" cpf" y gtg" nguu" y cvgtvkijv" y gr ukrkeqpg"ugcrgf"tgugtxqkt"fgukip"chygt"yjg"64"{gctu"qh'ukowrcvgf"ugtxkeg"nkhg0

<b>390Mg{ 'Y qtf u</b> '' Eqpetgyg'Rcxgo gpv'' Iqkpv'Ugcrcpv' Tgugtxqkt'F guki p		<b>3: 0F knt klwkqp'Uvcvgo gpv</b> P q'tguvtkevkqpu0Tgr qtv'cxckrcdrg'cv<' i wru⊲lly y y 0ppi kogetkoi (r kw0ef wlKFkUGIFg' ugctej /RtqlgewlEqorngvgfl		
3; 0Ugewt k√ 'Encuukh0*qh'vj kı' t gr qt v+ W} & æ•ãætå	420Ugewtk∢ 'Encudd0*qhi\j ku' r ci g+ W} & æ•ãæ^å	<b>430P q0\qh'Rci gu</b> 363	440Rt leg	
: cfa '8 CH': '%+\$\$"+	fl !+&L' Tgrt of wevlop 'a	hlego rngygf 'r ci g'ewyj g	rtk gf	

: cfa '8 CH': '%+\$\$"+

#### KKKG

Vjg"Kor cevhwn'T guknkgpv"K pht cuvt wewstg"Uekgpeg" Vjg" cw jqtu" it cvghwm{" cempqy ngfig" yjg" ( "Gpi kpggtkpi "eqpuqt kwo "y cu"guvcdrkuj gf "kp" hkpcpekcn'uwr r qt v'qh"cm'eqp tkdwkpi "o go dgtu" y g"F gr ct vo gpv" qh" Ekxkn" cpf "Gpxkt qpo gpvcn" qh'KT KUG0 Gpi kpggtkpi " kp" yj g" Uy cpuqp" Uej qqn" qh" Vj g"cwj qtu"y qwrf "cnuq"rkng"vq"cempqy rgf i g" Gpi kpggtkpi "cv'y g"Wpkxgtukx{ "qh'Rkvudwti j "vq" Gf y ctf " Umqtr kpunk" \*RVE+." Lco gu" [ qwpi " cfftguu"yjg"ej cmgpi gu"cuuqekcvgf "y kj "ci kpi " \* 1 wrkugm+"cpf "Dtcpf qp"Hcttgm"\* 1 wrkugm+."hqt" vtcpur qtvcvkqp" kphtcuvtwewstg0' KTKUG" ku" eqqtf kpcvkpi "uksg" xkuksu" cpf "cuukuvkpi "y kj" cfftguukpi " y gug " ej cmgpi gu " y kj " c " ugchpi " y g " cur j cn/" ur geko gpu " kp " y g " hkgrf =" eqortgjgpulxg" crrtqcej " yjcv" kpenwfgu" N{fkc" Rgffkeqtf" \*RgppFQV+hqt" rtqxkfkpi" mpqy ngf i g'i cy gtkpi . "f gekukqp"o cmkpi . "f guki p" hkgnf " r gthqto cpeg" cpf " lqkpv" ugcncpv" uwtxg{" qh"o cygtkcnu"cpf "cuuguu"cpf "kpygtxgpykqpu0'K" f cyc="cpf "Vqo "D{tcp"\*Dt{cp"Eqpetgyg+"cpf" hgcwtgu" c" eqmcdqtcvkxg" ghhqtv' co qpi " y g" Lwuxkp" D{tcp" \*P gxkmg" Ci i tgi cvgu+" hqt" r wdnle" ci gpelgu" yj cv" qy p" cpf " qr gtcvg" yj g" kphtcuxtwewstg." y g" rtkxcvg" eqo rcpkgu" y cv" f guki p" cpf " dwkrf " kv" cpf " y g" cecf go ke" eqo o wpkv{ "vq"f gxgmr "etgcvkxg"uqnwkqpu"y cv" ecp"dg"ko r ngo gpvgf "vq"o ggv"yj g"pggf u"qh"ku" Vq" mctp" o qtg." o go dgtu0'

# PITT IRISE

#### Cempqyngfigogpvu

rtqxkfkpi " yjg" ej go kecn' cfo kzwtgu" cpf" ci i tgi cvgu."tgur gevkxgn{."wugf "hqt"ecuvkpi "yj g" eqpetgyg" ur geko gpu0'Y g"y qwrf " cnuq" rkmg" vq" cempqy ngf i g"yj g"ghqt u"qh"yj g"wpf gt i tcf wcvg" tgugctej gt" Lcem' Rctm wtw' y j q" cuukuvgf" xkukk<" gzvgpukxgn{"qp"yj ku"tgugctej "ghhqtv0

Kp"cffkkap."yg"ctg"kpfgdvgf"vq"vjg"cfxkeg"cpf" cuukuvcpeg"r tqxkf gf "d{ "yj g"vgej pkecn"cf xkuqt { " eqo o kwgg<

O cwj gy " Drqwi j " cpf " Ej ctrgu" Dwej cpcp" \*RVE+"Lcuqp"O qrkpgtq"\*Cmgi j gp{"Eqwpv{+" Ej wem'P kgf gttkvgt "cpf "F cxkf "Uewnkq"\*I qnf gp" Vtkcping" Eqputive where +" N{fkc" Reff keqtf" \*RgppFQV+"cpf"[ cy k"[ cy kr qqt"\*HJ Y C+0

#### Fkencko gt

Vj g"xkgy u"cpf "eqpenwukqpu"eqpvckpgf "kp" yj ku" f qewo gpv"ctg"yj qug"qh"yj g"cwyj qtu"cpf "uj qwrf " pqv" dg" kpvgtrtgvgf " cu" tgrtgugpvkpi " qhhkekcn" r qn/lekgu." gkyj gt" gzr t guugf "qt" kornkgf." qh" yj g" Rgppu{ rxcpkc" F gr ctvo gpv" qh" Vtcpur qtvcvkqp." y g" Rgppu{nxcpkc" Vwtprkng" Eqo o kuukqp." Cmgi j gp{" Eqwpv{." I qnf gp" Vtkcpi ng" Eqpust weskqp. 'O kej cgn'Dcngt 'Køsgtpcskqpcn''y g'' Eqpuvt we vqtu" Cuuqekcvkqp" qh" Y guvgtp" Rgppu{ncplc''qt''EFT''O ci wltg0

# Vcdrg'qh'Eqpvgpvu

#### Nkw'qh'Hki wt gu

Hi wt g'40'Y kf g'lqkpv'y kj 'eqj gukxg'lqkpv'ugcrcpv'icknxtg'cpf 'kpeqo r tguukdrgu'\*UT/88. 'pgct'Hqtf Hi wt g'C080Eqpetgyg'Rcxgo gpv'Lqkpv'F guki p'\*c+'Wphkngf '\*qr gp+'\*d+'Hkngf 'kp'ukpi m''ucy ''ewi\*e+ Hi wtg'C040Etquu'ugevkqp'fgrkevkqp'qh'lqkpv'ugcrcpv.'y kj "mecvkqpu'qh'uvtguu'eqpegpvtcvkqp" **Hi wt g'D040**Rgtegpv'ugevkqp''y kij ''my ''twwkpi ''cu''c''hwpevkqp''qh''{ gctu''kp''ugtxkeg''qp''y g''z/czku'hqt''cm'' Hi wt g'D050Eqttgrcvkqp"o cvtlz hqt"ugevkqpu"y kj "32"ugtxkeg"{ gctu"qt hgy gt"cpf "cvhgcuv'32' "lqkpvu" **Hi wt g'D60**Rgtegpv'lakpvu''ur cmgf "cu''c'hwpevkap"ah''{ gct "eaput wevgf . "y kj "ugcncpv''(r g'f gpavgf "d{" Hi wt g'D070Eqwpv'qh'ugevkqpu'y kj 'xctkqwu'rgxgnu'qh'ur cmkpi. 'uj qy kpi 'vj cv'vj g'o clqtky 'qh' Hi wt g'D0 0F kutkdwkqp"qh'r gtegpv'lgkpu'hcwngf "hqt "cm'ugevkqpu'y kj "o gcuwtcdrg"hcwnkpi " **Hi wt g'DQ 0**Eqttgrcykap'o cytz 'hat'cm'ugeykapu'y kj 'o gcuwtcdrg'hownybi .'y kj 'r gtegpy'lakow' Hi wt g'D0820F kutkdwkap "ah'r gtegpv'lakow 'icwngf 'hat "cm'ugevkapu" y kj "o gcuwtcdng 'icwnkoi " Hi wt g'D030Eqttgrcvkqp'o cvt/z 'hqt''y g'373'ugevkqpu'y ky 'o gcuvtcdrg'hcwn/pi .'y ky 'r gtegpv' Hi wt g'E 040F krt guu'uwt xg { 'htqo 'Lwpg'39."4243. 'y kj 'lqkpu'cpf 'urcd'pwo dgtu'kf gpvkhgf '0000074 

**Hi wt g'E0 0**Gzco r mg'UEVG''r myu'hat "ecug''y j gtg'\*c+"pa'lakov'menwr "geewtu. "cpf "\*d+"lakov'menwr " **Hi wt g'E050**C x gtci g'hlenf 'guvko cvgf 'o qpyi n' 'ej cpi g'ko'l qkov'y kf yi 'cv'yi g'urcd 'eqtpgtu' Hi wt g'E (B70Cxgtci g'r tgf kevgf 'o qpvj n{ 'ej cpi g'kp'lqkpv'y kf vj 'cv'vj g'urcd 'eqtpgtu' Hi wtg'E0890Heaf "guylo cyef "xu'r tgf lewef "cxetci g"o apyinf "ei cpi g"lo "lakov"v kf yi "cy'yi g"yar "ah'yi g **Hi wt g'E (B: 0**) High "guvo cvgf "xu"r tgf kevgf "cxgtci g"o qpy n{"ej cpi g'kp" lqkpv'y kf y "5" kp"f qy p"kp" **Hi wt g'E(B; 0**Hkgrf "guvko cvgf "xu"r tgf kevgf "cxgtci g"o qpvj nf "ej cpi g"kp"lqkpv"y kf vj "cv"vj g"dqvqo " Hi wtg'E0420Cxgtci g'o qpyj n{ 'Itkevkqpcn'eqghhekgpvu'\*y gto cn+'dcenecrewrcvgf 'hqt'eqtpgt'uvtckpu **Hi wt g'E0430**Cxgtci g'o qpyj nf 'htlevkqpcn'eqghhekgpu'\*y gto cn+'dcenecrewrcvgf 'hqt'o kf urcd" **Hi wt g'F (BO**Uej go cvke"qhi<sup>\*</sup>c+"cur j cn/tgugtxqkt"f guki p"õCTö"<sup>\*</sup>d+"cur j cn/tkmgf "f guki p"õCHö"<sup>\*</sup>e+" **Hi wt g'F 07**0'Vqr 'xkgy ''qh'\*c@+''wpi tqwpf ''cpf ''\*c04+'i tqwpf ''ur geko gpu.''cpf ''htqpv'xkgy ''qh'\*d@+'' His wt g'F 0 O'Ugenkpi "ugwr "hqt"\*e+"cur j env"t gugt xqkt "epf "\*d+"cur j env"hkngf "ur geko gpu. "ugengf "kp" vj g" **Hi wt g'F 0820**Gzco r mu'gh'\*c+''cur j cn/'tgugtxgkt 'öCTö. '\*d+''cur j cn/'hkngf 'öCHö. ''cpf '\*e+'ukrkeqpg'' **Hi wtg'F 0840**Ur geko gpu'kp'htgg gt"cv'dgi kppkpi "qh'htgg g"e{eng'y kj "y g'y gto qeqwrng/go dgf f gf Hki wt g'F 0650Ur geko gpu'kp'y g'ewtg'tqqo "cv'y g'dgi kppkpi "qh'y g'y cy "e {eng'y ky 'y g" **Hi wt g'F 087**0Lakov'ar gpkpi lengukpi 'hcvki wg'\*c+'kplitctgf 'r j ava''cpf '\*d+'eattgur apf kpi 'ur geko gp'0; 4 

**Hi wt g'F 045**0V{r kech'ut guu'xu'lakov'ar gokoi 'hat 'ukdeapg't gugt xakt 'ur geko go0P avg<ei coi g'ko''{/'' Hi wt g'F 0480'Ukrleapg't gugt xakt "grouvle"o af wrwu'chigt "goej "f oo ci g"gxgpv0P avg<ej opi g'kp"{/czku Hi wt g'F 0490 Gzco r mg'qh'ko r gthgevkqpu'y kj kp''cur j cnv'ugcnopv'hqt 'hkmef ''ur geko gp. ''xqkf u'ektemef '' Hi wt g'F 04: 0Cxgtci g'r gtegpv'ej cpi g'kp"gncuke"o qf wnwu'hqt "cur j cn/hkngf "õCHö"cur j cn/ **Hi wtg'F (53**0<sup>°</sup>Ukkeapg'tgugtxakt'ui gct'o af wnwu'chgt''gcei 'f co ci g''gxgp\0P avg<ei cpi g''ko''{/czku'' Hi wt g'F (550'Nquu'o qf wnwu'hqt 'cur j cn/hkrngf 'lqkpvu'chygt 'gcej 'f co ci g'gxgpv0P qyg<f khigtgpv'{/ Hi wt g'F (580Cxgtci g'r gtegpv't gf wevkqp 'kp 'muu'o qf wnwu'ligt ''cur j cnv'hkngf. ''cur j cnv't gugt xqkt. ''cpf Hi wt g'F (590Eqo r mz 'o qf wrk'hqt 'lqkpv'qr gpkpi lengukpi '\*vgpukrg+'cpf 'xgj keng'\*uj gct+'nqcf 'hqt Hi wt g'F (5: 0'Eqo r mz "o qf wrk'hqt "lqkpv'qr gpkpi lengukpi "\*vgpukrg+"cpf "xgj kerg"\*uj gct+"nqcf "hqt" Hi wt g'F (5; 0'Eqo r mz "o qf wrk'hqt "lqkpv'qr gpkpi lengukpi "\*vgpukrg+"cpf "xgj kerg"\*uj gct+"ncf "hqt" ukkeqpg"tgugtxqkt"ur geko gpu0P qvg<"f khigtgpv"{/czku"uecng"vj cp"cur j cnv"hkngf "cpf "cur j cnv"tgugtxqkt0 Hi wtg'F 6620Cxgtci g'r gtegpv'tgf wevkqp'kp'eqo r ngz o qf wnwu'f wtkpi 'lqkpv'qr gpkpi lengukpi 'hqt Hi wtg'F 0630'V{r kechlqkpv'qr gpkpi lengukpi 'j {uvgtguku'nqqr 'f wtkpi 'c'eqpf kkqp'gxcnwcvkqp'hqt 'cp Hi wtg'F 0640J {uvgtguku'nqr "ctgc"chygt"gcej "f co ci g"gxgpv0\*rcdqtcvqt { "vgo r gtcwtg"? "94/95ÅH" Hi wtg'F 6650J {uvgtguku'nqr 'unqr g'chygt 'gcej 'f co ci g'gxgpv0\*rcdqtcvqt { 'vgo r gtcwtg'? '94/95ÅH **Hi wt g'F 668**0'Ukkeqpg't gugt xqkt 'r gto gcdkkk/ "cpf 'f co ci g"ceewo wrckqp0'P qvg<'y g'r gto gcdkkk/ " chygt 'F co ci g'Gxgpv'6'f qgu'pqv'kpenwf g'vj g'ur geko gp'y j kej 'f gxgrqr gf 'hwm/f gr yj 'cf j gukxg'hcknwtg'' 

# Nkw'qh'Vcdrgu

Vcdrg'F (50'RgppF QV'lqkpv'ugcrkpi ''uwtxg{ 'tguwnu'hat ''LRER''y ki ''37/hv'lqkpv'ur cekpi '']; ''0000000; 7 

# Gzgewkkg'Uwo o ct{

Vj g"f gxgmr o gpv"qh"vtcpuxgtug"hcvki vg"etcemu"ku"pqv"c"r gthqto cpeg"kuvvg."ukpeg"cf qr vkpi "c"37/hv" vtcpuxgtug" lqkpv" ur cekpi " hqt" lqkpvgf " r nckp" eqpetgvg" r cxgo gpvu" \*LRER+u" kp" Rgppu{ nxcpkc0' Cu" r gthqto cpeg"gzr gevcvkqpu"cpf "vj g"f guki p"nkhg"eqpvkpvg"vq"dg"kpetgcugf "hqt"LRERu."kv"ku"ko r qtvcpv" vj cv"vj g"lqkpvu"qh"vj g"LRER"o ggv"vj gug"f go cpf u0'C"j qnkuvke"cr r tqcej "o vuv"dg"vcmgp"hqt"vj ku"vq"dg" cej kgxgf 0

Vj g''y lenpguu''cpf ''y g''ngpi y ''qh'urcd''hqt 'c'IRER''ku''guvcdrkuj gf ''kp''y g''f guki p''r tqeguu0'Vj g'' urcd''uj qwrf ''dg''uwhkekgpvn{ ''y leni'uq''y cv'y g''pwo dgt''qh''tcpuxgtug'\*hcvki wg+'etcemu''y cv'f gxgrqr ''f qgu'' pqv'gzeggf ''y g''f guki p''y tguj qrf ''r tkqt ''q''y g''gpf ''qh''ku''f guki p''nkbg0'Vj g''urcd''rgpi y ''\*lqkpv''ur cekpi +'' qh''c'IRER'ku''ugrgevgf ''uwej ''y cv'y g''urcd''ku''cu''npi ''cu''r quukdng''q''f getgcug''y g'equvu''cuuqekcvgf ''y kj '' y g''eqpuvtwevkqp''cpf ''o ckpvgpcpeg''qh'y g''lqkpvu''y ky qwi'f gxgrqr kpi ''o kf/urcd''etcenkpi ''qt''j kpf gtkpi '' y g''r gthqto cpeg''qh'y g''lqkpv0

Vy q"eqo r qpgpu"o wu/dg"cf f tguugf "q"cej kgxg"y g"f gukt gf "r gthqto cpeg"hkg"cv'y g"lqkpuO' Hktuv."y g"r cxgo gpv'o wu/dg"eqputwevgf "y kj "c"f wtcdng"eqpetgw"o kzwtgOIqkpu"ecp"ugtxg"cu"c" r qkpv'qh'gpvtcpeg'hqt'o qkuwtg"cpf 'f glekpi 'ucnu'y gtgd { "gzr qukpi 'y g"eqpetgw"hceguOKa'y g"eqpetgw" o kzwtg"ki'pqv'uwhkekgpv4 "f wtcdng."f wtcdkk{ 'tgrevgf "f kutguu"ecp"f gzgnr 0'Vj ki"ecp"dg"cxqkf gf "d { " wukpi "Rgthqto cpeg"Gpi kpggtgf 'O kzwtgu"%RGO +u'dw'kv'ku'cnq"etkkecn'q"gpuwtg'y g"eqpetgw"ku'ngr v' rguu"y cp": 7"r gtegpv'ucwtcvgf."cu''ku''f guetkdgf "d { "Vc{nqt"gv'cn0'kp"4234"]3\_0'J ki j "f gi tggu"qh" ucwtcvkqp'y kni'qeewt'y j gp'y cvgt'ku''r qpf kpi 'kp'y g"lqkpv0Rqpf kpi 'kp'y g"lqkpv'ecp"dg"r tgxgpvgf 'd { " o ckpvckkpi "c" y gm'ugengf "lqkpv' q"nggr "y cvgt"htqo "gpvgtkpi 0'Vj g"r j qq"kp"Hki wtg"3"uj qy u"c" r cxgo gpv'ugevkqp'y kj 'ugengf 'cpf 'wpugengf 'lqkpu0Vy g"wpugengf 'lqkpu'j cxg'y cygt'hny kpi 'kpq"y g" lqkpv'cpf 'f tckpkpi 'cetquu'y g'uwthceg.'y j kg'hqt 'y g'y gm'ugengf 'lqkpu'j g"y cygt 'ecp"dg"uggp"hny kpi " qxgt 'y g"lqkpv'cpf 'cetquu'y g'txgo gpv/uwthceg0Ka'y g"lqkpv'j cu'cevkxcvgf. 'y g"q gp'i tcf gf 'dcug'wgf" kp"Rgppu{nxcpkc"cmy u"y cvgt "gpygtkpi "y g"lqkpv'q"hggn{"ftckp'y tqwi j "y g"uwduwthceg"y kj gugengpv/ htqo 'r qpf kpi 'kp'y g"lqkpv'qt'ucwtcvkpi 'y g'wpf gtn{kpi "k 'g g'UQUcwtcvkpi 'y g'wpf gtn{kpi "k 'g g'wpf gtn{kpi "k 'g



Hk wtg'30Rj qvq"qhlugcrgf "cpf "wpugcrgf "lqkpw

Vj g"ugeqpf "eqo r qpgpv'tgs wktgf "vq"cej kgxg" vj g"f guktgf "r gthqto cpeg" rkhg"cv' vj g"lqkpvu" ku" vq"

F wtcdng" eqpetgvg." ghlgevlxg" ncf " vtcpuhgt" cpf " c" f tckpcdng" dcug" cm' eqpvtkdwg" vq" i qqf " r gthqto kpi "vtcpuxgtug"]qkpvu0'Vj g"rcuv'ng{ "hcevqt"ku"gpuvtkpi "yj g"]qkpvu"ctg"r tqr gtn{"ugcngf 0'Iqkpv" ugcnpwl'j grr 'r tgxgpv'yj g"gpvtcpeg"qh'y cvgt"cpf "f glekpi 'ucnu'yj cv'ecp'hgcf 'vq'ceegngtcvgf "eqttqukqp" qh'yj g'f qy gn'dctu'cpf 'f wtcdkkk{ 'tgncvgf 'f kwtguu'kp''yj g"eqpetgvg0'Vj ku'f co ci g"ecp'dg"ceegngtcvgf 'kh'' y g'y cvgt "gpvgtkpi "ku'j grf 'y kyj kp''yj g"lqkpv'cpf "ecppqv'f tckp"htggn{"qwi'yj g"dqwqo "kh'yj g"lqkpv'j cu"

Ugenepul'enq''r tgxgpv'lpeqo r tguuldngu. 'uwej "cu'uo em'r gddngu"epf 'uepf. "htqo "gpvgtkpi "vj g" lqkpv'lp" yj g" y lpvgt" y j gp" yj g" vgo r gtewtgu"f tqr "cpf "vj g"lqkpu" y lf gp0" vj ku"eep 'tguwn' kp" ur embpi "qh" yj g"lqkpv'eu 'yj g" ured "gzr epf u"epf "vj g"lqkpu" i gv'pettqy gt "kp" yj g" uwo o gt" y j gp" yj g" vgo r gtewtgu" tkug0' Hki wtg"4' 'uj qy u"e" r j qvq 'empp" kp"4244 "qh'e" lqkpv'htqo "UT/88" pget" Hqtf "Ekk{. "RC0'K/eep" dg'uggp" yj ev' eqj gukxg" heknvtgu"f gxgnr gf "y kyj kp" yj g" ugenepv'epf "kpeqo r tguuldngu" etg" r tgugpv' kp" 'yj gug" etgeu" y kyj " heknvtgu0'Vj g" ur emgf "etgeu" kpetgeug" yj g" ukj g" qh" yj g" gpvt { "r qkpv'empi "yj g" lqkpv'emy kpi "eff kkqpen" kpeqo r tguuldngu. "f gkekpi "uenu" epf "y evgt" vq" gpvgt" yj g" lqkpv0'V j g" i tef wen'dwkrf / wr "qh" kpeqo r tguuldngu" kp" yj g" lqkpv' eep" ngef " vq" dmy / wr u0' Vj gtghqtg. "r tqr gt" lqkpv" ugenkpi " ku" tgs wktgf " vq" gz vgpf " yj g" ugengf "lqkpv" kp" tgegpv' { getu0



Hk wtg'40Y lfg'lqkpv'y kj 'eqj gukxg'lqkpv'ugcncpv'hckwtg''cpf 'kpeqo rtguukdngu'\*UT/88. 'pgct'Hqtf'' Ek{-0

Vjg"tgo ckpkpi "rqtvkqp"qh"yjku"tgrqtv"y km"uwo o ctk{g"yjcv"y cu"ngctpgf "yjtqwijqw"yjku" tgugctej "ghłqtv'qp"j qy "vq"cej kgxg"qr vko cn'r gthqto cpeg"qh"y g"lqkpv'ugcnu0'Vj g"hktuv'uvgr "y cu"vq" r gthqto "c"hkgtcwtg"tgxkgy "qp"ewttgpv"r tcevkegu"cpf "r tgxkqwu"uwf kgu0C"uwo o ct { "qh"yj g"hkgtcwtg" tgxkgy "ku"kpenwf gf "cu"Cr r gpf kz "C0'Vj ku"nkgtcwtg"tgxkgy "tgxgcngf " y cv" o wej "qh" y g"ugcncpv" r gthqto cpeg'f cw'cxckrcdrg'ku'kpeqpukuvgpv0Y j krg'uqo g'uvcvgu'kpf kecvg'vj gkt'ugcrcpvu'r gthqto 'y gm'' qy gtu'kpf kecvg'pqv'cej kgxkpi ''y g'f guktgf ''r gthqto cpeg0'Uqo g'uvcvgu. ''uvej ''cu''Y kueqpukp. ''grgevgf ''vq'' pqv'ugcn'y gkt "lqkpu"cpf "kpuvgcf "wug"c"2047/kp"ukpi ng"ucy "ewv'dwv'y ku"r tcevkeg "ku"pqy "dgkpi "tg/ gxcnxcvgf "cu'yj gtg"ctg"eqpegtpu'y ky "yj g"pwo dgt "qh"dnqy /wr u'yj cv'j cxg"dggp"f gxgnqr kpi 0'O kppguqvc" f qgu'pqv'ugcn'lqkpvu'y j gp''y g''tqcf y c{''ur ggf 'ku'i tgcvgt''y cp''67''o r j ''dw''wugu''c''20347/kp''ukpi ng''ucy '' ew0'Cv'vtchhe"ur ggf u"qh'67"o r j "qt"nguu"vj g"20347/kp"ucy "ewv'ku"ugcngf "y ky "cur j cn0'Vj g"ncti g" f kuetgr cpe{ "kp"r tcevkegu."o cvgtkcnu"cpf "enko cvgu"dgw ggp"uvcvgu"eqpvtkdwegu"vq"yj g"xctkcdkrkv{ "kp" r gthqto cpeg"tgrqtvgf0'KV'ku"cnuq"y qtyj "o gpvkqpkpi "yj cv'ckthkgnf "r cxgo gpvu"wug"uko krct"tgugtxqkt" f guki pu'cpf 'ugcncpw'o cvgtkcni'cu'ctg''wugf "kp'j ki j y c{ 'r cxgo gpw'cpf 'tgr qtv'hgy 'kuuwgu'y kj 'lqkpv' ugcncpv'r gthqto cpeg. "kpf kecvkpi 'i qqf 'r gthqto cpeg"ecp"dg"cej kgxgf 0Dcugf "qp" y g"hxgtcwtg" tgxkgy ." k/ecp"dg"eqpenwf gf "vj cv'r tqr gt "ugcncpv'r gthqto cpeg"ecp"dg"cej kgxgf "y kj "vj g"hqmqy kpi <30wug"qh" r tqr gt "kpuvcmcvkqp" vgej pks wgu. "40'c" tgugt xqkt "f guki p"uwkscdng" hqt "vj g"enko cvke" eqpf kvkqpu. "eqpet gvg" o kzwstg'f guki p"cpf "ugcmpv"v{r g"cpf "50'c"ugcmpv"vj cv"o ggvu"vj g"crrtqrtkcvg"o cvgtkcn'ur gekhecvkqpu" cpf 'r gthqto cpeg'tgs wktgo gpw0

**30'** *Rt qr gt 'lpux mc vlqp 'vgej p ks wgu***<"Vj g"nkgtcwtg"lpf lecvgu"cp"kuwg"eqpvtkdwkpi "vq"r tgo cwtg" hchwtg"ku"pqv"cf gs wcvgn{"encpkpi lf t{pi "yj g"eqpetgyg"hceg"r tkqt"cr r n{kpi "yj g"ugcmpv0/RgppF QV" j cu'lpukkwgf "yj g"õy kr g"vguvö"vq"o cng"uwtg"yj g"dqpf "ctgc"ku"uwhhekgpvn{"encp0Lwuv/kp/vko g"vtckpkpi " hqt"dqyj "kpur gevqtu"cpf "eqpvtcevqtu"r tkqt"vq"gcej "r tqlgev."cu"y gn"cu"j cxkpi "egtvkhgf "kpucmgtu."cmq" j gn "tgf weg"yj g"r qvgpvkch"hqt"eqpuvt wevkqp/tgncvgf "r tgo cwtg"hchmtgu0I wkf cpeg"qp"r tqr gt "ewvkpi ." encplpi "cpf "kpuvcmcvkqp"vgej pks wgu"ku"r tqxkf gf "kp"vj g"CERC."Vgej pkech"Dwngvkp"VD32/423: "]6\_0' Ki'uj qwf "dg"pqvgf "yj cv"ckthgnf "r cxgo gpvu"tgs wktg"yj g"wug"qh"xcewvo u"vq"encep"ucy gf "lqkpvu0'Vj g" xcewvo kpi "ku"v{r kecm{ "r gthqto gf "chvgt"yj g"r qy gt"y cuj kpi "hqt"dqyj "yj g"kpkkch"ucy "ew"cpf "yj g" uggtxqkt"ew0Cnj qwi j 'yj g"kpvgpv'ku'vq"f getgcug"j gcnj "tkumu"hqt"yj g"y qtngt'y j gp"engcpkpi 'yj g"unwtt{" qpeg"kvj cu"f tkgf ."kv"ecp"cnq"dg"dgpghekcn"kp"engcpkpi "yj g"lqkpvu"]7\_0** 

40 T gugt xqlt 'f guli p <'Uqo g'uxcyu'hkn'c'ukpi ng'2047''qt'20847/kp''ucy ''ewv'unqv'cu''qr r qugf ''q'f guli pkpi " c''tgugt xqlt0'Vj ku''ecp''dg''c''uwkcdng''cr r tqcej ''hqt''uj qtv'lqkpv''ur cekpi u''\*>''8hx+''dwv'ku''pqv'ghgevkxg''kp'' o ckpvckpkpi ''c''ugcngf ''lqkpv''hqt''nqpi gt''urcd''ngpi yi u0'Vj g''uo cngt''ngpi yi ''urcdu''y kn'j cxg''c''pcttqy gt'' lqkpv''qr gpkpi .''nko kkpi ''yi g''utckp''yi cv'f gxgnqr u''kp''yi g''ugcncpv0'Vj ku''ku''pgeguuct { ''ukpeg''cej kgxkpi ''c'' i qqf ''dqpf ''dgw ggp''yi g''urcd''nceg''cpf ''ugcncpv''ku''o qtg''ej cmgpi kpi ''cu''dqy ''engcpkpi ''cpf ''hnhpi ''yi g'' pcttqy ''lqkpv''ku''o qtg''f khkewn''yi cp''c''y kf gt''lqkpv'tgugtxqkt0'Cnnq. ''c''dcengt''tqf ''ku''pqv'wugf ''kp''yi g'' pcttqy ''lqkpv''ku''o qtg''f khkewn''yi g''dgpghkk'qh'yi g''cte''nqto gf ''cnpi ''yi g''lqkpv'cv'yi g''dqwqo ''qh'yi g''ugcncpv'' ncti g''uvtckpu''f gxgnqr ''yi tqwi j qwv'yi g''f gr yi ''qh''yi g''ugcncpv0'Vj ku''ku''qdugtxgf ''kp''yi g'' tguwnu''htqo ''yi g'' y g''ugcncpv''y j gp''ncti g''lqkpv''qr gpkpi u''ctg''gzr gtkgpegf 0'Vj ku''ku''qdugtxgf ''kp''yi g''tguwnu''htqo ''yi g'' ncdqtcvqt { ''uwf { ''r gthqto gf .''cu''f guetkdgf ''kp''Cr r gpf kz''F 0

Vj g'tgugtxqkt''uj qwf ''dg'f guki pgf ''uq''j cv''j g''cmqy cdrg''utckp''ku''pqv'gzeggf gf ''q''r tgxgpv'c'' eqj gukxg''hcknwtg0'Vj g''cmqy cdrg''utckp''ku''c''hwpevkqp''qh''y g''ugcncpv'v{r g0'Vj g''o czko wo ''cmqy cdrg'' utckp''o wnkr rkgf ''d{ ''y g''ucy ''ew''y kf y ''o wuv''dg''rguu''y cp''y g''o czko wo ''qr gpkpi ''y cv''y km''qeewt'' f wtkpi ''y g''y kpvgt'o qpy u0'O quv'cur j cnv''ugcncpw''ecp''ceeqo o qf cvg''c''utckp''qh''wr ''q'47''vq'57''r gtegpv'' qh''y g''qtki kpcn'y kf y .''y j krg''ukrkeqpg''ugcncpw''ecp''wpf gti q''wr ''vq''322''r gtegpv''utckp''dw''v{r kecm{'' mgr v'y kj kp''72''r gtegpv']8\_0'O cpwhcewtgtu''tgeqo o gpf ''f guki pkpi ''hqt''c''utckp''qh''pq''o qtg''y cp''72'' r gtegpv'dw'kf gcm{ "nguu'yi cp'47'r gtegpv']9\_0'Vj g''uxcpf ctf ''uxy "ewi'y kf yi 'kp''Rgppu{ nxcpkc'ku'v{ r kecm{" 205: "kp0'Vq'o ckpvkp''cp''cmy cdng''uxckp''dgw ggp'72''cpf ''42''r gtegpv.''yi g''lqkpv'o wuv'qr gp''pq''o qtg" yi cp''202: ''q''208; "kp''hqt''c'''qcn'l'qkpv'y kf yi ''qh'2067''q''2078''kp0'Cp''wr f cvgf ''gs wcvkqp''hqt''ecnewrcvkpi '' lqkpv'qr gpkpi ''y cu''f gxgmr gf ''dcugf ''qp''f cxc''htqo ''yi g''kputwo gpvgf ''Uo ctv'Rcxgo gpv'qp''UT/44''kp'' O wtt {uxkmg.''RC0'Vj ku'ku''r tqxkf gf 'kp''Cr r gpf kz 'E0'Kv'y cu''uj qy p''yi cv'c''v{ r kecn'lqkpv'qr gpkpi ''f wtkpi '' yi g''y kpvgt 'kp''Rgppu{ nxcpkc''y qwff ''dg''cr r tqzko cvgn{ ''208''kp''hqt''c'lqkpv'y kf yi ''qh'206: ''kp0'Vj ku''uj qwff '' dg'kp''yi g''y qtmkpi 'tcpi g'hqt''yi g''ugenepw''wgf ''kp''Rgppu{ nxcpkc0'Vj ku'ku'eqo r ctcdm''q''yi g''2088''kp''qh'' lqkpv'o qxgo gpv'o gcuwtgf ''d{ ''yi g''O kej ki cp''F gr ctvo gpv'qh''Vtcpur qtxcvkqp ''kp''c''uwf { ''r gthqto gf ''kp'' 4222''d{ ''Gcengt''cpf ''Dgppgw']: \_0'Kv'uj qwff ''dg''pqvgf ''yi cv''kv''ku''dguv''q''nggr ''yi g''lqkpv''q''ew+t'cpf '' vq''cxqkf ''pqkug''etgcvgf ''d{ ''ktg''urcr r kpi 0Gcej ''uwdugs wgpv'tgugcnkpi ''r tqlgev'y kn'tguwv/'kp''cp''kpetgcug'' kp''y g''lqkpv'y kf yi ''cu'c''pgy 'hceg'qh'yi g''eqpetgvg'o ki j v'pggf ''q''dg''ucy gf ''q''gpj cpeg''yi g''qdpf ''dgw ggp'' yi g''ugenepv'cpf ''yi g''qff ''eqpetgvg0

Vj g"lqkpv'y kf y u"y gtg"o gcuwtgf "hqt"y g"Uo ctv'Rcxgo gpv'qp"UT/44"chwgt"c"nkwrg"qxgt"3: " {gctu'kp''ugtxkeg0'Vj g''lqkpu''y kf yj u''y gtg''dgw ggp''2072''vq''2085''kp''y kyj ''cp''cxgtci g''qh''207: ''kp''y j gp'' o gcuwtgf 'lp''y g'hcm'y kj 'c'r cxgo gpv'vgo r gtcwtg''ctqwpf '949H0Ugg''Cr r gpf kz 'E0Vj ku'ugevkqp''y cu'' pgxgt"tgugcngf "dw'y g"lqkpu"y gtg"ukm'uki pkhecpu ("y kf gt"y cp"y g"203/kp"kpetgcug"kp"lqkpv'y kf y " cpvkekr cvgf "dcugf "qp" y g"f t { kpi "uj tkpmci g"cpf "y gto cn"eqghhelgpv"o gcuwtgf "hqt" y ku"eqpetgvg" cv" y ku'vgo r gtcwtg0Vj gug'y kf gt'lqkpv'y kf y u'y gtg'cnq qdugtxgf 'kp'y g'hgnf 'f wtkpi 'y g'lqkpv'ugcrcpv' uwtxg{"r gthqto gf "d{ "Rgf f keqtf "gv"cn0kp"4243"]; \_\_"cu"f kuewuugf "kp"Cr r gpf kz "F 0Vj gug"gzeguukxgn{" y kf g"lqkpul"o quv"rkngn{ "f gxgnqr "y j gp"ugcncpul"dgi kp"vq"hckn"cmqy kpi "kpeqo r tguukdngu"kpvq"y g" lqkpul'f wtkpi "y g"eqnf gt "o qpy u0'Vj gug"ugcncpv"hcknwtgu"ecp"qeewt "gctn{ "qp"kp"y g"r cxgo gpv"hkhg"kh" cmllqkpvu'fq"pqv'cevkxcvg"rtkqt"vq"ugcrkpi."cu''y ku'tguwnu'kp"lqkpvu'pqv'cevkxcvgf "dgkpi "wpfgtugcrgf" cpf "cevkxcvgf "lqkpvu"dgkpi "qxgt/ugcrgf 0Vj g"wpf gtugcrgf "lqkpvu"ctg"r tqpg"vq"ugcrcpv"hckrwtg"qpeg"cm" lqkpvu"cevkxcvg0"Rtgo cwtg"ugcncpv"hcknvtg"ecp"cnuq"qeevt "cu"c"tguwnv"qh"r qqt "eqpuvt wevkqp"r tcevkegu" f wtkpi 'ugcnkpi 0'Vj g'gpvt { "qh'kpeqo r tguukdngu'kp" y g'r qqtn { 'ugcngf 'lqkpv'r tgxgpvu'enquwtg'f wtkpi 'y g'' uwo o gt"o qpyj u'cu'yj g'r cxgo gpv'vgo r gtcwtgu'kpetgcug0Vj ku'uwurckpgf "urtguu'y km'f kuukr cvg'yj tqwi j " etggr."yj gtgd{"ghgevkxgn{"kpetgcukpi "yj g"lqkpv"y kf yj "cv"y j kej "yj g"| gtq/utguu"uvcvg"qeewtu0'Vj g" e{erke"{gctn{ "qeewttgpeg"qh'y ku'r tqeguu'y kn'tguwn/kp"rcti gt"lqkpv'y kf y u'y cp"y qwrf "dg"r tgf kevgf " wukpi "ewttgpv'lqkpv'y kf y "r tgf kevkqp"gs wcvkqpu0'Vj ku"gzr nckpu"y j { "y g"r tgf kevgf "kpetgcug"kp"lqkpv" qr gpkpi "f wtkpi "y g'y kpvgt"y qwrf "dg"cdqw'203"kp"hqt"c"o czko wo "lqkpv'y kf y "qh'207"kp"hqt"c"r cxgo gpv" kp"Rgppu{nxcpkc."dwv'y g"lqkpv'y kf y u"pqvgf "kp"y g"hkgnf "f wtkpi "uwo o gt"o qpy u"y gtg"eqo o qpn{ uki pkhecpvn{ "y kf gt0'Vj ku"go r j cuk gu"y g"ko r qtvcpeg"qh"r tqr gt "eqpuvt wevkqp"dwi'cnuq"y g"pggf "vq" gpuwtg"cmilqkpvu"ctg"cevkxcvgf "r tkqt"vq"kpuvcmkpi "yj g"ugcmpv0

Vj g''qý gt''cur gev'qh'ý g''tgugtxqkt''f guki p''ku''gpuwtkpi ''ý g''f gr ý ''qh'ý g''ugcmpv'ku''ukhkekgpv.''uq'' ý g''ugcmpv'f qgu''pqv'hcktlkp''cf j gukqp'\*'dqpf 'hcknwtg''dgw ggp''y g''eqpetgwg'tgugtxqkt''cpf ''ý g''ugcmpv'0' Vj g''ugcmpv'f gr ý ''ku''ugggevgf ''dcugf ''qp''y g''tgs wktgf ''uj cr g'hcevqt''\*y kf ý ''\q''f gr ý ''tcvkq+''ur gekhkgf ''hqt'' ý cv''ur gekhke''ugcmpv''o cvgtkcn0'Qpeg''cp''crrtqrtkcvg''ucy ''ewv''y kf ý ''ku''f gvgto kpgf ''dcugf ''qp''y g'' cmy cdng''utckp.''y cv''ecp''dg''f kxkf gf ''d{ ''y g''uj cr g''hcevqt''vq''guvcdrkuj ''y g''f gr ý ''qh''y g''ugcmpv0' Cur j cnv'v{r kecm{''j cu''c'uj cr g'hcevqt''qh'3''cpf ''uktkeqpg''3''vq''40'Vj g'f gr ý ''qh''y g''ugcmpv'ku''eqptqmgf '' d{ ''r tqr gt''r mego gpv'qh''y g''dcengt''tqf 0'Vj g''dcengt''tqf ''uj qwf ''j cxg''c''f kco gvgt''y cv'ku''3047''vko gu'' y g''y kf ý ''qh'y g''lqkpv'tgugtxqkt0

50' O cvgt lcn'ur gell lecvlap u'cpf ''r gt hqto cpeg''t gs wlt go gp uk<sup>e</sup> Tgi ctf kpi " cr r tqr tkvg" ugcncpv" o cvgt lcm. 'RgppF QV'eqo o qpn{ 'wugu'cur j cnv'qt 'ukrkeqpg0C 'kuv'qh'y g'ur gelthecvlqpu'y gug'o cvgt lcm' uj qwrf " o ggv' ku''r tqxkf gf " kp" Cr r gpf kz" C0' Vj g" rksgtcwstg" tgr qtvgf " vj cv' ukrkeqpg" cpf " r tghqto gf " eqo r tguukqp"ugcni"i gpgtcm{ "qwr gthqto "cur j cn/dcugf "ugcncpu"qp"j ki j y c{ "r cxgo gpu."cnj qwi j " ukkeqpg"ecp"j cxg"uqo g"ugpukkkk{ "vq"eqpetgvg"y kj "rko guvqpg"ci i tgi cvgu"]32\_0'K/'j cu"cnuq"dggp" tgr qtvgf "yj cv'cur j cn/ugcncpu"r tqxkf g"5"vq": "{gctu"qh'ugtxkeg"hkg"chvgt "kpuvcmcvkqp."ukrkeqpg"ugcncpvu" r tqxkf g": "vq"32"{gctu"qh'ikkg."cpf "r tghqto gf "ugcnu"o c{ "r tqxkf g"wr "vq"42"{gctu"qh'ugtxkeg"]6\_0

RgppF QV" f qgu" tgs wktg" ý cv' ý g" ugcæpv" o ggv' cf j gukxg" \*dqpf +leqj gukxg" uvtgpi ý " tgs wktgo gpul'kp"ceeqtf cpeg"y kj 'CUVO '754; 0'Vq'hwtyj gt"cuuguu'ý g"uwkxcdktk{ "qh'ý g"ugcæpwl"wugf " kp"Rgppu{ nxcpkc. "ý g"ugcæpwl'y gtg"gzr qugf "vq"nqcf kpi "eqpf kkqpu'ý cv'uko wævgf '64"{ gctu"qh'xgj kerg" nqcf kpi "cpf "lqkpv'qr gpkpi lenqukpi "kp"c"ædqtcvqt { "uwxf { 0'C "tgr qtv'uwo o ctk kpi "ý g"uwxf { "cpf "ý g" tguwnu'ctg"r tqxkf gf "kp'Cr r gpf kz "F 0'Vj g"hqmqy kpi 'hœvqtu'y gtg"gxcnwcvgf "vq"cuuguu'ý g"dtgcmf qy p" qh'ý g"ugcæpv'ý tqwi j qwi'ý g"uko wævgf '64"{ gctu"qh'ugtxkeg0<

- c0' Tguktgpe{ <Vj g"cdktx/{ "qh'y g"ugcmpv'\q"dg"uxdlgevgf "\q"tgr gvkxg"xgj kerg"rqcf kpi "cpf "lqkpv" qr gpkpi lemukpi "y kj qwv'f gvgtkqtcvkpi "hqt"64" { gctu"qh'ugtxkeg"htg" kp "Rgppu{ nxcpkc0
- d0' Uvkłipguk''Vj g"eqo r ngz "cpf "uj gct" o qf wnwu"ctg" wugf "vq"ej ctcevgtk g"uvkłipguu0'C" my " o qf wnwu"ku'f guktcdng"cpf "ku'r ctvkewnctn{ "ko r qtvcpv"kp"eqnf "y gcyj gt"enko cvgu. "cu"yj g"uvtguu" y cv'f gxgnr "kp'yj g"ugcncpv'y kn'dg"my gt "cv'yj g"uco g"ngxgn'qh'yj gto cn'cpf "o gej cpkecn'uvtckp0
- e0' Dt kwgpgun<'Dt kwgpguu'ku'ej ctcevgt k gf 'y kj 'j g'r j cug'cpi m'\* +0'Vj g'hguu'dt kwg'j g'ugcmpv' \*j ki j gt'r j cug'cpi mg+'y g'o qtg''j g'dkpf gt 'y km'f kukr cvg''utguu'\*tgmz+0
- f 0' Cf j gukqp<'Vj g"cdktx{"qh'c'ugcrcpv'vq"dqpf "vq"y g"eqpetgvg0\*Hwpevkqp"qh'y g"ugcrcpv'f gr y " guvcdrkuj gf "d{ "y g'uj cr g'hcevqt"cpf "dqpf 'uvtgpi y 0+
- **g0' Eqj gulqp<'**Cdkrkv{ "qh'c"ugcmpv''vq"tgukuv' vgctkpi "htqo "vgpukrg"uvtguugu0'\*Hvpevkqp"qh''y g" cmqy cdrg''uvtckp'\*ugcmpv'r tqr gtv{ +'cpf ''y g''o czko wo 'lqkpv'qr gpkpi 0+

C'2047/kp'y kf g'lqkpv'y kj "V{r g'KX 'cur j cn/\*F wtc/Hkm5627'NO "\*M+'o cf g'd{ 'R( V'Rtqf wew+" hkmgf.'c'205: /kp'y kf g'tgugtxqkt'y kj 'c'uj cr g'hcevqt'\*Y & +'qh'207'ugcngf 'y kj 'V{r g'KX 'cur j cn/\*F wtc/" Hkm5627'NO "\*M+'o cf g'd{ 'R( V'Rtqf wew+'ugcncpv'cpf 'c'205: /kp'y kf g'tgugtxqkt'y kj 'c'uj cr g'hcevqt" qh'3"ugcngf ''y kj "ukrkeqpg"\*Ukncukn'94: "P qp/Uci "Ukrkeqpg"Ugcncpv+"ugcncpv'y gtg"kpenwf gf "kp" yj g" ncdqtcvqt { 'gxcnwcvkqp0'Dqvj ''r tqf wew'ctg''cr r tqxgf 'RgppF QV''ugcncpw0

Vj g'hlof loi u''qh''y ku''uwf { ''y gtg''cu'hqmqy u<

- "" Ncti g'xgtvlecn'f khlgtgpvlcn'f ghrgevlqpu'ecwugf "d { "xgj kerg'nqcf u'qp"lqkpvu'y kj 'tgf vegf ''nqcf " vtcpuhgt 'f kf ''pqv'tguvnv'kp"uki pkhlecpv'f co ci g'kp'y g''ugcngf ''lqkpvu0'Vj ku'kpf kecvgu'y cv'ugcncpv'' f co ci g''r tko ctkn{ ''qeewtu'y j gp'hcvki wgf ''y tqwi j ''lqkpv''qr gpkpi kerqukpi 0
- " Cur j cn/'hkngf "tgugtxqktu"ctg"f khkewn'vq"ugcn"j cxg"uki pkhecpv'xctkcdkkv{ "kp"r gthqto cpeg" cpf "i gpgtcvg"ncti g"uvtguugu"cv'y g"dqvqo "qh'y g"ugcncpv'y j gp"lqkpu"qr gp"y kj qw'y g"cte" etgcvgf "cnpi "y g"dqvqo "qh'y g"ugcncpv'y j gp"wukpi "c"dcengt"tqf 0
- "Vjg"oqfwnwu"qh"yjg"curjcn/hkngf."curjcn/tgugtxqkt."cpf"ukkeqpg"tgugtxqkt"fgukipu"tgfwegf" d{"64'."45'."cpf"53'."tgurgevkxgn{"chvgt"ukowncvkpi"64"{gctu"qh"kp/ugtxkeg"xgjkeng"ncfu" cpf"lqkpv"qrgpkpi lenqukpi
- "Vj g"ewo wretkxg"ngpi y "kp"eqj gukxg"cpf "cfj gukxg"ugcncpv"f co ci g"y cu"i tgcvgt "hqt"y g"curj cn/" hkngf "cpf "curj cn/"tgugtxqkt"f guki pu"eqo r ctgf "vq"y g"ukheqpg"tgugtxqkt0
- "Vj g"lqkpv'qr gpkpi u"qdugtxgf "kp"vj g"hkgrf 'y qwrf "dg"uwhhkekgpv'vq "hckrivj g"cur j cn/'hkrgf "lqkpv" dw/'pqv'y g"ugcrcpvu'y kj 'tgugtxqktu0Tgi ctf rguu'qh'vj g'ugcrcpvllqkpv'f guki p'ugrgevgf."cm'lqkpw" uj qwrf "dg"cevkxcvgf "r tkqt "vq"ugcrkpi "vq"cxqkf "r tgo cwrtg"hckrwtg"f wg"vq"wpf gtugcrkpi "lqkpw" y cv'j cxg"pqv'{ gv'cevkxcvgf 0
- Vj g'ghhgev'qp''y g'tgf wevkqp'kp''y g'qr gpkpi ''cv'hcknwtg'hqt''y g'ukheqpg'ugcncpv'chvgt''uko wncvkpi '' 64''{ gctu''qh'kp/ugtxkeg'hcvki wg'y cu'uki pkhecpvn{ ''nguu''y cp''y cv'hqt''y g''cur j cn/'ugcncpv0

Vj g"cdktk{ "qh"c"ugcrepv"vq"tgukuv"f gvgtkqtcvkqp"y j gp"gzr qugf "vq"uki pkhecpv"htgg| g/y cy " e{engu"cpf "gzr quvtg"vq"vntcxkqrgv"uvp"tc{u"cpf "q| qpg"y cu"pqv"eqpukf gtgf "kp"y ku"uvvf { "dw"ctg"cnq" etkkecn"vq"y g"nqpi /vgto "r gthqto cpeg"qh"y g"ugcrepv"]33\_"]34\_0'RgppF QV"Rvdnkecvkqp"62: "f qgu" tgs vktg"ukheqpg"ugcrepu"o ggv"CUVO "E9; 5" vq"gpuvtg" y g{ "ctg" tgukuvcpv" vq"dtgcnf qy p"f vg" vq" wntcxkqrgv"uvp"tc{u"cpf "q| qpg"gzr quvtg0'Cnj qwi j "dqy "y g"cur j cn/cpf "ukheqpg"ugcrgf "lqkpvu"y kj " tgugtxqktu"r gthqto gf "y gm"kp"y g"rcdqtcvqt{"uvwf {."kv"ku"o quv"hkngn{"y cv"y gcy gtkpi "cpf "qzkf cvkqp" y qwrf "j cxg"c"o qtg"uki pkhecpv"ko r cev"qp"y g"f genkpg"kp"y g"r gthqto cpeg"qh"y g"cur j cn."o cvgtkcn"cu" kv"ku"o qtg"hkngn{"vq"dgeqo g"dtkvrg"y ky "q| qpg"cpf "wntcxkqngv"tc{"gzr quvtg0T gi ctf nguu"qh"y g"ugcrepv" ugrgevgf." cm" lqkpvu" uj qwrf " dg" cevkxcvgf " r tkqt" vq" ugcnkpi " vq" cxqkf " r tgo cwtg" hcknvtg" f wg" vq"

Vj g"dcengt"tqf "o cvgtkch'ugngevkqp"ku"cnuq"ko r qtvcpv0'Qr gp/egni'hqco gf "dcengt"tqf "uj qwf " pqv'dg'wugf "kp"eqpetgvg'r cxgo gpwi'cu'yj g{ "cduqtd"y cvgt0'Vj ku"ecp'tguvnv'kp"c"j ki j "o qkuwtg"eqpvgpv" kp"yj g"eqpetgvg'uwttqwpf kpi "yj g"dcengt"tqf "yj gtgd{ "kpetgcukpi "yj g"r qvgpvkch'hqt"yj g"f gxgrqr o gpv'qh" f wtcdkrkv{ "tgrcvgf "f kutguu. "gur gekcm{ "kp"yj g"y kpvgt"y j gp"yj g"y cvgt "y kn"eqpvcpb"eqpegpvt cvkqpu"qh" f gkekpi "uqnvkqpu0'Emugf/egmi'hqco "f qgu"pqv'cduqtd"y cvgt"cpf "ku"dguv'uwksgf "hqt"eqrf/cr r rkgf " ugcrcpvu. "rkng"ukrkeqpg. "ukpeg"kv'y km'o gnv'y j gp"kp"eqpvcev'y kj "yj g"j qv'r qwtgf "cur j cnv'ugcrcpv0'Dk/ egmvrct "dcengt "tqf "eqpukuvu"qh'c"emugf "egmi'qwgt"y tcr r gt"uwttqwpf kpi "y kj "j qv'r qwtgf "cur j cnv'ugcrcpv0' Etquu/rkpngf lemugf/egmi'hqco "y kn'pqv'cduqtd"y cvgt "cpf "ecp"dg"wugf "y kj "j qv'r r rkgf "ugcrcpvu"j6\_0

# Tgeqo o gpf cvkqpu

Vjg"hqmqy kpi "tgeqo o gpfcvkqpu"ctg"rtqxkfgf "dcugf "qp" vjg"hkpfkpi u"qh' vjku"tgugctej 0"Vjg"ugevkqp" qh' vjg"tgrqtv"eqpvckpkpi "eqpvgpv'uwrrqtvkpi "vjg"tgeqo o gpfcvkqp"ku"rtqxkfgf "kp"rctgpvjgugu0

- 30' Ki'ku''y gmi'npqy p''y cv''c''ft{."engcp''lqkpv''tgugtxqkt''ku''pggf gf ''vq''cej kgxg''c''i qqf ''dqpf '' dgw ggp''y g''ugcrcpv''cpf ''eqpetgyg0'Vj g'wug'qh'c 'xcewwo 'cpf lqt 'y cuj kpi ''vq'tgo qxg'' uwtt{'ht qo 'ij g'iwthceg'f wt kpi 'kpkhchcpf 'Hpchicy 'kwu'j cu'ij qy p'iq'dg'dgpghkehch'' kp'hpetgculpi 'ij g'ihnghij qqf 'lqh'cej kgxkpi 'c' 'engcp' iwthceg'cpf 'y qwnf 'dg'dgpghkehchki' cff gf 'iq'ij g'lqkpv'igchpi 'lqrgt cykqp' \*Crrgpf kz'C<Ugevkqp'606+0</p>
- 40' Ky'ku'guugp vic niiq 'gp uwt g'c niiqkp wi'ct g'c evkxc vgf 't t kqt 'kq't nc elpi 'kj g'lugc nc p v'uq''y cv'r qqt" ugcnc pv'r gthqto cpeg'f qgu'pqv'qe ewt "cu'c't guwny'qh'lqkp u'dgkpi "wpf gtugcngf "qt''qx gtugcngf " \*Cr r gpf kz 'F <'Uge vkqp'605+0
- 50' Vj g'þgy 'lgc n: p v'f guli p 'gs wc vlqp 'hqt '\*Gs 0! +'ec newnc vlpi 'lqlp v'qr gp kpi 'lq'gp uwt g'lj g" cnqy cdng'tot c kp 't gs wkt go gp wi'ct g'b gv'lj qwrf 'dg'hwt y gt 'gxc nwc vgf 'lqt 'cf qr vlqp "vq" tgr nceg''y g"gctrlgt 'xgtulqp '\*Gs 07+'f gxgnr gf "kp"y g'3; 99"\ gtq"O ckpvgpcpeg''uwf { "cpf " r tqxkf gf 'kp"y g'3; ; 5'CCUI VQ'F guli p'I vkf g'\*Cr r gpf kz 'E <'Ugevlqp '8009+0
- 60'*P ctt qy* '\*2047'kp+likpi ng'lıcy 'kwv'lqkpwı'lıj qwnf 'qpnf 'lgp't qpulf gt gf 'hqt 'r cxgo gpwl'y kj " uj qt v'lqkpv'lır celpi u0'Vj g'ugenepwi'kp''y g'pettqy "lqkpwi'ygf ''q'f gxgmr ''eqj gukxg'hekwtgu" y kj "mpi gt"lqkpv'lur celpi u0'Vj g'dwknf/wr "qh'kpeqo r tguukdngu''y kj kp''y gug''i er u''kp''y g" ugenepv'' y j gtg" eqj gukxg" hekwtgu" f gxgmr " ecp" ngef " vq" ur emkpi " epf " dmy wr u0' Vj g" kpetgeugf "kphkntekqp"qh''y evgt "tguwnkpi "htqo " y g"ugenepv''hekwtg"ku"pqv'e"uki pkheepv' eqpegtp "ulpeg''RgppF QV''wugu'e''f tekpedng"deug''epf "cm''lqkpwi'gxgpwem{"eevkeevg0'Dqy" heevqtu''r tgxgpv'r qpf kpi "qh'y evgt "kp''yj g'tgugtxqkt "\*eqpvtkdwg''q''o evgtlen/tgnevgf "f kntguu" kp" y g" eqpetgvg+" qt" ucwtevgf " y g" wpf gtn{kpi " n { gtu" \*eqpvtkdwkpi " vq" gtqukqp" epf " r wo r kpi +\*\**Crr gpf kz 'F <'Ugevkqp'6*+
- 70' Ukrkeqpg'ugcncpwi'r gthqto gf 'urki j vn{ ''dgwgt ''y cp''cur j cnv'ugcncpwi'dwi'ecp''dg''o qtg''

ugpukkxg"\q"tgugtxqkt"rtgr"rtkqt"\q"r mego gpv0'Gkj gt 'lgc mpv'\{rg'lj qwf 'lg'cdrg'\q" o ggv' y g''rgthqto cpeg''tgs wkt go gp wi'lqt ''c ''Rgppu{ mcplc ''ucpf ctf ''LRER''fguli p" \*Crrgpf kz "C<"Ugevkqp"4="Crrgpf kz "F<"Ugevkqp"6+0'K' uj qwf "dg" pqvgf "y cv" kp" y g" nkgtcwtg."kk'j cu"dggp"tgrqtvgf "y cv'uktkeqpg"ugempu"ecp"muv'7"\q"9"{gctu"npi gt"y cp" curj cn'ugempw0'Vj ku'uwf {"fkf"pqv'eqpukf gt"wntc/xkqpv'gzrquwtg."y j kej "ku'mpqy p"\q" dg" o qtg"f gtko gpvcn' q" y g"r gthqto cpeg"qh" y g"curj cn'ugempv' cu" eqo r ctgf "vq" y g" uktkeqpg0'Cnj qwi j "r tghqto "ugempvu"y gtg"pqv'gxenwevgf "cu"r etv'qh'y ku'uwf {."y g{"uj qwff" dg" eqpukf gtgf "hqt"wug"hqt"nqpi /nktg"r cxgo gpvu"cu"c"42/{gct"r gthqto cpeg"nktg"j cu"dggp" tgrqtvgf " kp" y g" nkstcwtg0' K'lki'cnq''tgeqo o gpf gf ''y cv'rtghqto gf ''ugempu''dg" eqpulf gt gf 'lqt 'hqpi /nktg'r cxgo gpvu"&Crrgpf kz ''C<'Ugevkqp''4+0

#### T ghgt gpegu

- ]3\_" Vc{mt.'R0'T0Tcuo wugp.'J 0'Vqttgu.'I 0'Hem'F 0J cttlpi vqp'cpf 'V0Ecemgt.'\$Kpvgttlo " I wkf g'hqt'Qr vko wo 'Iqkpv'Rgthqto cpeg'qh'Eqpetgvg'Rcxgo gpvu.\$'P cvkqpcn'Eqpetgvg" Rcxgo gpv'Vgej pqmi {'Egpvgt.'42340
- ]4\_" Nctuqp.'T0O 0'cpf 'M0F 0'Uo kj .'\$Cngtpcvkxg'F qy gn'Dctu'hqt'Nqcf 'Vtcpuhgt'kp'Lqkpvgf " Eqpetgvg'Rcxgo gpvu.\$'kp''*Gki j vj 'Kpvgt pcvkqpcrlEqphgt gpeg''qp'Eqpet gvg'Rcxgo gpvu.*" Eqmtcf q''Ur tkpi u.''EQ.''42270
- ]5\_" Xcpf gpdquuej g. 'L0O 0'E0C0F qppgm{ 'cpf 'C0Hcuegwk'\$Rtgf levkqp''qh'f qy gn'eqttqukqp''cpf " ghgev'qp''r gthqto cpeg''qh'eqpetgwg'r cxgo gpvu.\$'Wpkxgtukv{ ''qh'Rkwudwti j .''42470
- ]6\_" Co gtlecp'Eqpetgyg'Rcxgo gpv'Cuuqelcvkqp.'\$Eqpetgyg'Rcxgo gpv'Lqkpv'Ugcrkpi 1Hkrtkpi " Tgr qtv'P q0VD232/423: .\$'Co gtlecp'Eqpetgyg'Rcxgo gpv'Cuuqelcvkqp.'Unqrtg.''KN.'423: 0
- ]7\_" UgcnIP q'UgcnII tqwr.'\$Vgej 'Dtkgh<'Vj g'Wug'qh'Xcewwo u'\q'Engcp''Ucy gf 'Iqkpu.\$'UgcnIP q'' UgcnII tqwr.'42470
- ]8\_" Crrhgf 'Rexgo gpv'Vgej pqmi {.'\$REE 'Rexgo gpv'Gxenvevkqp''cpf 'Tgj cdkrkevkqp'Tghgtgpeg'' O cpwen\$''WU'F QV'Hgf gten'J ki j y c{ 'Cf o kpkntevkqp.''Y cuj kpi vqp.''F E.''Qevqdgt''42230
- ]9\_" Co gtkecp 'Eqpetgy 'Rcxgo gpv'Cuuqekcvkqp. '\$Eqpetgy 'Rcxgo gpv'Vgej pqrqi {.'Iqkpv'cpf " Etceni'Ugcrkpi "cpf 'T gr ckt 'hqt 'Eqpetgy 'Rcxgo gpvu'Vgej pkech'Dwngvkp.\$'3; ; 70']Qprkpg\_0' Cxckrcdrg<<u>j wr u<1y y 0 cxgo gpvr tgugtxcvkqp0qti 1y r/</u>" eqpvgpvtvr mcf ul4232134 IEtcenna Iqkpva Ugcrkpi 0 f h0']Ceeguugf 'Hgdtwct { '4247 0
- ]: \_'' Gcengt.'O 0I0'cpf 'C0T0Dgppgw.'\$Gxcnvcvkqp''qh'Xctkqvu'Eqpetgvg'Rcxgo gpv'Iqkpv' Ugcrcpvu.\$'O kej ki cp'F gr ctvo gpv'qh'Vtcpur qtvcvkqp.'Ncpukpi .'O K'42220
- ]; \_" Rgf f leqtf ."N0'L0Htggo cp.'T0Lwej c.'L0Etkldgp''cpf 'L0Dgengt."Lqlpv'Ugcrcpv'cpf 'Rcxgo gpv' Rgt lqt o cpeg'F cw 'lqt 'Lqlpvgf 'Rrx lp'Eqpet gvg'Rcxgo gpwl'lp 'Rgppu(nxcpkc."Rgppu{ nxcpkc." F gr ctvo gpv'qh'Vtcpur qtvcvlqp'Eqpetgvg'Rcxgo gpv'S wcnk{ ''Kpkkcvkxg'F cw'T grgcug.'42430
- ]32\_" Hgf gtcn'J ki j y c{ 'Cf o kpkntcvkqp'\*HJ Y C+: '\$Eqpetgvg'Rcxgo gpv'Iqkpu0'Vgej pkecn' Cf xkuqt { 'V7262052.\$'Hgf gtcn'J ki j y c{ 'Cf o kpkntcvkqp."Y cuj kpi vqp. 'F E.'423; 0
- ]33\_" Ucpf dgti .'N0D0'\$Eqo r ctkuqpu'qh'ukteqpg'cpf 'wtgyj cpg'ugcrcpv'f wtcdktkkgu.\$'*Lqwtpcn'qh*' O cvgt kcnu'kp 'Ekxki/Gpi kpggt kpi . 'CUEG.'xqn05.'pq0'6.'3; ; 30
- ]34\_" Vj qtpvqp.'L0D0'\$Kpxguvki cvkqp'kpvq''y g'r gthqto cpeg''qh'tki kf 'r cxgo gpv'lqkpv'cpf 'o cvgtkcn\$" kp''Køvgt pc vkqpcn'E qplgt gpeg''qp'E qpet gvg'Rcxgo gpvu.'Rgtf wg''Wpkxgtukv{0'Y guv'Nchc{gwg." KP.'3; 9:0
- ]35\_" J cm'MO'LØEtqxgwk''V0G0J qgtpgt.'MOF 0'Uo kj .'C0O 0'Kqcppkf gu'cpf 'LØCto ci j cpk'' \$Ghgevkxpguu'qh'Ugchpi 'Vtcpuxgtug'Eqpvtcevkqp'Lqkpu'kp'Eqpetgvg'Rcxgo gpu'/'Hkpcn'' Tgr qtv.'F VHJ 83/25/E/22324.\$'Qhhkeg'qh'Tgugctej .'F gxgrqr o gpv.'cpf 'Vgej pqrqi {.'' F gr ctvo gpv'qh'Vtcpur qtvcvkqp.'Hgf gtcn'J ki j y c{'Cf o kpkuvtcvkqp.'O eNgcp. ''XC.''422: 0
- ]36\_" O qtkcp. 'F 0C0cpf 'U0Uvqhhgnu. '\$Lqkpv'Ugcn'Rtcevkegu'kp''y g'Wpkgf 'Uvcvgu<'Qdugtxcvkqpu'cpf " Eqpukf gtcvkqpu.\$''Vtcpurqtvcvkqp'Tgugctej 'Tgeqtf <'Lqwtpcn'qh'y g'Vtcpurqtvcvkqp'Tgugctej " Dqctf. 'xqt03849. "pq0\*3+<'r 09/34. ''r r 09/34. ''3; ;: 0
- ]37\_" Gkngp. 'U0'\$Ucy kpi 'cpf 'Ugenkpi 'Deukeu']Eqphgtgpeg'r tgugpvevkqp\_.\$'kp'45tf 'CERCIRC'' Eqpet gvg'Eqplgt gpeg''. 'Xkt wen'42430
- ]38\_" Dcnj uj .'M0cpf 'F 0\ qnlpi gt.'\$S wenkhecvlqp''qh'Iqlpv'Ugencpv'Ghgevlxgpguu'Tgi ctf kpi " Iqlpvgf 'Eqpetgyg'Rcxgo gpv'Rgthqto cpeg.\$'Vgzcu'C( O 'Vtcpur qtvcvlqp''kpuvkwyg.'Eqngi g

Ucvkqp. '42370

- ]39\_" Vc{nqt."R0'T0Tcuo wuugp."J 0'Vqttgu."I 0'Hkem'cpf 'F 0J cttkpi vqp."\$Kpvgtko 'I wkfg'hqt" Qr vko wo "Iqkpv'Rgthqto cpeg''qh'Eqpetgvg'Rcxgo gpvu.\$"Kqy c'Ucvg'Wpkxgtukx{."Co gu."KC." 42330
- ]3: \_" Uwtcpgpk'R0'Q0D0Kui qt.'X0C| cf 'cpf 'Y 0L0Y gkuu.'\$F gkekpi ''Ucnu'cpf 'F wtcdkkx{ ''qh'' Eqpetgyg'Rcxgo gpu'cpf 'Iqkput<'O kki cvkpi 'Ecnekwo ''Qz { ej nqtkf g''Hqto cvkqp.\$'*Eqpet gvg'' Kpvgt pc vkqpcn'Lqwt pcn'5: \**6+''r r 0'6: /76.'Cr tki'42380
- ]3; \_" Vqo r mkpu.'F 0'cpf 'N0'Mj c| cpqxkej .'\$Vgej 'Dtkgh-'Lqkpv'Ugcnkpi '\*HJ Y C/J KH/3: /23+.\$" Hgf gtcn'J ki j y c{'Cf o kpkutcvkqp.'Wtdcpc.'KN.'423; 0
- ]42\_" Mko .'L0cpf 'F 0\ qmkpi gt.'\$Ghhgewi'qh'Uj cr g'cpf 'Dqpf 'Utgpi yi 'qp'Cf j gukxg'Hcknxtg''qh'Lqkpv'' Ugcrcpvu.\$"Vt cpur qt w kqp'T gugct ej 'T geqt f u'4897'"3+"r r 0425/434.'3'Lcpvct {'42430
- ]43\_" Uj qdgt.''U0H0'\$Vj g'I tgcv''Wpugchpi <'C'Rgtur gevkxg''qp''Rqtvrcpf 'Ego gpv'Eqpetgvg'Iqhpv'' Ugchpi '\*Rcr gt 'P q0'; 93546+.\$''*Vt cpur qt vc vlqp 'T gugct ej 'T geqt f '37; 9*.''r r 044/55.''3; ; 90
- ]44\_" J cy mkpu. 'DOMO'COO OKqcppkf gu'cpf 'KOCOO kpmctcj . '\$Vq'Ugcn'qt 'P qv'\q'Ugcn'iC 'Hkgnf " Gzr gtko gpv'\q'Tguqnxg"cp'Ci g/Qnf 'F kngo o c'\*Rcr gt 'P q023/4; 43+.\$''Vt cpur qt vc kqp" Tgugct ej 'Tgeqtf '396; . ''r r 05: /62. ''42230
- ]45\_" Kqcpplf gu.'C0O 0'cpf 'K0C0O kpmctcj.'\$Qj kq'Tqwg'72'Lqkpv'Ugcncpv'Gzr gtko gpv'Hkpcn' Tgr qtv'\*Tgr qtv'P q0'HJ Y C1QJ /4224123; +.\$'Wpkxgtukx{ "qh'Ekpekppcvk'Eqmgi g'qh" Gpi kpggtkpi.'Ekpekppcvk''QJ.''42240
- ]46\_" P cvkqpcnlCecf go kgu'qh'Uekgpegu.'Gpi kpggtkpi .''cpf 'O gf kekpg.''Rqt vrcpf 'E go gpv'Eqpetgvg'' Rcxgo gpv'Iqkpv'Ugcrcpv'Rtcevkegu''cpf ''Rgthqto cpeg.''Y cuj kpi vqp.''F E <''Vj g''P cvkqpcn'' Cecf go kgu''Rtguu.''42430
- ]47\_" N{pej .'N0P 0'T0Uvghgu.'I0Ej gj qxku.'I 0'Xqki v.'N0'Gxcpu'cpf 'K0'N0'Cn'S cf k'\$Iqkpv'/'cpf " Etcem/Ugcn\pi 'Ej cmgpi gu.\$"Vtcpur qtvcv\qp'\p 'y g'P gy 'O kngppkvo 0
- ]48\_" UgcnIP q'UgcnII tqwr.'\$Vgej 'Dtkgh<'Hkgnf 'Gxcnxcvkqp''qh'Iqkpv'Ugcncpv'Rgthqto cpeg.\$'UgcnIP q'' UgcnII tqwr.'42430
- ]49\_" CUVO 'Køvgtpcvkqpcn'\$F88; 2'Uvcpf ctf 'Ur gekhecvkqp'hqt'Iqkpv'cpf 'Etcem'Ugcrcpvu.'J qv' Crrnkgf.'hqt'Eqpetgvg''cpf 'Curj cn/'Rcxgo gpvu.\$'CUVO 'Køvgtpcvkqpcn''Y guv'Eqpuj qj qengp." RC.'42430
- ]4: \_" CUVO 'Køygtpcvkqpcn'\$F7:; 5''Uvcpf ctf 'Ur gekhlecvkqp'hqt'Eqnf/Crrnkgf.''Ukpi ng/Eqorqpgpv." Ej go kecm{ 'Ewtkpi ''Ukreqpg'Iqkpv'Ugcncpv'hqt'Rqtvncpf 'Ego gpv'Eqpetgvg'Rcxgo gpvu.\$'' CUVO 'Køygtpcvkqpcn'Y guv'Eqpuj qj qengp.'RC.'42430
- ]4; \_" CUVO 'Køvgtpcvkqpcn'\$F484: 'Rtghqto gf 'Rqn{ej nqtqrtgpg'Grcuvqo gtke'Iqkpv'Ugcni'hqt" Eqpetgvg'Rcxgo gpvu.\$'CUVO 'Køvgtpcvkqpcn'Y guv'Eqpuj qj qengp.'RC.'42380
- ]52\_" I wtlct.'C0'J 0D0Mko.'G0O qqf {"cpf 'P 0L0Dwej.'\$Ncdqtcvqt{"Kpxguvki cvkqp"qh'Hcevqtu" Chhgevkpi 'Dqpf 'Utgpi y 'kp'Lqkpv'Ugcrcpvu.\$"*Vt cpur qt vc vkqp 'T gugct ej 'T geqtf '3849*.'r r 035/ 43.''3; ;: 0
- ]53\_" Crrnlef 'Tgugetej 'Cuuqekevgu.'\$Vgej pleen'O go qtepf wo <'Ctk| qpe''URU/4''REE''Iqkpv''Ugen' Rgthqto cpeg.\$''Crrnlef 'Tgugetej ''Cuuqekevgu.''42350
- ]54\_" N{pej .'NOP 0'LOI 0Ej gj qxku.'F 0I 0Nwf gtu'cpf 'O 0Dgrcpi kg.'\$Lqkpv'Tgugcrkpi 'Rtqlgew'cv' Hcktej kf 'Ckt'Hqtg'Dcug.'Y cuj kpi vqp<'Vy gpv{/Qpg/[ gct'Hkgrf 'Rgthqto cpeg.\$" *Vt cpur qt vc kqp 'Tgugct ej 'Tgeqtf '4583*.'r r 0; : /327.'42350

- ]55\_" Nk'S 0'\$F gxgnqo gpv'qh'Vguvkpi 'U{ uvgo 'hqt'Cpcn{ uku'qh'Vtcpuxgtug'Eqpvtcevkqp'Iqkpvu'kp'' Rqtvrcpf 'Ego gpv'Eqpetgyg'Rcxgo gpvu.\$'WO KF kuugtvcvkqp'Rvdrkuj kpi .'42330
- ]56\_" Cn'S cf k'K0N0'J 0Q| gt. 'U0'U0[ qwughk 'O 0'Ucy cnj c''cpf 'M0'M0'O eI j gg. '\$Xcnkf cvkqp''qh'J qv'' Rqwtgf 'Etceni'Ugcrcpv'Rgthqto cpeg/Dcugf 'I wkf grkpgu'\*Tgr qtv'P q0''HJ Y C1XVTE'39/" T48+.\$'Xkti kpc''Vtcpur qtvcvkqp'Tgugctej 'Eqwpekn'Ej ctrqwguxkrg.'XC.'42390
- ]57\_" I wq.'O 0'[ 0'Vcp.'Z0F w'cpf '\ 0'Nx.'\$Uwt { ''qp''y g'Eqj gukqp''cpf 'Cfj gukqp''qh'J qv'r qwtgf " Etceni'Ugcrcpw.\$''*Ht qpvkgt u''qH'Ut wewt crl'cpf 'Ekxkd'Gpi kpggt kpi '\*33*+''r r 0'575/57; .'': 'Lwpg'' 42390
- ]58\_" Hgnf o cp. 'F 0'\$Rqn{ o gt 'Y gcy gtkpi <'Rj qvq/Qzkf cvkqp.\$"Lqwtpcn'qh/Rqn{ o gt u'cpf 'ij g" Gpxkt qpo gpv'32\*6+"r r 0385/395."4224'Qevqdgt0
- ]59\_" Mko.'IΩ'F 0\ qmkpi gt'cpf 'U0Ngg.'\$Gzr gtko gpvcn'Uwf {"qp"yj g'F guki p'cpf 'Dgj cxkqt"qh" Eqpetgyg'Rcxgo gpv'Iqkpv'Ugcrcpvu.\$"Vt cpur qt vc kqp 'T gugct ej 'T geqtf u'4897\*8+"r r 058; / 59; .''3'Lwpg'42430
- ]5: \_" Mj wtk'O 0'H0'\$F guki p''qh'T gevcpi wrct'twddgt''Ugcni'qp''y g''Dcuku''qh''Xqp''O kugu''Ut guu.\$" Vt cpur qt vc vkqp'T gugct ej 'T geqtf u.''r r 075/85.''3; ; 50
- ]5; \_" Vqpu.'G0'\$C''Vj gqtgvlecn'Crrtqcej '\q'F guki p''qh'c'Tqcf''Iqkpv'Ugcn\$'P cvkqpcnTgugctej " Eqwpekn'Y cuj kpi vqp.'F (E0''3; 7; 0
- ]62\_" O cuvgp. 'O 0'\$Nqpi "Nkhg'Eqpetgvg'Rcxgo gpv'Rgthqto cpeg'kp'O kppguqvc.\$'kp'45tf 'Cppwch' CERCIRC'Eqpetgvg'Eqphgtgpeg.'Qptkpg.''423: 0
- ]63\_" \ kgi ngt. 'H0I 0/cpf 'T0J qtpgt. '\$Rtcevkeg''qh'Wpugcngf 'Iqkpwi'kp'P gy 'Rqtvrcpf 'Ego gpv' Eqpetgyg'Rcxgo gpvu.\$'P qtyj 'F cnqvc'F gr ctvo gpv'qh'Vtcpur qtvcvkqp. 'Dkuo ctem'P F. '422; 0
- ]64\_" Uo ký .'MOcpf 'C0Tqo kpg.'\$NVVR'Rcxgo gpv'O ckpvgpcpeg'O cvgtkcnk'UJ TR'Etcen' Vtgcvo gpv'Gzr gtko gpv.\$'Hef gtcn'J ki j y c{ 'Cf o kpkwtkqp.'Y cuj kpi vqp.'FE.'3; ; ; 0
- ]65\_" F wpp. 'E0'D0'Hwej u'cpf 'M0'Gxgtv.'\$Rtcevkeg''qh'Wpugcngf 'Iqkpwi'kp''P gy 'Rqtvrcpf 'Ego gpv' Eqpetgvg''Rcxgo gpwi'HKP CN'GXCNWCVKQP 'TGRQTV.\$''P qtyj 'F cmqvc''F gr ctvo gpv'qh' Vtcpur qtvcvkqp''O cvgtkcni'cpf 'Tgugctej 'F kxkukqp. 'Dkuo ctem''P F.'Icpvct { ''422; 0
- ]66\_" Dwtng. 'O 0R0L0'cpf 'L0'Y 0'Dwi ngt.'\$Vj g'Nqpi /Vgto 'Rgthqto cpeg''qh''Wpugcngf 'Lqkpwgf " Eqpetgwg'Rcxgo gpwu'<sup>\%</sup>Rcr gt 'P q024/45; 6+.\$''Vtcpur qtvcvkqp'T gugctej 'Dqctf.''Y cuj kpi vqp." F (£0'42240
- ]67\_" Rgppu{ rxcpkc"F gr ctvo gpv"qh"Vtcpur qtvcvkqp."Dwngvkp"37. "Rwdnkecvkqp"57."J cttkudwti ."42440
- ]68\_" Rgppu{ nxcpkc'F gr ctvo gpv'qh'Vtcpur qtvcvkqp."Cwqo cvgf 'Rcxgo gpv'Eqpf kkqp'Uvtxg{ 'Hkgnf'' Ocpwcn'Rwdnkecvkqp'558."J cttkudwti."RC."42440
- ]69\_" Rgppu{ nxcpkc'F gr ctvo gpv'qh'Vtcpur qtvcvkqp."*Rcxgo gpv'Rqnke{ 'O cpwcn'Rwdnkecvkqp'464*." J cttkudwti .'RC.'42430
- ]6: \_'' Mło .'L0cpf 'F 0\ qmkpi gt.'\$Ghbgewi'qh'Uj cr g'cpf 'Dqpf 'Utgpi yi ''qp'Cf j gukxg'Hcknwtg''qh'Iqkpv'' Ugcncpw.\$''Vt cpur qt w kqp'T gugct ej 'T geqtf u''xqf0'4897.''r r 0'425/434.''3''Lcpwct {''42430
- ]6; \_" Y gmi. "U0'D0Rj knkr u'cpf 'L0Xcpf gpdquuej g. '\$Ej ctcevgtk kpi 'Utckp'Kpf wegf 'd{ " Gpxktqpo gpvcn'Nqcf u'kp'Lqkpvgf 'Rnckp'Eqpetgy'Rcxgo gpvcKo o gf kcvgn{ 'Chvgt'Rcxkpi 'cpf " Vj tqwi j qwl'Hktuv'32"o qpvj u.\$''Vtcpurqtvcvkqp'Tgugctej 'Tgeqtf <Lqwtpcn'qh'vj g'' Vtcpurqtvcvkqp'Tgugctej 'Dqctf. 'pq03; 69.'r r 058/62.''42280
- ]72\_" Dwtpj co .'V0cpf 'C0Mqwdcc.'\$C'P gy 'Crrtqcej '\q'Guvko cvkpi '\j g'Kp/Ukw/Vj gto cn' Eqghhekgpv'cpf 'Ft { kpi 'Uj tkpmci g'hqt'Iqkpvgf 'Eqpetgvg'Rcxgo gpv\$'\kp'9*vj 'Kpvgtpcvkqpcn*

Eqplgt gpeg"qp 'Eqpet gvg 'Rcxgo gpu. 'Qtrcpf q. 'HN. '42230

- ]73\_" CUVO 'Kpvgtpcvkqpcn'\$Uvcpf ctf 'Vguv'O gyj qf 'hqt 'Ngpi yj 'Ej cpi g''qh'J ctf gpgf 'J {f cwrke/" Ego gpv'O qtvct ''cpf 'Eqpetgvg.\$''42430
- ]74\_" Lepuugp. 'F 0'\$O qkuwtg'kp''Rqt vrcpf 'Ego gpv'Eqpetgvg.\$'kp''Rt qeggf kpi u'ht qo ''qh'vj g'88vj " Cppwch'O ggvkpi ''qh'vj g'Vt cpur qt vcvkqp'Dqctf.'Y cuj kpi vqp.'F (E0'3; : 90
- ]75\_" Gkugpo cpp. 'L0'cpf 'I 0Ng{mcwh '\$Uko r nkhgf 'Ecnewrcvkqp'O gyj qf 'qh'Urcd'Ewtnkpi 'Ecwugf 'd{" Uwthceg''Uj tkpmci g.\$'kp''4pf 'Kpvgtpcvkqpcn'Y qt mij qr ''qp''vj g'Vj gqt gvkecn'F guki p''qh'Eqpet gvg'' Rcxgo gpw. ''Ur ckp. ''3; ; 20
- ]76\_" Ngf gtrg. 'T0cpf 'L0J kngt. '\$Tgxgtukdrg'Uj tkpmci g"qh'Eqpetgvg'O cf g'y kj 'Tge{engf 'Eqpetgvg'' Ci i tgi cvg'cpf 'Qy gt'Ci i tgi cvg'V{r gu.\$''*CEKO cvgt kcnu'Lqwt pcn*'xqr0332.'pq0'6.'r r 0'645/ 653.''42350
- ]77\_" Xcpf gpdquuej g. 'LOO 0'\$Vj g'O gcuwtgf 'T gur qpug"qh"Whtc/Vj kp"cpf "Vj kp"Y j kgvqr r kpi "vq" Gpxktqpo gpvcn"Nqcf u.\$'kp'9*vj "Kpvgt pc vkqpc n'E qphgt gpeg"qp 'E qpet gvg 'Rcxgo gpvu*.'Qtrcpf q." HN.'42230
- ]78\_" CCUJ VQ.'\$Uvcpf ctf 'O gyj qf 'qh'Vguv'hqt 'Eqghhelgpv'qh'Vj gto cn'Gzr cpulqp'qh'J {ftcwrle" Ego gpv'Eqpetgyg.\$'422; 0
- ]79\_" O cvgqu.'C0'L0J ctxg{.'L0Dqmcpf gt.'T0R0L0'Y w'cpf 'H0'cpf 'Rcpkci wc.'\$Hkgrf 'Gxcnwcvkqp''qh'' y g'Ko r cev'qh'Gpxktqpo gpvcn'Eqpf kkqpu''qp'Eqpetgvg'O qkuvvtg/Tgncvgf ''Uj tkpmci g''cpf '' Eqghhkekgpv''qh''Vj gto cn'Gzr cpukqp.\$'Wpkxgtukv{ ''qh'Ecnkhqtpkc''Rcxgo gpv'Tgugctej 'Egpvgt.'' F cxku.''EC.''423; 0
- ]7: \_" O g{gtu."U0'\$Ej ctcevgtkuvkeu''qh'J ctf gpgf 'Ego gpv'Rcuvg''cpf ''qh'Eqpetgvg.\$''xqr052.''r r 03; 5/ 425.''3; 730
- ]7; \_" \ qmkpi gt.'F 0'L0Rctm'cpf 'L0Nko .'\$Ci g'cpf 'O qkuwtg'Ghbgew'qp''Vj gto cn'Gzr cpukqp''qh'' Eqpetgyg'Rcxgo gpv'Uncdu.\$''*O cvgt kcnu'kp 'E kxki/Gpi kpggt kpi* .''42340
- ]82\_" F ctvgt.'O 0K0'\$F guki p'qh'\ gtq/O ckpvgpceg'Rrckp'Iqkpvgf 'Eqpetgvg'Rcxgo gpv.'Xqr0K'" F gxgrqr o gpv'qh'F guki p'Rtqegf wtgu.\$'HJ Y C.'Y cuj kpi vqp.'F (E0'3; 990
- ]83\_" CCUJ VQ. 'Ucpf ctf 'O gyj qf ''qh''Vguv'hqt ''Y cvgt 'Eqpvgpv''qh'Htguj n{ 'O kzgf 'Eqpetgvg''vukpi '' O ketqy cxg''Qxgp''F t { kpi . ''Y cuj kpi vqp. 'F (E0''42370
- ]84\_" P cvkqpcn'Qegcpke''cpf 'C vo qur j gtke'Cuuqekcvkqp'\*P QCC+.'\$Nqecn'Enko cvqrqi kecn'F cvc'' \*NEF +'F cvcugv'F qewo gpvcvkqp.\$'']Qprkpg\_0'Cxckrcdrg< j wr u<lly y y 30pef e0pqcc0 qx lr wd lf cvc lef q lf qewo gpvcvkqp INEF af qewo gpvcvkqp0 f l0
- ]85\_" Dtqf {.'\ 0C0'E0C0F qppgm{ "cpf 'I0O 0'Xcpf gpdquuej g. '\$Vgo r qtcn'cpf 'Ur cvkcn'Xctkcvkqp" kp'F t {kpi "Uj tkpmci g"cpf "Vj gto cn'Tgur qpug"qh'c 'Iqkpvgf 'Rnckp'Eqpetgvg'Rcxgo gpv\$" Vtcpur qt vcvkqp'Tgugct ej 'Tgeqtf <'Iqwt pcn'qh'vj g'Vtcpur qt vcvkqp'Tgugct ej 'Dqctf.'42450
- ]86\_" Co gtkecp'Cuuqekcvkqp''qh'Uvcvg''J ki j y c{"cpf "Vtcpur qtvcvkqp''Qhhkecn.''CCUJ VQ''I vkf g'hqt" F guki p''qh'Rcxgo gpv'Uvtvevvtgu''3; ; 5.''Y cuj kpi vqp.''F (E0''42230
- ]87\_" Uknc 'WUC.'\$Ukncuki /94: 'P U.\$'Uknc.']Qprkpg\_0Cxckrcdrg< j wr u<1wc0uknc0eqo 1gp1eqput/wexqp1cf j gukxgu/ugcrcpw1lqkp/ugcrcpw1tqcf y c{/'' ugcrcpw1ukncukr/94: /pu0 vo r0]Ceeguugf '43'P qxgo dgt'4246\_0
- ]88\_" Etcheq "Kpe0" Rt qf wev'F cvc 'U ggv'Tqcf ucxgt '453. 'Ej cpf ngt. 'Ctk qpc < Etcheq 'Kpe0'42440
- ]89\_" Rgppu{ nxcpkc'F gr ctvo gpv'qh'Vtcpur qtvcvkqp.'\$Rwdnlecvkqp'94O 'Uvcpf ctf u'hqt'Tqcf y c{" Eqpuvt wevkqp.\$'Rgppu{ nxcpkc'F gr ctvo gpv'qh'Vtcpur qtvcvkqp.'42380

- ]8: \_" Crrnlef 'Rexgo gpv'Vgej pqmi {.'Kpe0''REE 'Rexgo gpv'Gxenwevlqp''cpf 'Tgj edktkevlqp." Ej coreki p. 'KN<P evlqpen'J ki j y e{ 'Kpuvkswg.'Qevqdgt''42230</p>
- ]8; \_" CUVO "Kpygtpcvkqpcn'\$E3; 4"Uvcpf ctf "Rtcevkeg'hqt'O cmkpi "cpf "Ewtkpi "Eqpetgyg"Vguv" Ur gelo gpu'kp''y g"Ncdqtcvqt{.\$"CUVO "Kpvgtpcvkqpcn"Y guv'Eqpuj qj qengp. "RC.'42370
- ]92\_" CUVO 'Kpygtpcvkqpcn'\$E365''Uvcpf ctf 'Vguv'O gyj qf 'hqt''Unvo r 'qh'J {ftcwrke/Ego gpv' Eqpetgyg.\$''CUVO 'Kpygtpcvkqpcn''Y guv'Eqpuj qj qengp. 'RC.'42370
- ]93\_" CUVO 'Kpvgtpcvkqpcn'\$E453''Uvcpf ctf ''Vguv'O gyj qf 'hqt''Ckt''Eqpvgpv'qh'Htguj n{ 'O kzgf '' Eqpetgvg''d{ ''yj g''Rtguuwtg''O gyj qf .\$''CUVO ''Kpvgtpcvkqpcn''Y guv'Eqpuj qj qengp.''RC.''42320
- ]94\_" CUVO "Kpygtpcvkqpcn'\$E5; "Vguv'O gyj qf 'hqt'Eqortguukxg''Utgpi yj "qh'E{nkpftkecn'Eqpetgvg" Ur gelo gpu.\$''CUVO .''Y guv'Eqpuj qj qengp.''RC.''42250
- ]95\_" P cvkqpcn'Qegcpke''cpf 'Cvo qur j gtke'Cuuqekcvkqp'\*P QCC+:'\$F cvc''Vqqn<'Hpf 'c''Uvcvkqp.\$" P cvkqpcn'Egpvgtu'hqt'Gpxktqpo gpvcn'Kphqto cvkqp."]Qpnkpg\_0Cxckrcdng< j wr u⊲lly y y (begkfpqcc0 qx lef q/y gd lf cvcvqqmlhpf uvcvkqp0']Ceeguugf 'P qxgo dgt'4245\_0
- ]96\_" Co gtlecp 'Eqpetgyg 'Rcxgo gpv'Cuuqelcvkqp.'\$Uvcpf ctf 'Ur geldlecvkqp 'hqt 'F qy gn'Dctu'hqt " Eqpetgyg 'Utggv'cpf 'J ki j y c{ 'Rcxgo gpv'O 476/43.\$'CERC.'42430
- ]97\_" Mko .'[ 0T0'F 0Nkwg'cpf 'T0N{ wqp.'\$Hcvki wg'cpf 'J gcrkpi 'Ej ctcevgtki cvkqp''qh'Curj crk' O kz wtgu.\$'xqr0'37.'pq0'3.'42250
- ]98\_" CUVO "Kpygtpcvkqpcn'\$F754; "Ucpf ctf "Vguv'O gyj qf u'hqt "Ugcrcpwi'cpf "Hkngtu."J q√Crr nkgf." hqt "Iqkpwi'cpf 'Etcemu'kp'Etcemu'kp "Rcxgo gpw.\$'CUVO."Y guv'Eqpuj qj qengp. "RC."42420
- ]99\_" Xcp'F co .'V0L0'U0Tgc{.'O 0Crrg{ctf'cpf'O 0L0Gcengt.'\$F gxgnro gpv'qh'c'Ncdqtcvqt{" Uetggpkpi 'Vguv'hqt'Curj cnv'Rcxgo gpv'EtceniUgcrcpvu.\$'xqr038: 2.'pq03.'rr058/65.'3; ; ; 0
- ]9: \_" F klm'Y 0'X0'\$Rtcevkecn'Hcvki wg'Ej ctcevgtk cvkqp''qh'Dkwo kpqwu'O kzgu.\$''Rj gqpkz.'Ctk qpc." 3; 970
- ]9; \_" Rgvgtuqpg."LØE0'\$C'Tgxkgy "qh'vj g"Hwpf co gpvcnu"qh'Cur j cn/Qzkf cvkqp<Ej go kecn" Rj {ukeqej go kecn"Rj {ukecn"Rtqr gtv{."cpf "F wtcdkrkv{"Tgrcvkqpuj kr u.\$"Y cuj kpi vqp."F (E0" 422; 0

# Crrgpf kz'C0Lqkpv'Ugcncpv'Nksgtcwtg'Tgxkgy

#### 3''2'Kpvt qf wevkqp

Ugcıkpi "cpf "kkılıçı" eqpetgıgı"r cxgo gpv"lqkpul'ku'eqpukf gtgf "dgpghkekcılıqı"r cxgo gpv"r gthqto cpeg" hqt "xctkqwu"tgcuqpu0"Hkuv."lqkpv"ugcırcpul"r tgxgpv"y cvgt "htqo "kphkıtıcıkpi "yi g"r cxgo gpv"uv.wewtg." y j kej "o kki cvgu"f gxgıqı o gpv"qh"o qkuwtg"tgırcvgf "f kurtguugu"uvej "cu"hcwnkpi ."uqhıgpkpi "qh"yi g" uwddcug."eqtpgt "dtgcım."cpf "htgg| g/yi cy "f co ci g0'Ugeqpf ."lqkpv'ugcırcpvu"r tgxgpv"yi g"kpvtwukqp"qh" hkpgu"kpvq"yi g"r cxgo gpv"lqkpv."o kpko k kpi "ur cırlıpi "cpf "dırıy vr u"y j gp"yi g"r cxgo gpv"gzr cpf u"f vg" vq"gpxktqpo gpvcn'ıqcf kpi "]35."36."37."38\_0'Hkpcın{...yi g"vug"qh"lqkpv'ugcırcpvu"tgf wegu"yi g"co qwpv'qh" f gkekpi "ej go kecın."y j kej "ecp"j cxg"cp"cf xgtug"ghhgev'qp"r cxgo gpv'r gthqto cpeg."yi cv"gpvgt"yi g" r cxgo gpv'u{uvgo "]6."39."3: ."3; \_0

Hki wtg'C08''uj qy u'hkxg''eqo o qp'lqkpv'f guki pu'wugf 'hqt''eqpetgvg'r cxgo gpvu']6\_0C''eqpxgpvkqpcn'' lqkpv'' f guki p'' eqphki wtcvkqp''ku''uj qy p'' cu'' y g'' õUgcngf '' \*kp'' tgugtxqkt'' ewviö'' kp'' Hki wtg'' C08f 0' Vj g'' eqpxgpvkqpcn'lqkpv''eqphki wtcvkqp''ku''eqpuvt wevgf ''d { ''hktuv''ewvkpi ''cp''kpkkcn'ucy ''ewv.''y j kej ''eqpvtqm'' etcemi'nqecvkqp''kp''y g''r cxgo gpv0'Vj g''f gr y ''qh''ucy ewv''ku''v{r kecm{ ''gs wcn'vq''qpg''hqwty ''qt''qpg''y kf '' y g''f gr y ''qh''y j''r cxgo gpv0'Vj g''f gr y ''qh''ucy ewv''ku''v{r kecm{ ''gs wcn'vq''qpg''hqwty ''qt''qpg''y kf '' g'' f gr y ''qh''y j kej ''y g''ugcmpv'ku''q''dg''r megf ''ku''ew0Vj g''f ko gpukqpu''qh'y g'tgugtxqkt''ctg''c''hwpevkqp'' c'tgugtxqkt'kp'y j kej ''y g''ugcmpv'ku''q''dg''r megf ''ku''ew0Vj g''f ko gpukqpu''qh'y g''tgugtxqkt''ctg''c''hwpevkqp'' qh''y g''lqkpv'ugcmpv'uj cr g''hœvqt''cpf ''dcengt''tqf ''y kempguu'']6.''38\_0'Vj g''uj cr g''hœvqt''ku''y g''f gr y ''q'' y kf y ''tcvkq''qh''y g''ugcmpv'cpf ''j cu''dggp''f gvgto kpgf ''vq''dg''c''etkkecn''hœvqt''hp''tgukuvcpeg''vq''hckwtg'' ecwugf ''d{ ''lqkpv'o qxgo gpv']6.''42\_0

Vj g"htguj n{ "ewi'tgugtxqkt"ku''y gp"engcpgf ''y kj ''y cvgt."cmqy gf ''vq"f t { "cpf ''y gp"ucpf 'druvgf ''q" tgo qxg"cmlf wuv'cpf 'o qkuwtg'kp''y g'tgugtxqkt ''y cv'y qwrf ''cf xgtugn{ "chgev''y g"cf j gukqp"qh''y g''ugcrcpv'' vq''y g''r cxgo gpv0Ko o gf kcvgn{ "chvgt ''y g''lqkpv'ku''engcpgf ''cpf ''f tkgf. ''y g''dcengt ''qf ''ku''kpuvcngf ''cv''y g'' ur gekhkgf "f gr y ''vq"r tgxgpv''y g''lqkpv'ugcrcpv''htqo ''cf j gtkpi ''vq"'y g''dqwqo ''qh''y g''lqkpv'tgugtxqkt0' Rtgxgpvkpi ''y g''ugcrcpv'htqo ''cf j gtkpi ''vq''y g''dqwqo ''qh'y g''tgugtxqkt''tgf wegu'y g''utguu'kp''y g''ugcrcpv'' cv''y g''dcug''qh''y g''tgugtxqkt0'Vj g''lqkpv'ugcrcpv''ku''y gp"r rcegf ''kp''y g''tgugtxqkt"cpf ''hqto gf ''vq''ku'' ur gekhkgf ''uj cr g''rcevqt'']6. ''38\_0

Qpg"cngtpcvkxg"lqkpv"f guki p"qr vkqp."f gr kevgf "kp"Hki wtg"CBc."ku"cp"wphkngf "ukpi ng"ucy "ewv"lqkpv." y j kej "grko kpcvgu"y g"pggf "vq"ewv"y g"lqkpv"tgugtxqkt"cpf "hkn"y kyj "c"ugcncpv0Vj ku"qr vkqp"j cu"i ckpgf " r qr wnctk{ "kp"y g"y gv"htgg| g"tgi kqp"qh"Co gtkec"f wg"vq"r tgo cwttg"ugcncpv"hcknutgu0Vj g"Y kueqpukp" F gr ctvo gpv"qh"Vtcpur qtvcvkqp"\*Y kuF QV+"j cu"cf qr vgf "y ku"r tcevkeg"y j kej "ucxgu"Y kuF QV"qxgt"&8" o knkqp"f qmctu"c" { gct"vq"eqo r ngvg"qy gt"r tqlgevu"]43\_0'Y kuF QV"cpf "qy gt"ucvgu"y cv"vug"y ku" o gyi qf "kp"y g"y gv"htgg| g"tgi kqpu"qh"Co gtkec"j cxg"uggp"pq"nuu"kp"r cxgo gpv"r gthqto cpeg"]43."44." 45\_0

Cpqyj gt"cngtpcvkxg"dgkpi "gxcnxcvgf "kp"tgegpv" { gctu"ku"vq" grko kpcvg" yj g"lqkpv" tgugtxqkt "cpf" dcengt "tqf "cpf "hkn" yj g"kpkkcn" ucy "ew"gpvktgn{"y kj "c"ugcncpv."v{r kecm{"c"j qvr qwt "cur j cnv" ugcncpv" ]38."37\_0"Vj ku"lqkpv" eqphki wtcvkqp "ecp"dg" uggp"cu" yj g"öHkngf "\*kp" ukpi mg" ucy "ew+ö"lqkpv" f guki p"kp" Hki wtg"C08d0"Vj g"P qtyj 'F cnqvc"F gr ctvo gpv"qh"Vtcpur qtvcvkqp"\*P F QV+'j cu"dgi wp"hknkpi "ukpi mg" ucy "ew+"lqkpu" y kj kp" yj gkt" uvcvg0"Vj g"ucvg" v{r kecm{"wugu"c"20847/kp"lqkpv'y kf yj "hkngf "y kj" c"j qv" r qwt"cur j cnv/dcugf "ugcncpv0J qy gxgt."P F F QV" uqo gvko gu" wugu"c"207" kp"lqkpv'y kf yj 'y kj "c" ukheqpg" ugcncpv0P F F QV" enclo u" yj cv"hkngf "ukpi mg" ucy "ew+"lqkpvu" j cxg" pqv"r tqf wegf "cp{"f knvtguugu" tgncvgf" q"ur cmkpi 'y kj kp" yj g": "{ gctu"ukpeg" yj g"ugcncpv'y cu"kpuvcngf "]46\_0"Vj ku" cnvgtpcvkxg" ecp" cnuq" j cxg" c" y kf gpgf "lqkpv."cu"uggp" kp"Hki wtg"C08e0

Vj g"hkpch'cnygtpcvkxg"f guki p"ku"uj qy p"kp"Hki wtg"C03g"ku"vj g"eqo r tguukqp"ugch'f guki p0'Vj ku" f guki p"nggr u"vj g"r qn{ej mtqr tgpg"gncuvqo gtke"ugch'42"vq"72' "eqo r tguugf "qh'vj g"ugcnu"qtki kpch" ngpi ý 0'Mggr kpi "vj g"ugcn'eqo r tguugf "cpf "kp" vj g"lqkpv' v kj qw' qdvckpkpi "r gto cpgpv' f ghqto cvkqp" vj tqwi j "qxgt"eqo r tguukpi "vj g"ugcmpv' ku' xkcn' vq" vj g"uweeguu "qh' vj ku' v{ r g"qh' ugcnkpi "o gy qf 0' Vj gug" ugcnu "ctg" v{ r kecm{ "o qtg"gzr gpukxg" vj cp" qvj gt "hqto u' qh' ugcmpv' dwv' j cxg" c" npi gt "f guki p"hkg" ukpeg" eqo r tguukqp" ugcmpvu' y kn' pqv' f gvgt kqtcvg" cu''s wkem{ "f vg" vq"gpxktqpo gpvch' cvqtu'] 38\_0



Hki wt g'C0B0E qpet gvg'Rcxgo gpv'Lqkpv'F guki p'\*c +'Wplkngf '\*qr gp+'\*d +'Hkngf 'kp'ikpi ng'ucy " ewv'\*e +'Hkngf 'kp't gugt xqkt '\*f +'Ugcngf 'kp't gugt xqkt '\*g+'E qo rt guukqp'ugcn']6\_

#### 4"@'V{rgu'qhUgenepw

Vj g" vj tgg" o ckp" ugcmpvu" vugf " hqt" eqpetgvg" r cxgo gpvu" ctg" cur j cnv." ukrkeqpg." cpf " r tghqto gf " eqo r tguukqp"ugcmpvuOCur j cnv'ugcmpvu"ctg"r megf "y j gp"vj g"ugcmpv"ku"j qv"cpf "ku"vj g"o quv"eqo o qp" v{r g"qh"ugcmpv"vugf "hqt"eqpetgvg"r cxgo gpvuOJ qy gxgt."ukrkeqpg"cpf "r tghqto gf "ugcmpvu"ctg"cnuq" eqo o qpn{ "ceegr vgf "cngtpcvkxgu"hqt"o cp{ "uvcvgu"F QVu"]47."3; \_0"Vj g"hqmqy kpi "ugevkqp"r tqxkf gu" i tgcvgt"f gvcki'qp"gcej "v{r g"qh'lqkpv'ugcmpv0

#### 408''Curjcn/Ugcnepw

Cur j cn/ugcrepul'ctg''y g''o quv'y kf gn{"wugf "ugcrepul'd{"uxcy"F QVu0Kp"c"s wguvlqppcktg"r tgr ctgf "d{" Mko "cpf"\ qmkpi gt."4; "qh"55"uxcvgu"y j kej "r ctvlekr cvgf "uxcvgf "y cv'cur j cn/ugcrepul"ctg"wugf "y kyj kp" y gkt"uxcvg0Kp"eqo r ctkuqp."qpn{"39"uxcvgu'wug"ukrkeqpg"ugcrepul"ctg"npqy p"hqt"i qqf "hrgzkdkrk{" ]46\_0Cur j cn/ugcrepul'j cxg"c"v{r kecn'ugtxkeg"rkhg"qh'5"vq": "{gctu"cpf "ctg"npqy p"hqt"i qqf "hrgzkdkrk{" cpf "ugcrhpi "ej ctcevgtkurkeu0'Kp"cf f kklqp."y g"equv'vq"hkm"lqkpvu"ku"tgrcvkzgn{"my "eqo r ctgf "vq"qy gt" o gyj qf u"qh" ugcrhpi "lqkpvu0'Lqkpv" ugcrhpi "ceeqwpvu"hqt" cdqw"7' "vq" 32' "qh" y g"kkkcn" equv"qh" r cxgo gpvu."uq"tgf werkqp"qh'y g"equv'ugcrhpi "j cu'y g"r qvgpvkcrihqt"uki pkhkecpv'tgf werkqp"qh'y g"r tqlgev" qxgtcm"equvu"]48\_0Cnj qwi j "y kf gn{"cf qr vgf."cur j cn/ugcrepvu"ctg"r tqpg"vq"hckrwtg"qxgt "vko g"f wg"vq" uvkhgpkpi "qh" y g" ugcrepv0'Kpetgcugf "uvkhpguu" ecwugu" uvguu" eqpegpvtcvkqpu" y kj kp" y g" ugcrepv"

Vj gtg"ctg"hqwt"v(r gu"qh"cur j cn/"ugcmpw"ceeqtf kpi "vq"CUVO "F 88; 2."y j kej "ctg"f gpqvgf "cu" V{r gu'K'KK"kKC"cpf "KX"]49\_0Vj g"emuukhkevkqp"qh"gcej "v(r g"qh"ugcmpv"ku"dcugf "qp"vj g"ghhgevkxgpguu" qh"vj g"ugcmpv"kp"ur gekhke"enko cvg"eqpf kkqpu."y j kej "ku"c"hwpevkqp"qh"vj g"dqpf "uvtgpi vj "cpf "gzvgpukqp" ej ctcevgt kuvkeu0"Cur j cnv"ugcmpv"r gthqto cpeg" ku" vguvgf "kp" my "vgo r gtcwtgu" cpf "uvtgvej gf "vq" c" ur gekhkgf "gzvgpukqp"ngxgn"vq"f gvgto kpg"y j cv"ku"vj g"cr r tqr tkcvg"ugcmpv"emuukhkecvkqp0"kp"cf f kkqp." CUVO "F 88; 2" nkuvu" vj g" ur gekhke" tgs vktgo gpvu" hqt" gcej " cur j cn/" ugcmpv" v(r g" dcugf " qp" eqpg" r gpgvtcvkqp." uqhgpkpi "r qkpv." dqpf "uvtgpi vj." tguktkgpeg." qxgp" ci gf "tguktkgpeg." cpf "curj cn/" eqo r cvkdktkv{ "vguv0

#### 404''Ukkeqpg'Ugcn:pw

Vj g'ugeqpf 'o quv'eqo o qpn{ 'wugf 'ugcmpv'v{ r g'ku'ukrkeqpg0Cnj qwi j 'nguu'y kf gn{ 'wugf ''eqo r ctgf ''q'' cur j cnv'ugcmpvu. 'uvcvgu'j cxg''dgi wp''q''cf qr v'vj g''wug''qh'ukrkeqpg''kp'tgegpv'{ gctu''dgecwug''qh'kpetgcugf '' dqpf ''uvtgpi yj ''cpf ''gzr cpukqp''ej ctcevgtkuvkeu''hqwpf ''kp''pgy gt''ukrkeqpg''ugcmpv''o cvgtkcnt0'Ukrkeqpg'' ugcmpvu''cnq'' j cxg'' gzegmppv''cf j gukxg''ej ctcevgtkuvkeu''cpf ''ctg'' nguu''uvuegr vklng'' vq'' ci kpi ''f wg'' vq'' gpxktqpo gpvcn'hcevqtu''y j gp''eqo r ctgf ''vq''cur j cnv''ugcmpvu0'Kp''cf f kkqp. ''ukrkeqpg''ugcmpvu''f q''pqv'' tgs wktg''j gcvkpi ''r tkqt''vq''cr r rkecvkqp. 'y j kej 'o cngu''kpuvcmcvkqp''qh'ukrkeqpg''ugcmpvu''uchgt ''cu''eqo r ctgf '' vq''cur j cnv''ugcmpvu. ''cpf ''ewtg''y tqwi j ''c''ej go kecn'tgcevkqp0'Cnj qwi j ''o qtg''equvn{ ''y cp''cur j cnv'' ugcmpvu. ''yj g''gzr gevgf ''f guki p''rkhg''qh'ukrkeqpg''ugcmpvu''ku'': ''q''37''{ gctu. ''cu''eqo r ctgf ''q''c''f guki p''rkhg'' qh'5''vq'': ''{gctu''o qtg''eqo o qpn{ ''qdugtxgf ''hqt''cur j cnv''ugcmpvu'']38\_0

CUVO "F 7: ; 5"nkuwu" yi g"uvcpf ctf "ur gekhecvkqpu" hqt"ukheqpg" ugcrcpw0'V j ku"uvcpf ctf "nkuv" yy q" encuukhecvkqpu" qh'ukheqpg" ugcrcpvu. "pqp/uci "\*P U+"cpf "ugnh/ngxgnkpi "\*UN+0P U" ugcrcpvu" tgukuv" uci i kpi chygt" cr r necvkqp" cpf "tgs wktg" yi g" wug" qh" c" vqqni vq" hqto "yi g" ugcrcpvi vq" yi g" tgs wktgf "uj cr g" hcevqt" y j krg" UN" ugcrcpvu" j cxg" uvhhkekgpv" hqy "ej ctcevgt kuvkeu" vq" hqto "c" uo qqyi. "ngxgn" uvthceg" y ky qw" yi g" ckf" qh" c" vqqn"]4: \_0" kkqp. "CUVO "nkuvu" yi g" tgs wktgo gpvu" tgi ctf kpi "yi g" ukheqpg" ugcrcpvu" uj gn" nkhg. "lqkpv" r tgr ctcvkqp. "ewtkpi "ej ctcevgt kuvkeu." gz vtwukqp" tcvg." gz vgpukqp" ecr cdkrkkgu." cpf "j ctf pguu0

#### 405''Rtghqtogf'Eqortgunkqp'Ugcncpwu

Rtghto gf "eqo r tguukqp"ugcæpu" eqpukuv"qh"c"pqp/rks vkf "ugcæpv."y j kej "ku"r tguugf "kpvq" vj g"lqkpv" y kj cp"cf j gukxg"nvdtkecpv0CUVO 'F 484: "r tqxkf gu"ur gekhkecvkqpu"hqt"r tghqto gf "eqo r tguukqp"ugcæpu" ]4; \_0"Wprkng"cur j cnv"cpf "ukrkeqpg"ugcæpvu."r tghqto gf "ugcæpvu"f q"pqv"tgn{ "qp" j ctf gpkpi "qh" vj g" o cvgtkcn"vq"r tqxkf g"tki kf kv{ "qh" vj g"ugcæpv0"Rtghqto gf "ugcæpvu"ctg" f guki pgf "vq" dg" eqo r tguugf "c" o kpko wo "qh" 42' "vq" c" o czko wo "qh" 72' "qh" ku" qtki kpcn" y kf vj "vq" gpuvtg" cf gs vcvg" ugcrkpi " ej ctcevgtkurkeu" y kj qw'f co ci kpi "vj g"ugcæpv0

Rtghqto gf "ugcrepu"ctg"o qtg"gzr gpukxg"eqo r ctgf "vq"dqyj "cur j cn/"cpf "ukłkeqpg"ugcrepu"dw" j cxg"dgwgt"r gthqto cpeg"ci ckpuv'y g"y gcyj gt."uwprki j v."qkni"cpf "ej go kecni."j gcv."cdtcukqp."ko r cev." cpf "j {f tquvcvke"r tguuwtg0"Kp"cf f kkqp."r tghqto gf "ugcrepu"j cxg"c"42/{gct"gzr gevgf "f guki p"rkhg." y j kej "ku"nqpi gt"y cp"y g"f guki p"rkhg"qh"dqyj "cur j cn/"cpf "ukrkeqpg"ugcrepu"d{"32"cpf "37"{gctu." tgur gevkxgn{0'Vj g"eqo o qp"ecwug"qh"hcknwtg"hqt"r tghqto gf "ugcrepwi"ku"y j g"ko r tqr gt"guvko cvkqp"qh" lqkpv" o qxgo gpv0'Gzeguukxg" lqkpv" o qxgo gpv"ecwugu" gzr cpukqp" qh" y g" ugcrepvi"cpf "tgf wegu" y g" eqo r tguukqp"r gtegpvci g"qh" y g"ugcrepv0'Cu"c"tguvnx."gzvgtpcri'hqtegu."uwej "cu"xgj kerg"ncf u"cpf " j {f tquvcvke"r tguuwtg."eqwf "ecwug"ugcrepvi"f kur reego gpv]]38\_0

# 5"@'Ugenepv'Heknwtg

Ugcmpv'hcknutg''ngcf u'\q'\j g''gpvt { "qh'o qkuwtg."kpeqo r tguukdrgu."cpf 'f gkekpi 'ucnu''cpf 'ecp''eqpvtkdwg" vq''eqpetgvg" o cvgtkch'tgrcvgf "f kuvtguu."r wo r kpi ."ur cmkpi "cpf "drqy wr u."cpf "vq" y g "eqttqukqp"qh' f qy gnt0'Vj g''y q''v{r gu'qh'ugcmpv'hcknutgu''y cv'ecp''qeewt "ctg"cf j gukxg''cpf 'eqj gukxg'hcknutg0'Hcknutg" v{r g'ku'kphnugpegf "d{ ''y g''ugcmpv'o cvgtkch'r tqr gtv{ ''ej ctcevgtkuvkeu."enko cvke''eqpf kkqpu."eqput wevkqp" cpf ''lqkpv'r tgr ctcvkqp. "y g"i gqo gt { ''qh''y g''lqkpv'tgugtxqkt."lqkpv'o qxgo gpv."lqkpv'f kuvtguugu."cpf '' ej go kecn'tgcevkqpu'']38\_0'Vj g''hqmqy kpi "ugevkqp"f gvckni"gcej "v{r g"qh"hcknwtg."cpf "vj g"tqng"ugcrcpv" f guki p'j cu'qp"vj g'hcknwtg'o qf g0

#### 508''Cf j gukp 'Hc knvt g

Cf j gukxg'hcknutg"qeeutu"y j gp" y g"ugcmpv"f g/dqpf u"htqo "y g"eqpetgvg"uvduvtcvg. "y uu"cmqy kpi "y g" ugcmpv" vq"f kur meg"f ggr gt "kpvq"qt"quw"qh" y g"lqkpv0"Vj ku"hcknutg"v{r g"f gxgnqr u"f wg" vq"kpuvdhkekgpv" dqpf "uvtgpi y "dgyy ggp" y g"ugcmpv" cpf "lqkpv"tgugtxqkt0Qpeg" cf j gukqp"hcknutg"qeeutu. "y g"kpvt wukqp" qh" o qkuvutg" cpf " hkpgu" ecp" gpvgt" y g" r cxgo gpv" u{ uvgo " cpf " f getgcug" y g" qxgtcm' r cxgo gpv" r gthqto cpeg0'Etkkecn'hcevqtu" y j kej "eqpvtkdwg" vq" cf j gukxg"hcknutg" kpenuf g"uvthceg" r tgr ctcvkqp." ugcmpv'o cvgtkcn'cpf "o qkuvutg" r gpgvtcvkqp0

Rtqr gt "uwthceg"r tgr ctcvkqp"qh"yj g"lqkpv'tgugtxqkt"j cu"dggp "hqwpf "vq"dg"etkkecn"kp"o kki cvkpi " cf j gukxg "hcknvtg"qh"yj g"ugcmpv0'Vj g"lqkpv'tgugtxqkt"pggf u"vq"dg"htgg"htqo "f gdtku"cpf "o qkuvvtg"vq" cmqy "hqt"c"o czko wo "dqpf kpi "ctgc"cpf "r tqr gt "ewtkpi "qh'yj g"ugcmpv0I wtlct"gv'cn0'uwf kgf "hcevqtu" yj cv"chhgev'yj g"cf j gukxg"uvtgpi yj "qh"ugcmpvu"cpf "eqpenvf gf "yj cv'uwthceg"r tgr ctcvkqp"qh"yj g"lqkpv" tgugtxqkt "ku"c"ng{ "hcevqt"yj cv"kphwgpegu"yj g"dqpf "uvtgpi yj "qh'yj g"ugcmpv]52\_0'Kp"cf f kkqp."cur j cnv" ugcmpvu"ctg"j gcxkn{ "kphwgpegf "d{ "yj g"v{r g"qh"ci i tgi cvg"yj cv"ku"wugf "kp"yj g"tgugtxqkt"ukpeg"uqo g" ci i tgi cvgu"ej go kecm{ 'tgcev'y kyj 'yj g"cur j cnv'ugcmpv0'Rtko kpi 'yj g"lqkpv'tgugtxqkt"dghqtg'yj g"ugcmpv" ku"r megf "ecp"j gm "r tgxgpv'yj g"ugcmpv'htqo 'tgcevkpi 'y kj 'yj g"ci i tgi cvgu0

I wtlctøu"hkpf kpi u"j cxg"dggp"xgtkhkgf "y tqwi j "xctkqwu"hkgf" gxcnxcvkqpu"y j gtg"ukhkqpg"cpf" cur j cn/ugcrepu"y gtg"hqwpf "q"j cxg"xct {kpi "ugtxkeg"hksgu0Vj g"Qj kq"F QV"\*QF QV+'hqwpf "y cv'y gkt" ugcrepu"y gtg"r tgo cwtgn{ "hckdpi "nguu"y cp"c" { gct"chgt"y g"ugcrepu"y gtg"r reegf "]45\_0'QF QV" eqpenwf gf "y cv'y cv'y g"qo kuukqp"qh"ucpf "drcuvkpi ."y j kej "y cu"tgeqo o gpf gf "d{ "y g"o cpwhcewtgt" qh" y g"ugcrepv."cpf "reem"qh"r tqr gt"tgeguukqp"qh"y g"ugcrepv"y gtg" y g"o ckp"hcevqtu" y cv"ecwugf " r tgo cwtg"cf j gukqp"hcknwtg0%p"eqo r ctkuqp."ugcrepvu"gxcnwcvgf "cv'y g"Ctk qpc"URU/4"Vguv'Ukg"cpf " Hcktej kf" "Ckt"Hqteg"Dcug"kp"y g"ucvg"qh"Y cuj kpi vqp"y gtg"kpuvcngf "y kj "r tqr gt "lqkpv'r tgr ctcvkqp" cpf "f kur rc { gf 'ugtxkeg'hksgu'gzeggf kpi "42"{ gctu']53."54\_0

Cpqyj gt "hœvqt" kp"r tqr gt "lqkpv"r tgr ctcvkqp" ku"o qkuwtg0'O qkuwtg"r tgugpv" kp" yj g"lqkpv" yj gp" cr r n{ kpi "yj g"ugcmpv" y kn"ecwug" ko r tqr gt "ewtkpi "qh" yj g"ugcmpv." yj wu"tgf wekpi "yj g"cf j gukxg" utgpi yj " qh" yj g"ugcmpv" cpf "r qvgpvkcm{"ecwukpi "hcknvtg0'O quv" ucvgu" F QVu"f q"pqv" ur gelkh{"c" vko g"hqt" yj g" eqpvtcevqtu" vq" y ck/vq" cmqy "yj g"lqkpv" tgugtxqkt" vq"f t{"dghqtg" ugcnpi "]46\_0" Vj ku"ecp" j cxg" cp" cf xgtug" ghgev" qp" yj g"ugcmpv&u"dqpf" utgpi yj "f wg" vq" yj g"r tgugpeg" qh"o qkuwtg" f wtkpi "ewtkpi "qh" yj g" ugcmpv0' Nk'uwf kgf "yj g"ghgewu" qh"o qkuwtg" cpf "lqkpv'y kf yj "qp" yj g"cf j gukxg" utgpi yj "qh" ukdeqpg" ugcmpv0' Nk'uwf kgf "yj g"ghgewu" qh"o qkuwtg" cpf "lqkpv'y kf yj "qp" yj g" cf j gukxg" utgpi yj "qh" uf "f getgcug" y g"cf j gukxg" utgpi yj "qh" yj g" ugcmpv0" Kp" cf f kkqp. "uo cmgt" lqkpv'y kf yj u" pggf "o qtg" vko g" q" ft {"ukpeg" y gtg" ku" nguu" gzr quwtg" vq" yj g" co qur j gtg" eqo r ctgf "q" y kf gt" lqkpv'y kf yj u" y kn" tgs wktg" o qtg" vko g" vq" ft {" dghqtg" yj g" mœgo gpv'qh" yj g" ugcmpv." qt" r tgo cwtg" cf j gukxg" hckwtg" eqwf" "geevt" [55\_0

#### 504''Eqj gukqp'Hcknwt g

Eqj gukxg"hcknytg"qeewtu"y j gp"j ki j "vgpukrg"uvtguugu"y ky kp"y g"ugcncpy"o cvgtkcn"ecwug"uki pkhecpy" etcenhpi "y ky kp"y g"ugcncpy"o cvgtkcnDEqj gukxg"hcknytg"f gxgnqr u"dgecwug"qh"o ketqetcemhqto cvkqpu" y ky kp"y g"ugcncpy"o cvgtkcn"f wg"vq"ci kpi "cpf "lqkpy"o qxgo gpv0'Cu"vko g"r tqi tguugu."tgr gcvgf "lqkpy" o qxgo gpv"ecwugu"r tqr ci cvkqp"qh"o ketqetcemu."tguwnkpi "kp"hcknytg"qh"y g"ugcncpv"]38\_0J qy gxgt." eqj gukqp"hcknytg"ku"nguu"eqo o qp"y cp"cf j gukqp"hcknytg"]53."54."56\_0 Vj g''etkkecn'hœvqtu''y j kej "chhgev'ugcmpv'eqj gukxg''uvtgpi yj "ctg''co dkgpv'\go r gtcwtg''cpf "ci kpi " qh''yj g''ugcmpv0'Y j kng''yj g''cf j gukxg''uvtgpi yj "qh''yj g''ugcmpv'ku''wpchhgevgf "d{ ''\go r gtcwtg.''yj gtg'ku''cp" kpetgcug'kp''eqj gukxg''uvtgpi yj "cv'\go r gtcwtgu''nyy gt''yj cp''5; ÅH'']57\_0Cv'\go r gtcwtgu''nguu''yj cp''54ÅH '' yj g''eqj gukxg''uvtgpi yj "qh''yj g''cur j cnv''ugcmpv''gzeggf u''yj g''cf j gukxg''uvtgpi yj 0'Vj gtghqtg.''y j gp''yj g'' vgo r gtcwtg''f getgcugu''kp''yj g''y kpvgtvko g.''yj gtg''ku''c''i tgcvgt''ej cpeg''qh''cf j gukxg''ncknwtg''qeewttkpi '' eqo r ctgf '\q''eqj gukxg''ncknwtg''f wg'\q''|qkpv'o qxgo gpv0

Eqj guksg"ugenepv"heknutg"ku"enuq"e"hvpevkqp"qh"ei kpi "qh"yi g"o evgtken"f wg"uq"r j quq/qzkf evkqp" eewugf "d{ "wnte/xkqngv'\*WX+"hi j v"gzr quwtg0Rj quq/qzkf evkqp"ku"yi g"f gi tef evkqp"qh"r qn{o gtu"y j kej " qeewtu"y j gp"WX" hi j v"ej epi gu"yi g"ej go keen"eqo r qukkqp"qh"yi g"ugenepv" eqo r qukkqp"tgeewi'y kj "qz{i gp"kp"yi g"ekt0Vj ku"eewugu"yi g"ugenepv''q"nug"ku"o qngewret"y gki j v'epf " dgeqo g"dtkwg."o gepkpi "yi g"greuvke"o qf wnwu"qh"yi g"o evgtken"kpetgeugu"]58\_0Vj g"kpetgeug"kp"gneuvke" o qf wnwu"eewugu"j ki j gt"uvtguugu"uq"f gxgmr "y j gp"yi g"ugenepv"ku"uwdlgevgf "uq"v{r keen"f ghqto evkqpu" f wg"uq"lqkpv'o qxgo gpv0Vj wu."eu"lqkpv'ugenepvu"ei g"htqo "WX"hi j v"gzr quwtg."v{r keen"f ghqto evkqpu" f wg"uq"lqkpv'o qxgo gpv0'yj g"r qvgpvken'uq"i gpgtevg"gzeguukxg"uvtguu'y kyi kp"yi g"ugenepv'y km" ngef "uq"eqj gukxg"heknutg0

#### 505''Ghigev'qhiLqkpv'T gugt xqkt 'I gqo gvt { 'qp'Hc kwt g'V{ r g

C"etkkecnhcevqt"vj cvff gvgto kpgu"hcknvtg"v{r g'ku'vj g'uj cr g'hcevqt"\*UH+"qh'vj g'ugcrcpv."v j kej "kphnvgpegu" y g'nqecvkqp"cv'y j kej "etkkecn'uvtguu"ku'i gpgtcvgf 0'V{r kecm{."vj g"etkkecn'uvtguu"i gpgtcvgu"cv'vj g"eqtpgt" qt"kp"vj g"egpvgt"qh'vj g'ugcrcpv'hqt"cf j gukxg"qt"eqj gukxg"hcknvtgu."tgur gevkxgn{."cu'f gr kevgf "kp"Hki vtg" C04"]42."59\_0'Vj g''UH'ku'f ghkpgf "cu'vj g"tcvkq"qh'vj g"ugcrcpv'f gr vj ."F ."vq"y kf vj ."Y 0'I gpgtcm{."vj g"UH' ku'tgeqo o gpf gf "vq"dg"4F 3Y "hqt"uktkeqpg"ugcrcpvu"cpf "3F 3Y "hqt"cur j cn/ugcrcpvu"]42."3; ."59\_0

Rtgxkqwu"uwf kgu"j cxg"dggp"r gthto gf "q"s wcpkh{"ý g"ghgev"uj cr g"hcevqt"j cu"qp"ugcrcpv" r gthqto cpeg0Qpg"uwf {"hqwpf "ý cv'f getgcukpi "ý g"UH"kpetgcugu"ý g"utguu"y ký kp"ý g"ugcrcpv"]5: \_0' Mko "gv"ch'f gxgrqr gf "c"rcdqtcvqt {"gzr gtko gpv"cpf "hkpkg"grgo gpv"o qf gri\*HGO +"vq"f gvgto kpg"ý g" qr vko cn'UH'ý cv"ku"tgs vktgf "hqt"ugcrcpvu0%p"ý ku"uwf {."ý g"f gi tgg"qh"ewtxcwtg"\*F qE+"]42."59\_'y cu" kpvtqf wegf "cu"c"pgy "ugcrcpv"f guki p"hcevqt "vq"dgwgt "f guetkdg"ý g"j qwti rcuu"eqphki wtcvkqp"]5; \_"hqt" qr vko cn'lqkpv"ugcrcpv"f guki p0%pvtqf wekpi "ý g"j qwti rcuu"eqphki wtcvkqp"] gr u"f kuxtkdwwg"ý g"utguugu" cy c{ "htqo "ý g"eqtpgt"qh"ý g"ugcrcpv."ý wu"o kki cvkpi "cf j gukxg"hcknxtg0Vj g"f gi tgg"qh"ewtxcwtg"ku" f ghkpgf "cu" w q" vko gu" ý g"tcvkq"qh"ý g"ugcrcpv"egpvgt"f gr ý ."F ø" vq" ý g"ugcrcpv"f gr ý 0'Vj g"egpvgt" ý kenpguu"cpf "gt i g"ý kenpguu"ctg"f gr kevgf "kp"Hki wtg"C040Vj g"HGO "uwf {"eqpukuvgf "qh"cpcn{| kpi " y g"utguu"cpf "utckp"f kutkdwkqp"kp"ý g"ugcrcpv"cu"uggp"kp"Hki wtg"C04"]42."59\_0



**Hki wt g'C040**Et quul'ugevkqp'f gr kevkqp'qhlqkpv'ugcrcpv. 'y kj 'nqecvkqpu'qhlut guul' eqpegpvt cvkqp'gxcnwcvgf ''cv'\j g''eqtpgt ''cpf '\j g''egpvgt ''qhl\j g''ugcrcpv']42\_

Tguwwu'htqo ''y g'hcdqtcvqt { "gzr gtko gpv'cpf 'HGO "cpcn{ uku'kpf kecvgf ''y cv'cu''y g'F qE'kpetgcugu." y g''uvtguu''cv'y g''eqtpgt ''f getgcugu''cpf ''y g''uvtguu''cv'y g''egpvgt ''qh''y g''ugcmpv'kpetgcugu0'Vj g''f getgcug'' kp''uvtguu''eqpegpvtcvkqp''cv''y g''eqtpgt ''qh''y g''ugcmpv'tgf wegu''y g''hmgrkj qqf ''qh''cf j gukxg''hckwtg'']42." 59\_0'Tgs wktkpi "eqpvtcevqtu'' vq''kpuvcm'' y g''ugcmpv'' vq''c'''r tqr gt''UH''cpf ''F qE''eqwf ''j gr'' r tgs gpv'' r tgo cwtg''cf j gukxg''hckwtg0'J qy gxgt..''y g''uvtguu''eqpegpvtcvkqp''cv''y g''egpvgt''qh''y g''ugcmpv''y km' kpetgcug.''y j kej ''kpetgcugu'y g''nkngrkj qqf ''qh''eqj gukqp''hckwtg0

### 6''@'Ewttgpv'Ugcncpv'Rtcevlegu

Iqlpv'ugcrlpi ''r tcevlegu''ctg''f gygto lpgf ''d{ ''uvcyg''ci gpelgu ''cpf ''cu''c' 'tguwn/'y gtg''ku''xctlcvlqp''lp''v['r lecrl' r tcevlegu0C''s wguvlqppcltg''r tgr ctgf ''d{ ''Mlo ''cpf '', qrlpi gt''y cu'ugpv'vq''gcej ''uvcyg''F QV''y cv'lpenwf gf '' s wguvlqpu'tgi ctf lpi ''y g''lqlpv'ugcrlpi ''r tcevlegu''qh''gcej ''uvcyg''F QV0'Vj g''uwtxg{ ''s wguvlqpu'tgrcygf ''q'' i gpgtcrl'lqlpv'ugcrcpv''r tcevlegu.''f guli p''qh''y g''lqlpv''ugcrcpv.''lqlkpv''r tgr ctcvlqp.''r gthqto cpeg''qh''y g'' lqlpv''ugcrcpv.''o clpvgpcpeg''cpf ''tgugcrlpi ''r tcevlegu.''cpf ''cp{ ''cngtpcvlxg''o gyj qf u''y g''uvcvg''F QVu'' lo r rgo gpv']46\_0Qh'y g''72''uvcvgu'lp'Co gtlec.''64''uvcvg''F QVu'tgur qpf gf ''q''y g''uvtxg{0T guwnu'htqo '' y ku''uvtxg{ ''uj qy ''y cv'ugcrlpi ''r tcevlegu''xct{ ''y tqwi j qwv'y g''eqwpt{.''lpf lecvlpi ''y cv'ewttgpv'ugcrlpi '' r tcevlegu''ctg''pqv''qr vlo kl gf ''dcugf ''qp''enlo cvg0'Gcej ''ecvgi qt{ ''qh''s wguvlqpu'y kn''dg''f guetkdgf ''lp''y g'' lqmyy lpi ''ugevlqpu0

# 608''I gpgtcrlLqkpv'Ugcrlpi 'Rtcevleg

Qh'ý g'64'ux vgu'ý cv'tgur qpf gf '\q'ý g's vgukqppcktg.'55'ux vgu'\*9; ' +'wug'lqkpv'ug cmpvu0'Vj tgg'ux vgu' \*9' +'f q'pqv'wug'eqpetgvg'r cxgo gpvu0'Ukz'ux vgu'\*36' +'wug'cngtpckxg'lqkpv'ug chpi 'r tcekegu0'P kpg'' ux vgu'\*43' +'f q'pqv'wug'lqkpv'ug cmpvu'cv'cm ''cpf ''cm'lpkpg''qh'ý gug'ux vgu''ctg'kp'ý g''pqtý 'htgg| g''ctgc'' qh'Co gtkec'']46\_0'Cur j cn/'ug cmpvu''ctg''ý g''o quv'eqo o qp''ug cmpv.''cu''4; ''qw''qh''ý g''55''ux vgu'\*5; ' +'' tgr qtvgf ''wug''qh'cur j cn/'dcugf ''ug cmpvu0'39''ux vgu'\*74' +''wugf ''ukrkeqpg''lqkpv'ug cmpvu0'35''ux vgu'\*5; ' +'' wugf ''eqo r tguukxg''ug cn0'Kv'ku''pqvgf ''y cv'o quv'ux vgu''kp''y g''pqp/htgg| g'tgi kqpu''qh'Co gtkec ''wug''dqi y'' cur j cn/'cpf ''ukrkeqpg''ug cmpvu.''y j kej 'ku''y j { ''y g''r tgxkqvu''y tgg''r gtegpvci gu'f q''pqv'cff ''wr ''q''322' '' ]46\_0

Qpg''s wguvlqp''cungf 'kh'yj g'uvcvg''F QVu'wug''qh'yj g''P VRGR/REE 'f cvcdcug''q''qdvckp''f cvc''hqt 'yj gkt'' lqkpv'ugcrcpv''f guki p0'Vj ku''f cvcdcug''eqpvckpu'kphqto cvkqp'tgi ctf kpi ''ewttgpv'cpf ''r cuv'ugcrcpv'wuci g0' Uwej 'kphqto cvkqp''kpenvf gu''r tqf wev'kphqto cvkqp. ''r rcego gpv'kphqto cvkqp. 'o cvgtkch'yguv'kphqto cvkqp.'' cpf ''r gthqto cpeg''f cvc0'Qh''yj g''uvcvgu''yj cv'tgur qpf gf. ''qpn{''34''qwi'qh''yj g''55''uvcvgu'\*59' +''yj cv''ugcn'' r cxgo gpv''lqkpvu'' wug'' yj g'' P VRGR'' f cvcdcug0' J qy gxgt.'' y j gp''cpcn{||gf.''pq''eqttgrcvkqp''dgw ggp'' tgi kqpcn'ej ctcevgtkuvkeu'cpf ''ugcnkpi ''r tcevkegu'y gtg'hqwpf 'y kyj kp''yj g''f cvcdcug']46\_0

# 604''F guli p'qh'tj g'Lqlpv'Ugcn:pv

kp"ý g"tgugtxqkt"y j gtgcu"c"hnwij "hkngf "eqphki wtcvkqp"hkmi"ý g"lqkpv'y ký "ugcrcpv'wpvkn'ý g"ugcrcpv'ku" hnwij "y ký "ý g"r cxgo gpv'uwthceg0'Vj g"cwj qtu"pqvgf "ý cv'ý g"r tcevkeg"qh"tgeguu"hknkpi "c"eqpetgvg" r cxgo gpv" lqkpv" y kj " cur j cn" ugcrcpvu" ku" ci ckpuv" ý g" CERC" i vkf gnkpgu0' Ukpeg" ý g" tgeguugf " eqphki wtcvkqp"i qgu"ci ckpuv'CERC"i vkf gnkpgu. "uvcvgu"ý cv"tgeguu"ý gkt "cur j cn/"lqkpv"ugcrcpv"eqwf " r qvgpvkcm{ "ugg"r tgo cwtg"ugcrcpv"hcknwtg0'Hqt"uknkeqpg"ugcrcpv. "39"uvcvgu"\*: 7' +'wug"c"tgeguugf "hkm" hqt"ý gkt"uknkeqpg"ugcrcpv."y j kej "i qgu"y kj "ý g"CERC"tgeqo o gpf cvkqpu"]46\_0

#### 605''Lqkpv'Rtgrctcvkqp

Vj g'tgur qpugu'\q'y g''uxtxg{ 'kpf kecvg'y cv'lqkpv'engcpkpi 'r tqegf wtgu'xgt { 'dgw ggp''ucvg'F Q Vu0O quv' ucvgu'kpf kecvg'y cv'c'eqo dkpcvkqp''qh'ckt 'druukpi .'y ktg''dtwuj kpi .'cpf lqt''ucpf druukpi 'ku'tgs wktgf '\q'' engcp'y g''lqkpv'j qy gxgt.'kv'ku'pqvgf 'y cv'y g''r tcevkegu'cpf ''ur gekhecvkqpu''qh'engcpkpi ''xct { 'htqo ''ucvg'' q''ucvg0'Kp''uqo g''kpucpegu.''y g''ucvg''cmqy u''y g''eqpvtcevqt ''q''f gvgto kpg''y g''engcpkpi ''r tqegf wtg'' y kj qw''cp{ ''cr r tqxcn'htqo ''y g''ucvg''F QV0'J qy gxgt.''o quv''ucvgu''\*4; ''ucvgu+''tgs wktg''c''xkuvcn'' kpur gevkqp''qh'y g''lqkpv'r tkqt'\q''ugcrkpi 0'Qpn{ ''y g''P gxcf c''F QV''o cpf cvgu'y g''CERC'S wcrkv{ ''Eqpvtqn'' Y kr g''Vguv'\q'f gvgto kpg''y g''engcprkpguu'qh'y g''lqkpv.'y j kg'9''qy gt ''ucvgu'tgs wktg''c''hqi gt 'yguv'y cv'ku'' uko krct'\q''y g'S wcrkv{ ''Eqpvtqn''Y kr g''Vguv']46\_0

Cu'r tgxkqwun{"f guetkdgf."kk'ku''etkkecn'y cv'y g''lqkpv'ku''f t{"r tkqt"vq"r rcego gpv'qh'y g''ugcrcpv0' Ucvg'F QVu'f q'pqv'v{r kecm{"ur gekh{"c''ko g''pggf gf 'hqt'y g''lqkpv'vq''f t{."cpf 'uq''eqpvtcevqtu''f gvgto kpg" y j gp"y g''lqkpv'tgugtxqkt"ku''uwhhekgpvn{"f t{0'Qh'y g''uvcvgu''y j q''tgur qpf gf."qpn{"ugxgp''uvcvg''F QVu'' tgs wktg''ugcrkpi ''vq''qeewt''y kj kp''ukz''j qwtu''qh''ergcpkpi ''qr gtcvkqpu0'J qy gxgt."45''uvcvgu''\*94' +''j cxg'' uqo g'' y c{" qh'' ej genkpi "'hqt'' o qkuwtg'' dghqtg'' cmqy kpi "'y g'' eqpvtcevqtu'' vq''r gthqto "'y g'' ugcrkpi " qr gtcvkqpu']46\_0

Unwtt { "xcewwo "gs wkr o gpv"j cu"dggp"cf qr vgf "d { "vj g"ckthkgrf "r cxgo gpv"kpf wuxt { "vq"r tqxkf g" y qtngtu"tgur ktcvqt { 'r tqvgevkqp"htqo "vj g"et { uvcnkpg"ukkec"f wuv"etgcvgf 'htqo "vj g"f tkgf 'ucy 'unwtt { 0'K/" cnq"j cu"vj g"cf f gf "dgpghkv'qh"tgo qxkpi "vj g"unwtt { "tgukf wg"htqo "vj g"r cxgo gpv"uwthceg"cpf "cu"y gn" cu"uqo g'htqo "kp"vj g"lqkpv0Xcewwo kpi "cmpi "y kyj "vj g"r tguuwtg"y cuj kpi "qr gtcvkqp"r tkqt"vq"y g"o gf kc" drcuvkpi "qr gtcvkqp"ecp"cnq"dg"dgpghkekcn'pqv"qpn{ 'htqo "c"y qtngt"uchgv{ 'r gtur gevkxg"dwi'kp"cej kgxkpi " c"engcp"lqkpv"]7\_0

#### 606''Ugcn:pv'Rgthqto cpeg

O quv'uvcvgu'j cxg''kwng'tgr qtvgf 'kphqto cvkqp'tgi ctf kpi ''npi /vgto ''ugcncpv'r gthqto cpeg0'Hqt''gzco r ng." 36" cpf "33" uvcvg" F QVu" ctg" wpuvtg" qh" y g"r gthqto cpeg" qh" y gkt" cur j cn" cpf "ukrkeqpg" ugcncpvu." tgur gevkxgn{." kp" y gkt" uvcvg0' J qy gxgt." cm" uvcvgu." gzegr v' qpg." y cv' y gtg" cy ctg" qh" y gkt" ugcncpv' r gthqto cpeg''kpf kecvgf "y cv'dqy "cur j cnv'cpf "ukrkeqpg" ugcncpvu" ctg" i gwkpi "cv'ngcuv' ugxgp" { gctu" qh" r gthqto cpeg. "cpf "y q'uvcvgu'tgr qtvgf "qxgt" 37" { gctu" qh'r gthqto cpeg0'Vj gug'tguwnu'kpf kecvg' y cv' y g' ugcncpvu" ctg'tgcej kpi ''y gkt" gzr gevgf 'f guki p'hkg'hqt 'uqo g'uvcvg''F QVu']46\_0'Kpxguvki cvkpi ''j qy ''y gug'' uvcvgu'ugcn'y qwf ''dg'dgpghelecn'hqt''y g'f guki p'cpf ''kpuvcmcvkqp" qh''qkpv'ugcncpv'o cvgtkcn0

Ucvg''F QVu''y gtg"cnq"cungf ''j qy ''y gtt"ugcmpwl"hckrgf 0'Hqt"cur j cn/'cpf ''ukrkeqpg''ugcmpvu.''y g" o ckp"f kntguu''ku''f gdqpf kpi "cpf ''cf j gukxg"hcknwtg.''y kj ''lwuv''qxgt" j ch'' y g"'ucvgu'' y cv'tgur qpf gf '' gzr gtkgpekpi ''y ku''v{r g"qh'hcknwtg"hqt" y gtt"ugcmpw0'Eqj gukxg"hcknwtg"cpf ''ci kpi ''ctg'' y g"'ugeqpf '' j ki j guv'hcknwtg''v{r g''\*59' +.''cpf ''f kur mego gpv'qh''y g''ugcmpv'ku''y g''y ktf ''j ki j guv'hcknwtg''v{r g''\*, ' +'' hqt"cur j cn''ugcmpw0J qy gxgt.''ukrkeqpg''ugcmpw''gzr gtkgpeg''o qtg''f kur mego gpv'hcknwtg''\*49' +'y cp'' eqj gukxg''hcknwtg''\*42' +0'Rtghqto gf ''ugcmi''o ckpn{ ''gzr gtkgpeg''f kur mego gpv''f wg''vq''gzeguukxg''lqkpv'' qr gpkpi ''cu''y g''o ckp'hcknwtg''o qf g'']46\_0

#### 607''O ckpvgpcpeg'cpf 'T gugcrhpi 'Rt cevlegu'

94' "qh'uxcvgu'f q'tgugcn'y gkt 'r cxgo gpv'lqkpu. "dwv'y gug'uxcvgu'y gtg'wpcdng'vq'ur gekh{ "c'tgugcnbpi " vko grkpg0'Kp"cf f kkqp."o quv'uvcvg"F QVu"f q"pqv'j cxg"guvcdrkuj gf "tgeqo o gpf cvkqpu"qp"y j gp"vq" r gthqto "o ckpvgpcpeg'hqt"lqkpv'ugcncpu']46\_0'Vj ku'eqwrf "j cxg"c"pgi cvkxg'ko r cev'qp"yj g''nqi /vgto " r gthqto cpeg"qh'yj g''r cxgo gpv'dgecwug''kv'j cu''dggp"uj qy p"yj cv''pqv'o ckpvckpkpi "cp"ghhgevkxg"ugcn' eqwrf 'rgcf 'vq'o qtg''cpf 'o qtg''ugxgtg'lqkpv'f kuvtguugu''eqo r ctgf 'vq''wpugcngf 'r cxgo gpv'lqkpvu']62\_0

#### 608''Cnygt pcvlxg'Ugcrlpi 'O gyj qf u

P kpg" uvcvg" F Q Vu" tgr qtvgf " wug" qh" cngtpcvkxg" r tcevkegu" hqt " ugcrkpi " lqkpvu" kpuvgcf " qh" wukpi " vj g" vtcf kkqpcn"lqkpv' tgugtxqkt "eqphki wtcvkqp0'Hqvt" uvcvgu" qpn{" wug" cngtpcvkxgu" cpf " f q" pqv' ugcn" vj g tg" vj g" qvj gt "hkxg" uvcvgu" wug" cngtpcvkxgu" cpf " ugcn' vj g" r cxgo gpv' lqkpvu0'Uqo g" cngtpcvkxg" lqkpv' ugcrkpi " r tcevkegu" ctg" r tgugpvgf 0'C " hgy "uvcvgu" wug" c'ukpi mg" ucvy "ewv" cpf " f q" pqv' hkm' vj g" lqkpv' cv' cm0'Q pg" uvcvg" eqpukf gtu" vj go ugnxgu" c'ukpi mg" ucvy "ewv" uvcvgu" dwi vj g{" cnuq" tgs vktg" vj g" wug" qh" c" ego gpv' tgc vgf " dcug0' Qpg" uvcvg" wugu" c" 20847" kp" lqkpv' v kf vj "ewv" vq" qpg" vj ktf " vj g" urcd" vj kempguu" v kj qw' hkmkpi " vj g" lqkpv' v j gp" vj g" ur ggf "nko kv" ku" i tgc vgt" vj cp" 67" o r j 0'C pq vj gt" uvcvg" wugu" vj g" 31: "kp0'lqkpv' y kf vj " ewv' vq" qpg" vj ktf" vj g" f gr vj " qh' vj g" r cxgo gpv' vj kempguu." dwi vj g" lqkpv' ku" hkmgf " y ky" cp" cur j cnv'ugcmpv0'V j gtg" y cu" pq" eqo o gpv' qp" vj g" r ggf "nko kv" htqo " vj ku" uvcvg" 46\_0

# 7''@'Vq'Ugcriqt 'P qv'iq'Ugcn

Vj gtg"ku"ewttgpvl "c"f gdcvg"cdqwi'y j gy gt"ugchpi "eqpetgvg"r cxgo gpv'lqkpvu"ku"dgpghkekn'hqt" r cxgo gpv'r gthqto cpeg'i kxgp''y g"equv'tgs wktgf "\q'ugch'cpf "tgugch'r cxgo gpv'lqkpvu"]63. "62\_0/O wnkr mg" tgugctej gtu"cpf "ucvg"F QVu"ctg'i gwkpi "f khtgtgpv'ugcncpv'r gthqto cpeg'tguwnu. "kpf kecvkpi "y cv'ugchpi " qh"y g"lqkpvu"o c {"dg"cp" wppgeguuct {"equv"hqt"r cxgo gpv"eqputwevkqp0'Vq"j ki j ki j v"y g"f gdcvg." eqpukf gt "y g"O kppguqvc"F gr ctvo gpv"qh"Vtcpur qt cvkqp"\*O pF QV+"eqtg"uco r m"uwf {"qh"eqpetgvg" r cxgo gpv"lqkpvu042"eqtg"uco r ngu"qh"eqpetgvg"r cxgo gpv"lqkpvu"y gtg"cmgp"htqo "r cxgo gpv"kpuvcmgf " dgw ggp"3; ; 6"cpf "3; ; ; 0Vj g"r cxgo gpv"lqkpvu"y gtg"gkj gt"ugcngf ."qqt"j cf "f co ci gf " ugcncpv0Gcej "eqtg"y cu"tgeqtf gf "qh'y g"ugcncpv'\{r g."cp{"ugcncpv!hckntgu."cpf "lqkpv!f kutguugu0Ki'y cu" qdugtxgf "y cv'ugcngf "r cxgo gpv"lqkpvu"f kr m {gf "y g"ngcuv"ugxgtg"f kutguugu0J qy gxgt."r cxgo gpv" lqkpvu"y kj "hckgf "ugcncpv!f kur m {gf "o qtg"uki phkecpv!lqkpv!f kutguugu0J qy gxgt."r cxgo gpv" g"uco g"vko g"kpf kecvkpi "y g"lo r qtvcpeg"qh"o ckpvclpkpi "y g"lqkpv!ugcncpv0Vj gtglqtg."y j g"ecr cek{" qh"c"F QV"\q"r gthqto "r tqr gt"kpucmcvkqp"cpf "o ckpvgpcpeg"qp"lqkpv!ugcncpvu"i g"kg"g" lqkpv!ugcncpv!uj qwf "dg"eqpukf gtg" u tkqt"\q"eqputwevkqp"qh'y g"r cxgo gpv."cpf "y g"nqu) 'vgto "r gthqto cpeg"qh'y g"lqkpv!ugcncpv!uj qwf "dg"eqpukf gtg"

# 703''Vq'Ugcn

O cp{"uwf kgu"j cxg"uj qy p"vj cv"lqkpv'ugchpi "ku"dgpghkekcn'vq"r cxgo gpv'r gthqto cpeg"cpf "ugcncpvu" ecp"ncuv'dg{qpf 'vj g"gzr gevgf 'f guki p"hkgOC'3; ; 5"uwf {"qp"ukrkeqpg"lqkpv'ugcncpv'kp"Ctkl qpc"uj qy gf " pq"tqcf 'ugevkqp"j cf 'o qtg"vj cp"57' "lqkpv'ncknwtg."y j kej "kpenwf gu"cf j gukxg"cpf 'eqj gukxg"hcknwtg"cpf " ur cmkpi 'qh'vj g"lqkpv0'Vj g'Ctkl qpc"Rcxgo gpv'Uwf kgu'%URU/4+'eqpuvt wevgf "34"vguv'ugevkqpu'hqt "Nqpi " Vgto "Rcxgo gpv'Rgthqto cpeg"\*NVRR+"gxcnwcvkqp"cpf "; "ugevkqpu"hqt"vj g"Ctkl qpc"F gr ctvo gpv'qh" Vtcpur qtvcvkqp'\*CF QV+0Gcej 'ugevkqp'j cf ''cr r tqzko cvgn{ '55''tcpuxgtug'lqkpvu''cpf ''y gtg'ugcrgf ''y ky '' c"pqp/uci ''uktkeqpg''ugcrcpv0'Kp''4235."cdqw''42'' { gctu''chygt "eqpuvt wevkqp."c"lqkpv''cpf ''lqkpv''ugcrcpv'' uwtxg{ ''y cu''eqo r rgvgf ''hqt''gcej ''vguv''ugevkqp0Kk'y cu''eqpenvf gf ''y cv''pq''vguv''ugevkqp'j cf ''i tgcvgt ''y cp'' 57' ''qh''qxgtcm''ugcrcpv'hcknwtg.''y j kej ''y cu''eqpukf gtgf ''i qqf ''ukpeg''y g''t weni'rcpg''j cu''ecttkgf ''ctqwpf '' c'''qvcn'qh'53''o krkqp''Gs wkxcrgpv''Ukpi rg''Czrg''Nqcf u'\*GUCNu+'']53\_0

Kp"y g"URU/4"uwf {."y g"r tko ct {"o qf g"qh"ugcmpy"hckmtg"y cu"cf j gukxg"hckmtg"qh"y g"ugcmpy." cpf "y g"o quv'eqo o qp"lqkpv"f kmtguu'y cu'ur cmkpi 0Qp"cxgtci g."cf j gukxg"hckmtg"qpn{"ceeqwpvgf "hqt" 7' "qh"y g"lqkpv"hckmtg"y j kg"eqj gukxg"hckmtg"y cu"o kpko cn0"Kp"cf f kkqp."ur cmkpi "qeewttgf "cv'87' " qh"y g"lqkpv"kp"y g"vguv"ugevkqp0'Vy q"eqpetgvg"utgpi y u"y gtg"vguvgf "cv"y g"URU/4"mecvkqp"cpf "y g" pqto cn"utgpi y "eqpetgvg"j cf "406"vko gu"o qtg"ur cmu"y cp"y g"j ki j "utgpi y "eqpetgvg."kpf kecvkpi " eqpetgvg"utgpi y "eqwf "dg"c"hcevqt"y cv"tgf wegu"lqkpv"f kntguugu0'Gxgp"cu"ur cmkpi "qeewttgf."kv'y cu" qdugtxgf "y cv'y g"ugcmpv"y cu"uvkm'cf j gtgf "vq"y g"ur cmgf "eqpetgvg."uki pcnkpi "cf j gukxg"hckmtg"f kf " pqv"qeewt "dghqtg"y g"lqkpv'ur cmgf "]53\_0'Vj ku"uwf {"uwi i guvu"y cv"ukfkeqpg"ugcmpv'ecp"rcuv'qxgt"42" {gctu"cpf "y cv'y g"r cxgo gpv'utgpi y "eqwf "dg"c"hcevqt"y j gp"eqpukf gtkpi "lqkpv'ur cmkpi 0

Vj g"WUU'Cto {"Gpi kpggt"Tgugctej "cpf "Fgxgmr o gpv'Egpvgt"cpf "Etcheq." Kpe0'ugv'qw' vq" fgxgmr "ur gekhecvkqp"vq"kortqxg"jqvcrr nkgf. "lgv'hwgn'tgukuvcpv'cpf "pqp/lgv'hwgn'tgukuvcpv'cur j cnv" ugcmpw0'Vj g"uwwf {"cmq"cko gf "vq"fgygto kpg"jqy "y g"eqphki wtcvkqp."uj cr g"hcevqt"cpf "tgeguukqp" fgr yj."qh'yj g"lqkpv'ugcmpv'kp"yj g"lqkpv'tgugtxqkt "kor cevgf "hkgnf "r gthqto cpeg0'Vj g"uwwf {"vqmi'r mceg" cv'yj g"Hcktej kf "Ckt "Hqteg"Dcug"kp"Ur qmcpg."Y C0'Vj ku'vguv'ukwg"y cu'ugngevgf "dgecwug"qh'yj g"ncti g" vgor gtcwxtg'uy kpi u'y kyj kp"yj g'tgi kqp="yj g"gzvtgo g"nqy "cpf "j ki j "vgor gtcwxtgu'ctg"/52ÅH'cpf '92ÅH" tgur gevkxgn{0'Vj g"mti g"vgor gtcwxtg"uy kpi "gpuvtgf "cor mg"lqkpv'o qxgo gpv'cpf "xctkqwu"o cvgtkcn" r tqr gtv{"ej ctcevgtkukeu"qh'y g"lqkpv'ugcmpv'yj tqwi j qw'yj g"{gct"]54\_0

Vj g"uwf {"gxcnxcvgf "r cxgo gpv"yguv"ugevkqp"cv"7: /."8: /."339/."cpf "472/o qpvj u0'C v"y g"339/" o qpvj "gxcnxcvkqp."wy q"cur j cnv"ugerepvu"cpf "hqwt"ukrkeqpg"ugerepvu"y gtg"uvkrilip"y qtnipi "eqpf kkqpu" cpf "j cf "pqv"o gv"y g"47' "hcknvtg"etkgtkc0'K'y cu"cnq"pqvgf "kp"y g"472/o qpvj "gxcnxcvkqp"y cv"y g" cur j cnv"ugerepvu"v{r kecm{ "hckrgf "kp"cf j gukqp"y j krg"y g"ukrkeqpg/dcugf "ugerepvu"hckrgf "f wg"vq"lqkpv" ur cnkpi ."y j kej "ku"eqpukrvgpv'y ky "r tgxkqvu"hkpf kpi u0'Hnxuj "hkngf "cur j cnv"ugerepf "lqkpvu"r tqf wegf "cp" kpetgeug" kp"ugerepv" ugtxkeg" nkbg" qh"72' "eqo r ctgf "vq" y g"tgeguugf "cur j cnv"ugerepf "lqkpvu"y j gp" gxcnxcvgf "chvgt "472"o qpvj u0'Dqvj "ukrkeqpg"cpf "nqy /o qf wnxu"cur j cnv"ugerepvu"y kj "hnxuj "i gqo gvt {" gzj kdkgf "i tgevgt"y cp"43"{getu"qh"r gthqto cpeg"y kj qwv"o ggvkpi "y g"hkngf "cur j cnx"y j kej "uwr r qtxu" y g"tgeqo o gpf cvkqp"o cf g"d{ "CERC 'vq"pqv'eqpuvt wev'tgeguu'hkngf "lqkpvu0'O quv'ugerepvu'hckrgf "f wg" vq"cf j gukqp"cpf kqt"ur emkpi "cv'j g"472/o qpvj "gxcnxcvkqp"]54\_0

Qý gt"uwf kgu"j cxg"f gwto kpgf "ý cv"cur j cn"ugcmepu"j cxg"ý g"r qwpvkch"hqt "npi "ugtxkeg"hkg" ]64\_0'Vj g"HJ Y C"hqwpf "qxgt"97' "ghłgevkxgpguu"y j gp"y g"lqkpv"ugcmepv"y cu"gxcnwcvgf "cv"342" o qpý u0' Vj g" ghłgevkxgpguu" qh" ý g" lqkpv" ugcmepv" f gr gpf gf " qp" ý g" o cpwhcewtgt." tgugtxqkt" eqphki wtcvkqp." enko cvke" eqpf kklqpu." cpf "lqkpv" o qxgo gpv"]64\_0'Vguvu" y gtg" r gthqto gf " kp" hqwt" necvkqpu"kp"ý g"Wpksgf "Ucvgu" q"gxcnwcvg" tcpuxgtug"lqkpv"ugcmepv0'Vj gug"ctgcu" tg tgugpv'ý g'hqwt" hwpf co gpv"enko cvke 'tgi kqpu"qh"Co gtkec. "f t{/pqphtgg] g."f t{/htgg| g."y gv/pqphtgg| g."cpf "y gv/htgg| g0' Qpg"uksg"r megf "ý g"lqkpv"ugcmepvlkp"kf geniepf "cf xgtug"eqpf kklqpu"q"yguv'ý g"ghlgev"qh"co dkgpv'y gcy gt" eqpf kklqpu"qp"y g"kpkkch"ugcnipi "qr gtcvkqp0'kp"cff kklqp."wr y ctf u"qh"32"f khlgtgpv'o cvgtkcm"y gtg" wugf " cv"gcej "mecvkqp" q"yguv'y gtg" wugf. "kpenwf kpi "pq" engcpkpi .."y kg" dtwij "cpf "ckt" dmuvgf .."j qv" ckt" dmuvgf .."ckt"dmuvgf "y kj" dcengt"tqf .."ucpf dmuvgf "cpf "dcengt"tqf .."qt"ucpf "dmuvgf "cpf " dcengt"\cr g"]64\_0



Hki wtg'C050Lqkpv't gugt xqkt "eqplki wt cvkqpu']64\_

Hqt'ý g''qxgtcm'uwf {.'; ''qh'ý g'83''etcem/ugcn'eqphki wtckqpu'j cf ''qxgt'': 2' ''ghlgekkxgpguu'cv'ý g'' gpf ''qh''ukz''cpf ''c'j cm'' {gctu0'K/y cu''gzr gevgf ''ý cv'uqo g''qh'ý g''eqphki wtckqpu'y qwf ''pqv'r gthqto ''q'' ý g''gpf ''qh''ý g''uwf { ''ukpeg''ý ku''uwf { ''etgcvgf ''c''tcpi g''qh''etcem/ugcn'eqphki wtckqpu''vq''vguv'hqt''ý g'' qr vko cn'eqphki wtckqp0'Eqpukf gtcdrg'f khlgtgpegu'kp''ugcrcpv'r gthqto cpeg'y gtg''pqvkegf ''dgw ggp'ý g'' pqp/htgg| g'' cpf '' htgg| g'' tgi kqpu0' Vj g'' vguv'' uksgu'' kp'' ý g'' htgg| g'' tgi kqp'' f gcnv'' y kj '' o qtg'' kpvgpug'' vgo r gtcwtg''uy kpi u'tguwnkpi ''kp''rcti gt''lqkpv'o qxgo gpvu.''y j kej ''ku''dgrkgxgf ''q''dg''c''o ckp''ecwug''hqt'' y g''ugcrcpv'hckmtg'kp''ý qug''tgi kqpu'']64\_0

Tguwnu'htqo "ý g"uwf { "kpf kecvg"ý cv'ý g"uvcpf ctf "tgeguugf "dcpf/ckf "j cf "ý g"npi guv'ugtxkeg" nkhg. "hqmqy gf "d { "ý g"uj cmqy "tgeguugf "dcpf/ckf "eqphki wtcvkqp"hqt"cur j cn/"ugcmpw0'Vj g"uko r mg" dcpf/ckf "j cf "c'uvcvknkecm{ 'y qtug"ugtxkeg"hkg"eqo r ctgf "q"ý g"qý gt"y q"eqphki wtcvkqpu"hknyf 0'Vj ku" uwf { "cnq"pqkegf "ý cv'ý g"uvcpf ctf "tgugtxqkt/cpf/hnwj "eqphki wtcvkqp"r gthqto gf "dgwgt"ý cp"ý g" uvcpf ctf 'tgeguugf "dcpf/ckf 0'Vj g"cur j cn/"ugcmpvu"v{ r kecm{ "gzr gtkgpeg"cf j gukxg"hcknwtg"y j gp"r megf " kp" ý g" tgugtxqkt/cpf/hnwj ." uvcpf ctf " tgeguugf " dcpf/ckf " cpf" uj cmqy " tgeguugf " dcpf/ckf " eqphki wtcvkqp."y j kg"eqj gukxg"hcknwtg"y cu'v{ r kecm{ "uggp"y j gp"vj g"cur j cn/"ugcmpv'y cu'r megf "kp"vj g" uko r mg"dcpf/ckf "eqphki wtcvkqp0'Vj ku"ku"r qvgpvkcm{ "f wg"vj g"uko r mg"dcpf/ckf "eqphki wtcvkqp" cxkpi "c" uo cmgt "etquu/ugevkqpcn'ctgc "eqo r ctgf "vq"y g"qy gt"y tgg"eqphki wtcvkqpu."y j kej "y qwf "kpetgcug"y g" uvtguu"y ký kp"ý g"ugcmpv'etquu/ugevkqp"f wg"vq"lqkpv'o qxgo gpv0'T gi ctf kpi "r cxgo gpv'r gthqto cpeg." y j g"ukheqpg"ugcmpvu'v{ r kecm{ "hckngf "f wg"vq"ur cmkpi "cpf "gf i g"f gvgtkqtcvkqp"cv'ý g"lqkpv." y j kmg"ý g"cur j cn/ugcmpvu'v{ r kecm{ "f kg"y qur cmkpi "cpf "gf i g"f gvgtkqtcvkqp"cv'ý g"lqkpv."

Eqo r ctkpi "ý g"ckt"drævgf "r tgr ctcvkqp"r tqegf wtg"y ký "ý g"j qv"ckt"drævgf "r tqegf wtg"uj qy gf " qpn{ "qpg"ucvkævkecn'f khegtgpeg"y j gp"f ktgevn{ "eqo r ctgf "chvgt"cp"CP QXC"vguv'y cu"r gthqto gf "qp"ý g" tguvævdJ qy gxgt. "ý g"j qv"ckt"drævv'r tqegf wtg"y cu"pqvkegf "vq"r gthqto "dgwgt"qxgtcm0KVku"ý gqtk gf " ý cv"ý g"j qv"ckt "tgf wegf "ý g"co qwpv"qh"o qkuwtg"cv"ý g"ugcræpv cf j gtgpv"kpvgthceg. "ý wu"kpetgcukpi " ý g"dqpf "uvtgpi ý "qh'ý g"ugcræpv"]64\_0

C"uwf { "y cu'r gthqto gf "d { "P F F QV" \q"f gvgto \kpg"\kh"|qkpv'ugcrkpi "ku''pgeguuct { "hqt "npi "vgto " eqpetgvg" r cxgo gpv'' r gthqto cpeg0' P F F QV" ku" ewttgpvn{" gzr gtko gpvkpi " y kj " pqv'ugcrkpi " lqkpvu" dgecwug" yj g"uvcvg" j cu" qdugtxgf "c" j ki j " pwo dgt" qh" lqkpv''ugcrcpv''hcknvtg." r tqo r vkpi " yj g" F QV" \q" eqpukf gt 'kh'yj g"equv'\q''ugcrh' cxgo gpv'lqkpwi'ku"geqpqo kecm{ "dgpghkekcr0'Wpugcrgf "eqpetgvg" r cxgo gpv' ugevkqpu'y gtg"eqputwevgf "d{ "P F F QV" cv'hqvt "vguv'ukgu" \kp" 3; ; 9" cpf "y gtg" gxcnvcvgf "gcej "{ gct "hqt" 32" {gctu0' F wtkpi "gcej " {gctn{ "gxcnxcvkqp." y g" f gr ctvo gpv" o qpkqtgf "cpf "tgeqtf gf " y g" lqkpv' f kntguugu."tkf g"s wcrkv{."co qwpv"qh"kpeqo r tguukdrgu"kp"y g"lqkpvu."cpf "kh"kpeqo r tguukdrgu"ctg"hkngtgf " y tqwi j "y g"r cxgo gpv"f tckpci g"u{uvgo 0'Vj g"wpugcrgf "lqkpvu"j cf "c"20847"kp"ucy "ewv"vq"c"f gr y "qh" qpg"y ktf "qh'y g"y kempguu"qh"y g"eqpetgvg"r cxgo gpv"l65\_0

Vj g"uwf {"eqpenvf gf "ý cv"dqý "ý g"ugcrgf "cpf "wpugcrgf "lqkpw"gzr gtkgpegf "ý g"uco g"v{r gu"qh" f kuvtguugu. "dwi'ý g"wpugcrgf "r cxgo gpv"lqkpw"gzr gtkgpegf "o qtg"ur cmkpi ."cpf "ur cmkpi "qeewttgf "cv"c" y qtug"f kuvtguu"rgxgf/Hqt "gzco r rg. "qpg"vguv"ugevkqp "htqo "ý ku"uwvf {"gzr gtkgpegf "ur cmkpi "kp"940; " qh"kw"wpugcrgf "lqkpw"cpf "qpn{ "4205" "qh"ur cmkpi "kp"kw"ugcrgf "lqkpw0"Kpeqo r tguukdrgu"y gtg"hqwpf " kp"ý g"vtcpuxgtug"lqkpw"qp"ý g"rcpg"cpf "uj qwrf "lqkpw0] qy gxgt."ý g"y j ggn"r cý "eqpukuvgpvn{ "j cf " rguu"kpeqo r tguukdrgu "kp"ý g"lqkpv0'Vj ku"ku"o quv"hrngn{ "f wg"vq"ý g"ktchke"f kurqf i kpi "ý g"kpeqo r tguukdrgu kp"ý g"lqkpv"cv"ý g"y j ggn"r cý 0"K/'y cu"pqv"dgrkgxgf "ý cv"y g"kpeqo r tguukdrgu"y gtg"chtgevkpi "ý g" f tckpci g"cv"o quv"vguv"ugevkqpu0] qy gxgt."ukpeg"P F F QV"ku"wukpi "hgy gt"cpf lqt"uo crngt "f tckpci g" u{ uvgo u'y ky "gcej "pgy "f guki p."ý g"uvwf {"dgrkgxgf "ý cv"ugcrkpi "ý g"lqkpvu"y qwrf"uvkrn'dg"dgpghkekcn" q"j gr "r tgxgpv'y cvgt"htqo "gpvgtkpi "ý g"r cxgo gpv"u{ uvgo "cpf "r tgxgpv'y g"ceegrgtcvkqp"qh"ur cmkpi " l65\_0

#### 704'P qv'tq'Ugcn

Vj ku'ugevkqp'f kuewuugu'tgrgxcpv'hkgtcwtg''qp''pqv'ugcrkpi ''eqpetgvg'r cxgo gpv'lqkpu0'Vj g''HJ Y C''cpf'' Qj kq''F gr ctvo gpv''qh''Vtcpur qtvcvkqp''f gxgrqr gf ''cp''gzr gtko gpv''vq''yguv'y g''r gthqto cpeg''qh''xctkqwu'' lqkpv''ugcrcpwi'kp''vtcpuxgtug''lqkpvu''qh''eqpetgvg''r cxgo gpv''tqcf u0'Vj ku''uwxf { ''y cu''y q'' {gctu''rqpi .'' f wtkpi '' y j kej '' vko g'' y q'' ugr ctcvg'' gxcruvcvkqpu'' y gtg'' o cf g'' qp'' y g''r cxgo gpv'r gthqto cpeg0' Vj g'' r cxgo gpv'y cu''eqpuvtwevgf ''kp'C y gpu. ''Qj kq.''q''yguv'y gv/htgg| g''enko cvg'ko r cev'qp''lqkpv'ugcrkpi 0'Vj g'' r tqlgev'ku''q''eqo r rgo gpv''uko krct''ugevkqpu''eqpuvtwevgf ''hqt''y g''Ur gekhe ''Rcxgo gpv''Uwxf { ''\*URU+''d { '' y g''Utcvgi ke''J ki j y c{''Tgugctej ''Rtqi tco '\*UJ TR+'']44.''45\_0

Chgt "cdqwi'qpg" {gct"qh'ý g"r mego gpv'qh'ý g"ugcmpvu. 'o quv'qh'ý g"cur j cnv'cpf "ukrkeqpg"ugcmpvu" y gtg"kp"hckt "vq"r qqt "eqpf kkqp"cpf "f kur m { gf "uki pkhkecpv"hwm/f gr ý "cf j gukqp"hcknvtg0'J qy gxgt. "kv" y cu" uvcvgf " ý cv" ý gtg" y gtg" eqpegtpu" y kj " ý g" lqkpvi'r tgr ctcvkqp." cu" ucpf dmuvkpi " y cu" pqv" r gthqto gf ." y j kej "r qvgpvkcm{ "nghv'f gdtku"qp" y g"hceg"qh'ý g"tgugtxqkt"]44\_0'I wtlc"gv'cn'eqphkto gf " ý cv'lqkpv'r tgr ctcvkqp"ku"qpg" qh'ý g"o quv'ko r qtv'hcevqtu'tgi ctf kpi "y g"cf j gukag"uvtgpi ý "qh'ý g"ugcmpv" ]49\_0'Ukpeg'ý g"lqkpvu'y gtg"pqv'r tqr gtn{ "r tgr ctgf." y g" ugcmpv"kugnh0'Eqpegtpu"hqt"lqkpv'ugcnkpi "ctkug" dgecwug"kv'ku"y qttkuqo g'ý cv'ý g"r mego gpv'qh'ý g"ugcmpv'kugnh0'Eqpegtpu"hqt"lqkpv'ugcnkpi "ctkug" gpqto cn'ugcnkpi "eqpf kkqpu"eqpvtcevqtu'ugcnkp"]44\_0

Cpqy gt" no kcvkqp" hqt" y g" cur j cnv" cpf "ukkeqpg" ugcncpu" y gtg" y cv" y g" ugcncpu" y gtg" pqv" tgeguugf 'r tqr gtn{0Htqo "Mko "gv'cn'HGO 'uwf {."k/y cu'f gvgto kpgf 'y cv'y g'uj cr g'hcevqt"cpf 'f gi tgg" qh'ewtxcwtg"ctg" ko r qtvcpv'hcevqtu" kp'tgf wekpi "y g"utguu"cpf "uvtckp" y kj kp"c" ugcncpv']42."59\_0Ki/y cu" cnq" pqvkegf 'y cv'uo cm'lqkpv'y kf y u 'gzr gtkgpegf 'o qtg" ugcncpv'hcknwtg"f wg" vq" y g" ugcncpv'qxgthrqy kpi " qw"qh'y g"lqkpv'cpf 'y g"vtchhe 'f gvgtkqtcvkpi "ki']44\_0Vj ku"eqwf "dg"f wg" vq" gzeguukzg" lqkpv'o qxgo gpv" kp" y g" y cto "o qpy u'y cv"f kur neegf 'y g"lqkpv'ugcncpw"qt" ko r tqr gt" uj cr g" hcevqtu" hqt" lqkpw" kp" eqpetgvg" r cxgo gpw0

Ko''eqo r ctkuqp'\q''y g''cur j cnv'cpf ''ukrkeqpg''ugcncpvu.''y g''eqo r tguukqp''ugcncpv'cpf ''vpugcngf ''lqkpvu'' y gtg''kp''xgt{"i qqf "eqpf kkqpu."cpf "y g''ugevkqpu''cv''y j kej "y g{"y gtg"r ncegf "f kur nc{gf "o kpko cn' f kuvtguu0'Vj g''vpugcngf ''ugevkqpu''gzr gtkgpegf ''pq''ur cnkpi ."dnqy wr u."qt''nquu''qh''uwr r qtv0'Kp''cf f kkqp." qy gt ''vpugcngf ''vguv''ugevkqpu''htqo ''y g''URU'y gv/htgg| g''tgi kqp''cnuq''gzr gtkgpeg''pq''lqkpv'f kuvtguugu''qt'' nuu"qh"uwr r qtv"f wtkpi "y gkt"gxcnxcvkqpu0'Vj g"w q/{gct"gxcnxcvkqp"qh"y g"r cxgo gpv"yuv"ugevkqpu" eqphkto gf "y g"tguwnu"qh"y g"qpg/{gct"gxcnxcvkqp."cu"lwuv"f kuewuugf "]45\_0K/y cu"eqpenwf gf "y cv'y g" wpugcngf "r cxgo gpv"lqkpu"uj qwrf "eqpvkpwg"vq"dg"gxcnxcvgf "d{"tgugctej gtu"dgecwug"kh"y gtg"ku"pq" pgi cvkxg" ko r cev" qp"r cxgo gpv"r gthqto cpeg" y ky "wpugcngf "lqkpvu." ngcxkpi "y g"r cxgo gpv"lqkpvu" wpugcngf "ku"c"equv"ghtgev"cngtpcvkxg"f guki p"]44\_"]45\_0

Y kueqpukp" F gr ct vo gpv' qh" Vtcpur qt vckqp" j cu" dggp" uwd { kpi " y g" ghgevu" qh" ugcngf " xgtuwu" wpugcngf "eqpetgyg"r cxgo gpv'lqkpvu'hqt "qxgt '72" { gctu0Chygt "{ gctu"qh'tgugctej ."Y kuF QV"eqpenvd gf " y cv'ugcngf "r cxgo gpv'lqkpvu'j cf "pq"r qukkxg"ko r cev'qp"r cxgo gpv'r gthqto cpeg0'Vj wu."y g"uvcyg"F QV" gtko kpcvgf "cm'eqpetgyg"r cxgo gpv'lqkpv'ugcnkpi "qr gtcvkqpu'kp"3; ; 20'Hqt"c"v{r kecn"{ gct."Y kuF QV'y cu" r c{kpi "crr tqzko cvgn{"k40 "o kmkqp"qp" ugcnkpi "pgy "eqpetgyg"r cxgo gpv'lqkpvu"cpf "&504"o kmkqp"qp" tg/ugcnkpi "qtf" r cxgo gpv'lqkpvu"Ukpeg" ugcnkpi "lqkpvu"r tqxkf gf "pq"r qukkxg"ko r cev'qp"r cxgo gpv'lqkpvu" y j kej "ku" cmeevgf "vq"qy gt"r tqlgevu'vq"ko r tqxg"wugt"tkf g"s wckx{"cpf "gzr gtkgpeg"]43\_0

Vj gtg" ctg" uqo g" rko kcvkqpu" vq" y g" Y kuF QV" gxcnxcvkqp" qp" vp/ugcngf " lqkpv0' Uj qtv/vgto " r cxgo gpv'r gthqto cpeg"f cvc'y cu'gzvtcr qncvgf 'vq"gxcnxcvg"rqpi 'vgto "r cxgo gpv'r gthqto cpeg'tguvnu" cpf "eqpukf gtgf 'hckngf 'lqkpv'ugcncpvu'cu'y qtmkpi "lqkpv'ugcncpvu']66\_0J qy gxgt."dqyj 'vj g"HJ Y C"cpf " O pF QV" gxcnxcvgf " y g" r cxgo gpv" ugevkqpu" cpf " eqpenxf gf " y cv" y g" Y kuF QV" hkpf kpi u" y gtg" tgcuqpcdng" cpf " y cv" ugcngf " r cxgo gpv" lqkpvu" f kf " pqv" ko r tqxg" y g" r cxgo gpv" r gthqto cpeg" kp" Y kueqpulp"]43\_0

Vj g"WUU'F gr ctvo gpv'qh"Vtcpur qt cvkqp"hvpf gf "c"lqkpv"ugcrcpv"uwf {0'C" vqvcn'qh"339"vguv" ugevkqpu" y gtg"kpuvcmgf "dgw ggp"Ctk qpc."Eqmtcf q."Hrqtkf c."I gqti kc."Krkpqku."Kpf kcpc."Kqy c." O kppguqvc." P gy " [ qtm" Qj kq." cpf " Y kueqpulp0' Cur j cn/dcugf " cpf " ukrkeqpg/dcugf " ugcrcpvu." r tghqto gf "ugcnu"cpf "vpugcrgf 'r cxgo gpv'lqkpvu'y gtg"vugf 'kp'vj g"uwf {0'Vj g'r cxgo gpv'vguv'ugevkqpu" y gtg" y gp"gxcnvcvgf "hqt"cp{"r cxgo gpv'f knvtguugu0'Htqo "vj g"eqmgevgf "f kuvtguu'f cvc." y gtg"y cu"pq" uki pkhecpv'f khrgtgpeg"kp"r cxgo gpv'r gthqto cpeg"dgw ggp"vj g"ugcrgf "cpf " vpugcrgf "ugevkqpu"]35\_0

# Crrgpf kz'D0Ugcncpv'Hkgnf 'Rgt hqt o cpeg'Tgxkgy

#### 3''2'Kpvt qf wevkqp

Vj g"r wtr qug"qh"y ku"uwf { "y cu"vq"gxcnxcvg"y g"ghhgev'qh"lqkpv'ugcncpv'r gthqto cpeg"qp"y g" r gthqto cpeg"qh"lqkpvgf "r nckp"eqpetgvg"r cxgo gpvu" \*IRER+tu"wukpi "f kutguu"uwtxg{ "tguwnu0'Iqkpv" ugcncpv'eqpf kkqp" ku"pqv'f ktgevn{ "cuuguugf "f wtkpi "v{r kecn'f kutguu"uwtxg{ u0'Vj gtghqtg."f kutguu" f gxgqqr o gpv'y cv'ecp'dg"cuuqekcvgf 'y ky 'r qqt"ugcncpv'r gthqto cpeg'y cu"gxcnxcvgf 0'Vj g'f kutguugu" y cv."cv'vko gu."ecp"dg"cv'ngcuv'r ctvkcm{ "cwtkdwgf "vq"r qqt"lqkpv'ugcncpv'r gthqto cpeg"kpenxf g"lqkpv' ur cmkpi ." hcwnkpi ." cpf " dnqy wr u0' Wphqtwpcvgn{ ." dnqy wr "f kutguu" f cvc" ku" pqv' kpenxf gf " kp" y g" r gthqto cpeg'f cvcdcugu'hqt"y g"ci gpekgu"eqpvtkdwkpi "f cvc"cpf "y gtghqtg"y cu'pqv'eqpukf gtgf 'kp"y ku" cpcn{ uku0'Gcej "f kutguu"y cu"gxcnxcvgf "y kj "tgur gev' q"r cxgo gpv'f guki p"r ctco gvgtu. "mecvkqp"qh" kf gpvkhgf "dcugf "qp"y g"utgpi y "qh'y gkt"eqttgncvkqp"y kj "f kutguu'f gxgqqr o gpv0

#### 4''@'F guet kr vkqp'qh'F c vcd c ugu

Rgthqto cpeg" f cvc" y cu" r tqxkf gf " d{" y g" Rgppu{nxcpkc" F gr ctvo gpv" qh' Vtcpur qtvckqp" \*RgppF QV+" cpf "Rgppu{nxcpkc" Vwtpr kng0' F cvc" htqo "Cngi j gp{"Eqwpv{"y cu"pqv"cxckredrg" hqt" kpenvukqp"kp'y ku"cpcn{uku0Vj g'f cvcdcug'r qr wrcvgf "y kj "RgppF QV"f kutguu'f cvc"eqpuknyf "qh'58.7; 6" qdugtxcvkqpu'y kj "gcej "f cvc"r qkpv'tgr tgugpvkpi "c"ukpi ng"ugevkqp"qh'tqcf y c{0C"vqvcn'qh'947"f khbgtgpv" ugevkqpu"qh'tqcf y c{"y gtg"tgr tgugpvgf 0'F kutguu'f cvc"kpenvf gf "ngpi yi "qh"eqpetgvg"twvkpi ."pvo dgt" qh'lqkpw"ur cngf ."cpf "pvo dgt"qh'lqkpw"hcwngf "cv'xctkqwu"ngxgnu"qh"ugxgtkv{0'Vq"gxcnvcvg"f kutguu" f gxgmr o gpv"cu"c"hwpevkqp"qh'ugcncpv"r gthqto cpeg."yj g"RgppF QV"f cvcdcug"y cu"hkngtgf "vq"qpn{" kpenvf g" qdugtxcvkqpu"htqo "y j gp"y g"r cxgo gpv"y cu"eqputwevgf "wpvkn"y j gp"y g"htuv"tgr ckt"y cu" r gthqto gf 0'Vj ku"y cu'f qpg"vq"gpuvtg"qdugtxcvkqpu"y gtg"pqv'kpenvf gf "y j gtg"ugcncpv'y cu'tgr neegf 0' Ugevkqpu"yi cv"j cf "eqpetgvg"r cxgo gpv'tgurqtcvkqp"\*ERT+"r gthqto gf "y gtg"kf gpvkhgf "kp"c"ugr ctcvg" f cvcdcug" qh" r cxgo gpv' j kurqt {." y j kej " y cu" cnq" r tqxkf gf " d{" RgppF QV0' Chvgt" grlo kpcvkpi " r gthqto cpeg"f cvc"qdvckpgf "chvgt"ERT."y g"RgppF QV"f cvcdcug"eqpuknyf "qh'4: .7: 4"qdugtxcvkqpu0

C'f cvcdcug'qh'3.; 74'qdugtxcvkqpu'y cu'r tqxkf gf 'd{ 'ý g''Vvtpr kng0Gcej 'qdugtxcvkqp''eqpvckpgf " f kuvtguu'uvtxg{ 'kphqto cvkqp'hqt'c'ukpi ng'ugevkqp''qh'tqcf y c{"eqngevgf 'dgw ggp'3; ; 9'cpf '42430'Vj g'' hqmqy kpi " tqcf y c{u'' y gtg" kpenvf gf " kp" y g'' f cvcdcug< P qtyj /Gcuv' Gzvgpukqp." Dgcxgt " Xcmg{ '' Gzr tguuy c{."I tggpudvti "D{r cuu. ''O qp/Hc{gvg"Gzr tguuy c{."Uqwj gtp"Dgny c{."cpf ''O ckpthgg" Vvtpr kng0F kuvtguu'f cvc'kpenvf gf "ngpi y ''qh''eqpetgvg''twvkpi .''pvo dgt"qh''qkpvu'u'r cmgf .''cpf ''pvo dgt '' qh''qkpvu'hcwngf ''cv'xctkqwu'ngxgnu'qh''ugxgtk{0Eqpuvtwevkqp"{gct''hqt"gcej ''ugevkqp''y cu'f gvgto kpgf '' wukpi ''eqpuvtwevkqp''tgeqtf u''kp''eqplvpevkqp''y kj ''eqpuvtwevkqp"cpf ''o ckpvgpcpeg''eqpvtcevu.''y j kej '' y gtg''r tqxkf gf ''d{ ''y g''Vvtpr kng0'Kb'tgeqpuvtwevkqp''qt''tgr cktu''y gtg''ur gekkgf ''hqt''c''i kxgp''ugevkqp''kp'' j g''tgeqtf ''qh''eqpvtcevu.''y g''{gct''qh''y g''o quv'tgegpv'tgj cdktkcvkqp''y cu''ej qugp''cu''y g''eqpuvtwevkqp'' {gct''y j gp"guvcdnkuj kpi ''y g''ci g''qh''y g''ugercpv0'Chgt''grko kpcvkpi ''ugevkqpu''eqpukuvkpi ''qh''co r u ''y g'' Hvpcn''Vvtpr kng'f cvcdcug''eqpvckpgf ''3.854''qdugtxcvkqpu0

Vy q"v{r gu"qh'cur j cnx."cnq"npqy p"cu"j qv'r qwt."ugcncpvu"ctg"nkuvgf "cu"cp"cr r tqxgf "ugcncpv"hqt" eqpetgvg"r cxgo gpwu"kp"RgppF QV"Dwngvkp"37"dcugf "qp"CUVO "F 88; 2"ur gekhlecvkqpu"]49\_']67\_0Hqt" y g"o clqtk{ "qh'y g"eqpuvt wevkqp"{ gctu. "V{r g"KX 'ugcncpv'y cu'y g"qpn{"cr r tqxgf "cur j cn/'ugcncpv'hqt" eqpetgvg"r cxgo gpw0J qy gxgt."dgw ggp"O c{"qh'422: "cpf "Qevqdgt"qh'423: "y g"cr r tqxgf "ugcncpv" y cu"ej cpi gf 'htqo "V{r g"KX 'vq"V{r g"KOY ky kp"gcej "f cvcdcug"qh'f kuvtguu'uvtxg{ 'tguwnu..'y g"ugcncpv" v{r g"y cu"cuuki pgf "cu"c'hwpevkqp"qh'y g"{gct"qh'eqpuvt wevkqp"qt"tgj cdkrksvkqp"{ gct0'Vj ku'y cu"wugf "vq gxcnxcvg''y g''ghhgev'qh'ugcncpv''v{ r g''qp''f kuxt guu''f gxgrqr o gpv0

#### 5"@'Eqpet gvg'T wvkpi

T wwkpi "ku'f ghkpgf "cu'mpi kwf kpcn'f gr tguukqpu'kp'ý g''y j ggn'r cyj "qh'eqpetgvg''tqcf u''ecwugf "d{" y gct"qh'ý g''uwthceg0'Vj tgg''ngxgnu''qh'twwkpi "ctg''f ghkpgf "cu''c''hwpevkqp"qh'ý g''f gr y "qh'ý g''f gr tguukqp<" my "\*2047'6''207''kp+"o gf kwo "\*207''6''302''kp+"cpf "j ki j "\*302''kp">+'']68\_0'Vj g''qvcn'hgpi y "qh'twwkpi "cv" gcej "ugxgtk{ 'ku'tgr qtvgf 0T wwkpi 'ku''pqv'c''f kutguu''y cv'ku''eqo o qpn{ "qdugtxgf 'kp''IRER''y tqwi j qw'' Rgppu{ nxcpkc0Qtki kpcm{ ''y ku'kphqto cvkqp'y cu''wugf ''q'kf gpvkh{ 'kh'c'ugevkqp"qh'IRER''j cf ''cp''cu' j cn'' qxgtm{ ''cpf ''y gtghqtg''y qwf ''pggf ''q'dg''tgo qxgf 'htqo ''y g''f cvc''ugv'dgkpi ''cpcn{||gf 'hqt'yj ku''uwf {0'K'' y cu''qdugtxgf ''y cv''twwkpi ''y cu''dgkpi ''tgr qtvgf ''gxgp''hqt'IRER''y cv'y gtg''pqv'qxgtnckf 0T wwkpi ''ku''pqv'' c''f kutguu'cuuqekcvgf ''y kj ''lqkpv'ugenpv'f gvgtkqtcvkqp.''dw'c''ho kgf ''kpxguvki cvkqp''y cu''r gthqto gf ''q'' f gvgto kpg''y j {''uwej ''ncti g''co qwpu''qh'twwkpi ''ku''dgkpi ''tgr qtvgf ''hqt'IRER0

#### 506''RgppFQV'Twwkpi 'Tguwnu

Kp"vj g"RgppF QV"f cvcdcug"44.4; 8"qdugtxcvkqpu"\*9: ' +"eqpvckpgf "my "twvkpi ."7.386"\*3: ' +" eqpvckpgf "o gf kwo "twvkpi ."cpf "8: 7"\*406' +"eqpvckpgf "j ki j "twvkpi 0'Vj g"r gtegpv"qh"vj g"ugevkqp" gzj kdkkpi "twvkpi "y cu"ecnewncvgf "hqt"gcej "qdugtxcvkqp0'Vj g"cxgtci g"r gtegpv"twvkpi "r gt"ugevkqp"y cu" 33' "cetquu"ugevkqpu'y kj "my "twvkpi ."406' "cetquu"ugevkqpu'y kj "o gf kwo "twvkpi ."cpf "30 ' "cetquu" ugevkqpu"y kj "j ki j "twvkpi 0'Vj g"f kuvtkdwkqp"qh"r gtegpv"ugevkqp"twvkpi "y cu"tki j v"vckngf ."y kj "y g" f kuvtkdwkqp"ungy gf "vqy ctf "j cxkpi "my "r gtegpv"qh"ugevkqpu"gzj kdkkpi "twvkpi ."cu"uj qy p"kp"**Hi wt g**" **D08**0



Hki wtg'DB0F kut kdwkqp'qh'r gt egpv'ugevkqp'ur cnkpi 'hqt 'hqy 'ugxgt k{ 'ur cnkpi

Vjg"rgtegpv"qh"yjg"ugevkqp"twwgf"ycu"gxcnwcwgf"cu"c"hwpevkqp"qh"yjg"ugevkqp"hgcwwtgu"vq"kfgpvkh{"

r ctco gvgtu. "y j kej "ctg"uki pkhkecpvhqt"tvwkpi "f gxgqqr o gpv0"Vj g"qtki kpcn"cuuwo r vkqp"y cu"y cv"tvwkpi " o ki j v"dg"o qtg"r tgxcngpv"kp"yj g"ctgcu"qh"Rgppu{ nxcpkc"tgegkxkpi "y g"i tgcvguv"co qwpv"qh"upqy hcm0' Kp"yj gug"ctgcu. "y g"wug"qh"vktg"ej ckpu"qt"uwxf f gf "vktgu"o ki j v"dg"o qtg"r tgxcngpv"cpf "y qwrf "eqpvtkdwg" u" y g"f gxgqqr o gpv"qh"twvkpi 0"T wwkpi "y cu"pqv"qdugtxgf "vq"xct{"uki pkhkecpvn{"cu"c"hwpevkqp"qh" mecvkqp"y kyj kp"y g"ucvg"cpf "y gtghqtg"eqwrf "pqv"dg"nkpngf "vq"cp"kpetgcug"kp"vktg"y gct"ecwugf "d{" j ki j gt"upqy hcm0

Vj g"o clqtk{ "qh"qdugtxckqpu"y kj "c"j ki j "r gtegpv"qh"y g"ugekqp"twwgf "qeewttgf "y j gp"y g" ugekqp"j cf 'hgy gt"y cp"32"{ gctu"kp"ugtxkeg0'Vj gug"ugekqpu"y gtg"o qun{ "eqputwewgf "dgw ggp"3; ; 7" cpf "4227."cu"uj qy p"kp"Hki wtg"D040'Vj ku" ugpf "ku"eqwpvgt"kpwkkxg"cu"ks"y cu"gzr gevgf "y cv"qrf gt" ugekqpu"y qwrf "f kur re {"j ki j gt"ngxgnu"qh"r cxgo gpv"f kntguu0'Vj gtg"ctg"ugxgtcn"nkngn{ "gzr rcpckqpu" hqt"y g"qdugtxgf "tgpf 0'K/ku"r quukdng"y cv'y g"twwkpi "ku"cp"ctkhcev'qh"y g"o gy qf qnqi {."gs wkr o gpv" qt"f cvc"r tqeguukpi "vgej pks wgu"wugf "kp"yj g"r gthqto cpeg"f cvc"eqngekqp0'Vj ku"ku"uwr qtvgf "d{ "y g" hcev"y cv"y g"o clqtkk{ "qh"y g"qdugtxckqpu"y kj "i tgcvgt"y cp"72"r gtegpv"qh"y g"ugekqp"gzj kdkkpi " twwkpi "y gtg"eqputwevgf "y kj kp"c"32/{gct"ko ghtco g0Cf f kkqpcm{."ugekqpu"y kj "c"j ki j "r gtegpvci g" qh"y g"ugekqp"twwgf "eqwrf "j cxg"dggp"kf gpvkhgf "gctn{ "cpf"j cf "ERT"r gthqto gf ."tguvnkpi "ku"py i gk" tgo qxcnhtqo "y g"f cvc"ugv'eqpukf gtgf "kp"y ku"cpcn{ uku0'Vj ku'y qwrf "gzr rckp"y j { "qpn{ "c'hy" ugekqpu" qrf gt"y cp"42"{ gctu"qnf "j cf "i tgcvgt"y cp"72"r gtegpv"ugekqp"y j { "qpn{ "c'hy" ugekqpu" qrf gt"y cp"42"{ gctu"qnf "j cf "i tgcvgt"y cp"72"r gtegpv"ugekqp"twogf 0'Kyku"gxkf gpv'y cv\*twykpi "ku"pqv'c" o clqt"kuuwg"kp"eqpetgvg"r cxgo gpvu"y tqwi j qww'y g"uccyc"cpf "y cv"ngcf u"y g"tgugctej gtu"qdgdkgxg" y ku"twwkpi "qdugtxgf "ku"cp"cpqo cn{ "cuuqekcvgf "y kj "y g"f cvc"eqmgekqp"r tqegu0



Hki wt g'D040Rgt egpv'ugevkqp 'y kj 'hqy 't wwkpi ''cu''c 'hwpevkqp''qhi' gct u'kp''ugt xkeg''qp'' y g'z/czku'hqt ''cml'ugevkqpu. 'y kj ''j g''eqrqt 'kpf kecvkpi ''eqpust wevkqp'' ['gct

#### 504"Ur empi

Ur cmkpi 'ku'ej ctcevgtk gf 'd{ 'f co ci g'\q'IRER'uncd 'gf i gu'cmpi 'y g'\tcpuxgtug'lqkpv0F co ci gf "

qt'o kulpi 'lqkpv'ugcrepv'ecp''cmy 'lpeqo r tguukdrgu''q''gpvgt''tcpuxgtug''qkpv0Vj g'lpeqo r tguukdrgu'' r tgxgpv''urcd''gzr cpukqp''f wg''vq''y gto cn'ej cpi gu. "ecwukpi "c''dvkrf wr ''qh''utguugu''cv''y g''hceg''qh''y g'' lqkpv0Ur cmkpi 'f gxgrqr u'y j gp'y g''utguugu''gzeggf 'y g''eqpetgvg''utgpi y ''cpf ''etcemkpi ''f gxgrqr u'pgct'' y g''uwthceg''crqpi ''y g''lqkpv0Ur cmkpi ''y cu''wugf ''q''gxcnxcvg''y g''r gthqto cpeg''qh'y g''lqkpv'ugcrepv'y kj '' tgur gev'vq'f guki p'r etco gvgtu0Eqpetgvg''ur cmkpi ''ku'tgr qtvgf ''cv'y tgg''ngxgnu'\*'qy .''o gf kwo .''cpf ''j ki j +'' cu'c'hwpevkqp''qh'y g''y kf y ''qh'y g''ur cmkpvq''y g''urcd''cpf ''y g''ngpi y ''qh'y g''ur cm'crqpi ''y g''tcpuxgtug'' lqkpv']68\_0Kp'y ku''cpcn{uku.''r gtegpv'lqkpvu''ur cmgf ''y cu''ecrewrcvgf ''hqt''gcej ''qdugtxcvkqp''d{''uwo o kpi '' y g''qvcn'pwo dgt''qh'lqkpvu''ur cmgf ''cetquu''gcej ''ngxgn'qh''ugxgtkx{ ''cpf ''f kxkf kpi ''d{''y g''pwo dgt''qh''lqkpvu'' kp''y g''ugevkqp0

#### 50408''RgppFQV'Urcmlpi 'Tguwnu

Vj ku"cpcn{uku"y cu"hqewugf "qp"gctn{"ur cmkpi "y cv"eqwf "f gxgmr "f wg"vq"r tgo cwtg"ugcmpv" hcknytg0'Gctn{"y cu"f ghkpgf "cu"y ky kp"y g"htuv"32"{gctu"y g"r cxgo gpv"ku"kp"ugtxkeg0'Hqewukpi "qp" r gthqto cpeg"y ky kp"y g"htuv"vgp"{gctu"cmq"j gm u"vq"r tgxgpv"kpenvf kpi "ur cmkpi "y cv"o ki j v"dg" cuuqekcvgf "y ky "o cvgtkcn"tgncvgf "f kuytguu"ukpeg"dqy "f wtcdkkw{ "etcenkpi "cu"y gm"cu"cmcnk/ukkec" tgcevkqp"vgpf u'vq"f gxgmr "chvgt"vgp"{gctu"kp"ugtxkeg0'Hkuv'y g"34.569"qdugtxcvkqpu'y ky "32"ugtxkeg" {gctu"qt"hgy gt"y gtg"kf gpvkhkgf 0'Qh"y g"34.569"qdugtxcvkqpu."kv"y cu"uggp"y cv"y g"o clqtk{"j cf" o kpko cn'vq"pq"lqkpvu'ur cmgf 0/Qpn{ '97; "%80' +"qh"y g"qdugtxcvkqpu"gzeggf gf "32' "qh"lqkpvu'ur cmgf ." y j kej "kpf kecvgf "qxgtcm'f gegpv'r gthqto cpeg"ku"dgkpi "cej kgxgf 0'J qy gxgt."kv'y cu"pqvgf "y cv"c"hgy " qdugtxcvkqpu"eqpvckpgf "uki pkhkecpv'ur cmkpi 0'Vj ku"uvdugv'qh"y g"uki pkhkecpv'ur cmkpi 0

Hktux''c''eqttgrcvkqp''o cvtlz''y cu'i gpgtcvgf ''vq''s wcpvkh{ ''y g''eqttgrcvkqp''dgwy ggp''gcej ''r ctco gvgt." cu''uj qy p''kp''Hki wtg''D**G**0'Kk'y cu''uggp''y cv''y g''r ctco gvgtu''y kj ''y g''j ki j guv''eqttgrcvkqp''vq''r gtegpv'' lqkpvu''ur cmgf ''y gtg''eqpuvtwevkqp''{ gct'\*2078+"cpf ''ugcrcpv'v{r g'\*/2062+0'Vj gug'tguvnu''kpf kecvg''y cv''y g'' qdugtxcvkqpu''y kj ''j ki j ''r gtegpv''lqkpvu''ur cmgf ''eqwrf ''dg''kphwgpegf ''d{ ''y g''{ gct''y cv''y g''r cxgo gpv'' y cu''eqpuvtwevgf 0

0.1519 0.33 1 -0.04 1 0498 1	291 -0.1782   498 -0.04876   -0.328	-0.04863 0 -0.06293 0 -0.3131 0	1206 0.02 1538 -0.12	0.1017
1 -0 0498	498 -0.04876 -0.328	-0.06293 0. -0.3131 0.	1538 -0.12	263 0.1017
1.0498	-0.328	-0.3131 0		
and sealer			-0.05	-0.6629
04876 -0 3	128 1	-0.02042 -0	1163 0.028	812 0.04895
06293 -0.31	131 -0.02042	1 -0	1961 0.33	69 0.1716
1538 0.65	-0.1163	-0.1961	1 -0.000	7642 -0.3979
.1263 -0.08	0.02812	0.3369 -0.0	007642 1	-0.009512
1017 -0.80	629 0.04895	0.1718 -0	.3979 -0.000	1512 1
	centre	50 <sup>808</sup> 50 <sup>8</sup>	ed us Cracks	stant Type
	1017 -0.8	1017 -0.8629 0.04895	1017 -0.6629 0.04895 0.1716 -0	1017 -0.8629 0.04895 0.1718 -0.3979 -0.000

Hki wtg'DC50Eqttgrcvkqp"o cvtlz"hqt"ugevkqpu"y kj "32"ugtxkeg"{gctu"qt"hgy gt"cpf"cv'hgcuv'32' " lqkpuu'ur cngf. 'y kj 'r gt egpv"lqkpuu'ur cngf "qwvhkpgf" kp"t gf

Y j gp"ý g"f cvcugv'y cu'hkngtgf "\q"kpenxf g"qpn{ "ý g"429"qdugtxcvkqpu"y ký "i tgcvgt"ý cp"72' "qh" lqkpwl"ur cmgf "cpf "32"qt"nguu"{gctu"qh'ugtxkeg."ý g"o ci pkwf g"qh"ý g"eqttgrcvkqpu"dgw ggp"r gtegpv" lqkpwl"ur cmgf "cpf "eqpuvt wevkqp"{gct"cpf "r gtegpv'lqkpwl"ur cmgf "cpf "ugcmpv'v{r g"kpetgcugf "\q"20 3" cpf "/2072."tgur gevkxgn{0'Cu"uj qy p"kp"Hki wtg"D6."yj gug"tguwnu"o c{"dg"f qo kpcvgf "d{"ugevkqpu" eqpuvt wevgf "dgw ggp"4234"cpf "42420'Vj g"hcev'ý cv'ý g"ugcmpv'v{r g"y cu"ej cpi gf "htqo "c"V{r g"KX" cur j cni'ugcmpv' vq"c"V{r g"KK'dgw ggp"422: "cpf "423: "eqwf "dg"kphnvgpekpi "ý gug"tguwnu0'Vj ku" kpf kecvgu"ý g"wug"qh"c"V{r g"KK'ugcmpv'eqwf "dg"o qtg"r tqpg"vq"gctn{ "hcknvtg"qt" y cv"kuuvgu"y kj " eqpuvt wevkqp "kp"y gug"{gctu"tguwngf "kp"cp"gctnkgt"f gxgqnr o gpv'qh'ur cmkpi 0


Hki wt g'D060Rgt egpv'lqkpvu'ur cmgf "cu'c 'hwpevkqp"qh'{ gct "eqpust wevgf. "y kj 'ugcncpv'\{ r g" f gpqygf "d{ '\j g"o ct mgt '\uj cr g

Vj g"r tgxkqwu" cpcn{uku"uj qy gf "c"i tgcvgt" co qwpv'qh" ur cmkpi "y cu"qdugtxgf "kp"r cxgo gpwu" eqput wevgf "dgw ggp"422: "cpf "423: "dw'kv'y cu"pqv'f gvgto kpgf "j qy "gctn{"kp"yj g"nkbg"qh'yj g"r cxgo gpv" yj g'ur cmkpi 'f gxgnqr gf 0'Vq"kpxguki cvg"yj ku."yj g"eqttgrcvkqp"dgw ggp"eqput wevkqp"{gct"cpf 'r gtegpv" lqkpwu'ur cmgf 'hqt"qdugtxcvkqpu'y kyj "i tgcvgt"yj cp"32' "lqkpwu'ur cmgf 'y cu"gxcnwcvgf 'hqt"ugevkqpu'y kyj " 7" {gctu" kp" ugtxkeg" cpf " yj gp" 32" {gctu" kp" ugtxkeg0' KV' y cu" hqwpf " yj cv" yj g" eqttgrcvkqp" dgw ggp" eqput wevkqp"{gct"cpf 'r gtegpv'lqkpwu'ur cmgf "hqt"r cxgo gpwu"yj cv"j cf "dggp"kp"ugtxkeg"hqt"7"{gctu"ku" 207; 0' Vj ku" eqttgrcvkqp" ku" tgf wegf " vq"/2082" hqt"r cxgo gpwu"yj cv' y gtg" kp" ugtxkeg" hqt" 32" {gctu0' O qtgqxgt."355"qh'yj g"3.546"ugevkqpu"f kur rc{gf 'i tgcvgt'yj cp"32' "lqkpwu'ur cmgf "cv'7"{gctu"eqo r ctgf " vq"88"qh'yj g"3.668"ugevkqpu"y j kej "f kf "uq"cv'32"{gctu0'Vj gug"tguwnu"kpf kecvg"yj cv'ur cmkpi "ku"qdugtxgf " vkj kp"yj g"htuv'7"{gctu"qh"eqput wevkqp0

#### 50404 'Vwt pr kng'Ur cmkpi 'T guwnu

Vj g'o clqtk/ ''qh'ugevlqpu'y kj kp''y g''Vvtpr kng''f cvcdcug''f kur nc { gf ''uki pkhlecpv'ngxgnu''qh''ur cmkpi 0' Qh'y g''3.854''qdugtxcvlqpu.''9; '''qh''ugevlqpu''j cf ''ur cmkpi ''cv'gxgt { ''lqkpv'y j kng''37' '''qh'y g''ugevlqpu'' gzj kdkgf ''pq''ur cmkpi 0'Vj ku'ku'f gr kevgf ''kp''Hki vtg''D070'Vq''gpuvtg''ugevlqpu'y kj ''322' '''lqkpvu''ur cmgf '' y gtg''pqv'eqpegpvtcvgf ''kp''ur gekhke''tqcf u.''ur cmkpi 'y cu''gxcnvcvgf ''cu''c''hvpevlqp''qh''Vvtpr kng''tqcf y c { '' cu''uj qy p''kp''Hki vtg''D080'K'y cu'f gvgto kpgf ''y cv'y g''f kuvtkdwkqp''qh'ugevlqpu'y cu''pqv'ungy gf ''qy ctf '' cp{''r ctvkevnct'tqcf y c {0



Hki wtg'D070Eqwpv'qHugevkqpu'y kj 'xctkqwu'ngxgnu'qHurcmkpi .'uj qy kpi ''j cv'ij g'o clqtki ''qH' qdugtxcvkqpu'y kj kp'ij g'Vwtprkmg'f cvcdcug'tgrqtvgf '322' 'lqkpwu'urcmgf



Hki wtg'D080Rgtegpv'lqkpu/'urcngf''cu'c'hwpevkqp''qhVwtprkng''tqcfyc{

Qpn{'8' "qh'ugevkqpu'tgr qtvgf 'dgw ggp'2' "cpf '322' "lqkpu'ur cmgf 0Dgecwug'y g'f cvc'ku'j gcxkn{

ungy gf "vqy ctf "322' "qh"lqkyu"ur cmgf ."ks"y cu"pqv"hgcukdrg"vq"gxcnxcvg"ur cmkpi "cu"c"hwpevkqp"qh" mecvkqp."ci g."eqputvevkqp"{gct."qt"ugcmpv"v{r g"kp"c"o gcpkpi hwn'o cppgt0K/y cu"qdugtxgf 'y cv'y g" f cvc"y cu'uj qy kpi "gxgp"ugevkqpu"lwuv'eqputvevgf "j cf "ur cmkpi "cv'gxgt{"lqkpv0Vq"hwty gt"kpxguvki cvg" y ku."c"ukg"xkukv'y cu"o cf g"vq"c"pgy n{"eqputvevgf "ugevkqp"qh"y g"Uqwy gtp"Dgny c{"kp"y g"hcm"qh" 42440'K/'y cu"qdugtxgf "y cv'y g"reti g"co qwpv"qh"ur cmkpi "uggp"kp"y g"f kvtguu"f cvc"hqt"y g"pgy n{" eqputvevgf "ugevkqpu"eqwrf "dg"cuuqekcvgf 'y kj "y g"kpuvcmcvkqp"qh'y g"tghrgevkxg"hpg"vcr g0Vj ku"o c{" dg"c"tguwu'qh'y g"i tkpf kpi "r gthqto gf "vq"tgeguu'y gtp"Dgny c{"kp"Cwi wuv'qh4244."c"uki pkhkecpv" pwo dgt"qh"lqkpvu"j cf "o kpqt"eqpetgvg"ur cmkpi "cf lcegpv"vq"y g"tgeguugf "tghrgevkxg"vcr g"cmpi "y g" rcpgluj qwrf gt"nqpi kwf kpcn'gf i g0Gzco r ngu"qh'y ku'ur cmkpi "ku'uj qy p"kp"Hki wtg"D00Vj ku'ur cmkpi "ku'u pqv'tgncvgf "vq"lqkpv'ugcmpv'r gthqto cpeg."j qy gxgt."kv'y qwrf "dg"tgr qtvgf "f wtkpi "lqkpv'uwtxg{u0Cu"c" tguww."kv'y cu"pqv'r quukdrg"vq f kukpi wkuj "dgw ggp"r gthqto cpeg/"cpf "eqputvevkqp/tgncvgf "ur cmkpi "ku' f gxgrqr o gpv'y kj kp"y g"ugevkqpu'y j kej "eqpvckp"tghrgevkxg"hpg"vcr g0



Hki wtg'D090Gzco rngu"qh'urcnkpi "cflcegpv'\q"tghgevkxg'\crg

# 505'Hcwnłpi

Vtcpuxgtug'lqkpv'hcwnkpi 'ku'f ghkpgf ''cu''c'f khlgtgpeg'l\p"grgxcvkqp"dgw ggp"crrtqcej ''cpf ''rgcxg" urcdu'' cpf '' eqo o qpn{ '' f gxgrqru'' f wg" vq" yj g" r workpi '' o gej cpkuo 0' Rworkpi '' tgs wktgu'' o qkuwtg" kphkntcvkqp''yj tqwi j ''yj g''lqkpv'kpvq''yj g''wpf gtn{ kpi ''rc{gtu.''yj kej ''ku'tgf wegf ''yj gp"yj g''lqkpv'ku''r tqr gtn{ '' ugcrgf 0'Ugcrcpv'f co ci g"gpcdrgu"gzeguukxg''o qkuwtg''kp''yj g''lqkpv'yj cv'ecp''rgcf ''q''yj g'f gxgrqr o gpv'qh'' hcwnkpi 0'Vj gtgfqtg.''hcwnkpi ''f cw''y cu''cnq''cpcn{ || gf ''cu''c''o gcpu''qh''r qvgpvkcm{ ''gxcnxcvkpi ''ugcrcpv'' r gthqto cpeg0'Hcwnkpi ''y cu'tgr qtvgf ''cv'wy q''rgxgru'\*o gf kwo .''j ki j +'cu''c''hwpevkqp"qh''y g''j gki j v'qh'yj g'' hcwnkpi ''hqt ''gcej ''qdugtxcvkqp'kp''y g'f kntguu'f cwdcug0'O gf kwo ''ugxgtk{ ''ku'hcwnkpi ''tcpi kpi ''dgw ggp'' 2047''cpf ''207''kp''cpf ''j ki j ''ugxgtk{ ''ku'cp{ yj kpi ''i tgcvgt'yj cp''207'kp'']68\_0

#### 50508''RgppFQV'Hcwnkpi 'Tguwnu

Qh'ý g'4: .779'qdugtxcvkqpu'kp'ý g''RgppF QV'f cvcdcug.'8.; : 2'\*46' +'tgr qtvgf 'hcwnkpi 'r tgugpv0' Y ký kp'' ý g''qdugtxcvkqpu'' y ký "hcwnkpi "r tgugpv." ý g''xcuv' o clqtk{ "j cf "qpn{ "c" hgy "lqkpw" y ký " o gcuwtcdng"hcwnkpi .'tguwnkpi "kp"c"nqy "r gtegpv'lqkpw"hcwngf .''cu''uj qy p"kp"Hki wtg"D0 0'Hqt" ý g'' qdugtxcvkqpu''gzj kdkkpi 'hcwnkpi .''ý g''cxgtci g'r gtegpv'qh'ý g''lqkpw'y ký kp"c''ugevkqp''ý cv'ctg"cewcm{ " hcwnkpi 'ku''qpn{ '30 ' 0'Vj ku''go r j cukt gu'y g'' qkpv'ý cv'gxgp''y ký '46' "qh'ý g''qdugtxcvkqpu''gzj kdkkpi " hcwnkpi .''xgt { 'hgy ''lqkpw''y ký kp"gcej ''ugevkqp''j cxg''hcwngf 0



Hki wt g'D0 0F kut kdwkqp"qhi'r gt egpv"lqkpuu'h wngf 'hqt "cm'ugevkqpu'y kj "o gcunt cdng'h wnkpi" t gr qt vgf 'kp''y g'RgppFQV'f cvcdcug

Qdugtxcvkqpu"y kj "o gcuwtgf "hcwnkpi "y gtg"kuqncvgf "hqt"kpenvukqp"kp"y g"f gxgnqr o gpv'qh'y g" eqttgncvkqp"o cvtkz"uj qy p"kp"Hki wtg"DQ 0Vj g"j ki j guv'eqttgncvkqpu"y kj "r gtegpv"lqkpu"hcwngf "y gtg" y kj "lqkpv" ur cekpi "\*208; +" cpf " { gctu" kp" ugtxkeg" \*2089+." j qy gxgt." y gug" eqttgncvkqpu" y gtg" pqv" eqpukf gtgf "uvtqpi 0Vj ku"ku"nkngn{ "f wg"vq" y g"hcev'yj cv'yj g"o clqtkv{ "qh"qdugtxcvkqpu" y kj "o gcuwtgf " hcwnkpi "j cf "xgt { 'hgy "lqkpvu"y kj kp'yj g"ugevkqp"cewcm{ "gzj kdkkpi "hcwnkpi ."y j kej "o cngu"kv'f khkewn/" vq"kf gpvkh{ "uki pkhecpv'vtgpf u0



Hki wt g'DQ 0Eqtt grcvkqp"o cvt lz 'lqt "crnlugevkqpu"y kj "o gcuwt cdrg'h wrskpi . 'y kj "r gt egpv"lqkpul h wrsgf "qwrkpgf" kp"t gf

### 50504''Vwt pr kng'Hc wnkpi 'T guwnu

Qh'y g''3.854 "qdugtxcvkqpu''y ky kp''y g''Vwtpr kng''f cvcdcug."; ' 'j cf 'hcwnkpi .'y j krg''; 3' 'tgr qtvgf " pq''hcwnkpi 0'Qpn{ "7" qdugtxcvkqpu''\*205' +"tgr qtvgf "322' "qh''lqkpvu''hcwngf 0'K/'uj qwrf "dg" pqvgf "y cv' y gug''ugevkqpu''qpn{ "j cf "c''uo cm'pwo dgt "qh''lqkpvu''cpf "ctg" pqv'tgr tgugpvcvkxg" qh'c''uvcpf ctf 'ugevkqp0' Hqt ''y g''qdugtxcvkqpu''y ky 'hcwnkpi ''r tgugpv.''y g''xcuv'o clqtk{ "qh''y g''lqkpvu''y kj kp''y g''ugevkqp'y gtg" pqv''gzj kdkkpi 'hcwnkpi .''cu''uj qy p''kp''Hki wtg''D**B**20'Vj ku''kpf kecvgu''y cv''hcwnkpi ''f qgu''pqv''htgs wgpvn{ '' qeewt''cpf ''y j gp''kv'f qgu''kv'ku''pqv'r tgxcngpv''y tqwi j qwv'y g''ugevkqp0'Vj gug''tgpf u''ctg''eqpukuvgpv'y kj '' y qug'kf gpvkhkgf ''y j gp''cpcn{ | kpi ''y g''f cv''r tqxkf gf ''d{ ''RgppF QV0



Hk wt g'DB20F kut kdwkap 'ah'r gt egpv'lakpu'l cwngf 'lat 'cnilugevkapu'y kj 'o gcuwt cdng'' hcwnkpi 't grat vgf 'kp'ij g'Vwt pr kng'f cwdcug

Qdugtxcvkqpu" y kj " o gcuwtcdrg" hcwnkpi " y gtg" kuqncvgf " vq" kf gpvkh{ " vj g" r ctco gvgtu" y j kej " eqpvtkdwg"vq" y g"f gxgnqr o gpv"qh"hcwnkpi "cu"y cu"f qpg"gctrkgt"kp" y g"RgppF QV"f cvc"cpcn{ uku0'C" eqttgrcvkqp" o cvtkz" y cu"i gpgtcvgf."cu" uj qy p"kp"Hki wtg"D0830'Eqpuvtwevkqp" { gct."tqcf y c {."cpf " ugcncpv'v{r g"cm'j cf "my "eqttgrcvkqp"vq"r gtegpv'lqkpvu"hcwngf."y j kej "ku"eqpukuvgpv'y kj "y g"tguwnu" htqo "yj g"RgppF QV"f cvc"cpcn{ uku0



Hki wtg'D030Eqtt grcvkqp'o cvt kz 'lqt 'vj g'373'ugevkqpu'y kj 'o gcuwt cdrg'h cwnkpi . 'y kj 'r gt egpv' lqkpu'h cwnxgf ''qwrkpgf 'kp't gf

K/y cu'pqygf ''y cv'y g''y tguj qrf ''qh'2047 'kp''hqt 'hcwnkpi ''y d'g'tgr qtygf 'ku'j ki j . ''gur gekcm{ '' eqpukf gtkpi ''lqkpwi'y kj ''i tgcygt 'y cp''2037 'kp''qh'hcwnkpi ''ctg''eqpukf gtgf ''õr qqtö''d{ ''RgppF QV'' uvcpf ctf u'']69\_0Dgecwug''qh'y ku'j ki j ''y tguj qrf 'hqt'hcwnkpi 'kp''y g''f kutguu''uvtxg{ .''y g''f cvcugv'o c{ '' ki pqtg''c''uki pkhecpv'pwo dgt''qh'dqyj ''RgppF QV''cpf ''Vwtpr kng''ugevkqpu'y kj ''o gcuwtcdng'hcwnkpi 0' Vj gtghqtg.''o qtg''f cvc'ku'tgs wktgf 'kp''qtf gt''q'kf gpvkh{ ''y g''ghbgev'qh''ng{ ''r cxgo gpv'hgcwtgu''qp''lqkpv'' ugcnpv'r gthqto cpeg''cpf 'hcwnkpi 'f gxgnqr o gpv'kp''Rgppu{ nxcpkc0

# 505'Eqpenvelop

Vy q'f cvcdcugu'r tqxkf gf 'd{ 'RgppF QV'cpf 'ý g''Vwtpr kng'y gtg''cpcn{| gf ''q''gxcnxcvg''y g''ghlgev'' qh'f guki p'r ctco gvgtu.''{gctu'lp'ugtxleg.''cpf ''eqpuvtwevkqp''{gct''qp''ng{ ''eqpetgvg''r cxgo gpv'f kntguugu'' cuuqekcvgf ''y ky ''lqkpv'ugcncpv'r gthqto cpeg0'Vj g''r wtr qug''qh'y ku''cpcn{uku'y cu''q''kf gpvkh{ ''y g'' r ctco gvgtu''y cv'eqpvtkdwg''q'f kntguugu'y cv'ecp''dg''cwtkdwgf ''q''ugcncpv'r gthqto cpeg0'Vj g'' RgppF QV'f cvcdcug''eqpukngf ''qh''3.854''qdugtxcvkqpu'hqt''c''qvcn'qh''9.22: ''ugevkqpu.''cpf ''y g'' Vwtpr kng'f cvcdcug''eqpukngf ''qh''3.854''qdugtxcvkqpu'hqt''3.854''ugevkqpu''ukpeg''qpn{ ''qpg''{gct''qh'' r gthqto cpeg'f cvc'y cu''cxckrcdng0'Vj g''hqmqy kpi ''eqpenvukqpu'y gtg''o cf g0

- " 9: ' 'qh'qdugtxcvkqpu'y kj kp''y g'RgppF QV'f cvcdcug''eqpvckpgf 'uqo g''gxgn'qh'eqpetgvg'' twvkpi 0
- Vj g'o clqtk{ ''qh''qdugtxcvkqpu'y kj 'i tgcvgt''y cp'72'r gtegpv'qh'y g''ugevkqp''gzj kdkkpi 'twxkpi '' f gxgrqr gf 'twxkpi 'y kj kp''rguu'y cp'32''{ gctu'kp''ugtxkeg0Eqpetgvg'r cxgo gpv'twxkpi 'ku''pqv'c'' f krvtguu''eqo o qpn{ ''qdugtxgf 'kp''Rgppu{ rxcpkc.''y j kej 'kpf kecvgu'y gug'tguwnu''ctg''cp'' cpqo cn{ ''cuuqekcvgf 'y kj 'y g''f cvc''eqmgevkqp0
- " 97; "qh'y g'34.569"gctn{ "ci g'\tcpuxgtug"|qkpv\'ur cnkpi "qdugtxcvkqpu'\80B' +"eqpvckpgf " i tgcvgt 'y cp'32' 'ur cnkpi "kp"y g'RgppF QV"f cvcdcug. "kpf kecvkpi "y cv'gctn{ "ci g''ur cnkpi "ku" pqv'c''uki pkhecpv\r tqdrgo 0
- <sup>~</sup>" Qh'y g'80B' "qh'gctn{ 'ci g'lqkpv'ur cmkpi 'qdugtxcvkqpu'kf gpvkhgf 'kp'y g'RgppF QV'f cvcugv." y g'o quv'uki pkhecpv'hcevqtu'y gtg'eqpuvtwevkqp''{gct"cpf 'ugcmpv'v{r g0'Vj g'j ki j guv' f gxgnqr o gpv'qh'gctn{ 'ur cmkpi 'qeewttgf 'kp'ugevkqpu'eqpuvtwevgf 'dgw ggp'4234'cpf '4242." y j kej 'kpf kecvgu'y cv'V{r g'Kkugcmpv'eqwrf 'dg'c'hcevqt"chbgevkpi 'r gthqto cpeg0
- "" 9; ' "qh"qdugtxcvkqpu'y ky kp''y g"Vwtpr kng'f cvcdcug'tgr qtvgf "322' "qh"lqkpvu'ur cngf ."cpf " 37' 'tgr qtvgf "2' "lqkpvu'ur cngf 0'Vj ku'ku"o quv'rkngn{ "f vg''vq "eqpuvt wevkqp"r tcevkegu"cpf "pqv" ugcncpv'r gthqto cpeg0
- <sup>~</sup>" 46' ''qh''qdugtxcvkqpu'y kj kp''y g'RgppF QV'f cvcugv'eqpukuvgf ''qh''ugevkqpu''gzj kdkkpi '' hvwnkpi 0J qy gxgt.'o quv'qdugtxcvkqpu''qpn{ 'j cf ''qpg''qt''y q''lqkpu'y kj kp''y g''ugevkqp''y cv'' y gtg'hvwngf 0Uko kretn{.''qpn{ '', ' ''qh''qdugtxcvkqpu''y kj kp''y g''Vwtpr kng''f cvcugv'tgr qtvgf '' o gcuwtcdng'hvwnkpi 0Vj g'o clqtkv{ ''qh'y gug''ugevkqpu''eqpukuvgf ''qh''qpn{ 'c'hgy ''lqkpu'' gzj kdkkpi 'hvwnkpi 0Vj gtghqtg.''lqkpv'hvwnkpi 'y cu''pqv'qdugtxgf ''q''dg'c''r tgxcngpv'f krvtguu'kp'' gkj gt'f cvcugv0
- Vj g'f cvcdcugu'f q'pqv'eqpvckp''y g'ngxgn'qh'ur gekhekv{ 'tgs wktgf 'vq'cf gs wcvgn{ "gxcnwcvg" hcwnkpi 'dgecwug''y g''y tguj qnf 'hqt'o gcuwtcdng'hcwnkpi 'ku'vqq''j ki j '\*2047'kp+0/Cu'c'tguwnx''kv''

y cu'pqv'hgcukdng'\q'o cng''eqpenxukqpu'tgi ctf kpi ''ugcncpv'r gthqto cpeg''dcugf ''uqngn{ ''qp''yj g'' cxckrcdng'hcwnkpi ''f cvc0

# Crrgpf kz'E0Gxcnwcvkqp'qh'tj g'Ht kevkqpcnEqghhelgpv'Wugf " hqt 'Lqkpv'Ugcncpv'T gugt xqkt 'F guki p

# 3''2'Kpvt qf wevkqp

Ky"c"uwf {"r gthqto gf "d{"y g"Hgf gtcn'J ki j y c{"Cf o kpkntckqp"\*HJ Y C+."y g"gthgekxgpguu"qh" lqkpv'ugcmpu"y cu"gxcnwcygf "qxgt"c"807/{gct"r gtkqf "]64\_0Vj ku'uwf {"y cu"r gthqto gf "kp"hqwt"f kthgtgpv" endo cvg"tgi kqpu"y kj "ygp"ugcmpv'o cvgtkcnu."gki j v'f kthgtgpv'tgugtxqktu"f guki pu."cpf "ugxgp"f kthgtgpv" r tgr ctcvkqp"vgej pks vgu0Vj g"uwf {"hqwpf "y cv'pkpg"qh"y g"83"f guki p"eqo dkpcvkqpu"j cf "qxgt": 2' gthgevkxgpguu"y kj "pq"uki pu"qh"hcknxtg"cv"y g"gpf "qh'y g"807/"{gct"r gtkqf 0'Kp"cf f kkqp."y ku"uwf {" r tgf kevgf "y cv'9"qh'y g"; "uweeguuhwi'ugcmpu"y qwrf "ncuv'nqpi gt "y cp"32"{gctu0'Y j kg"y ku"cpf "qy gt" uwf kgu"j cxg"uj qy p'y cv'i qqf "r gthqto cpeg"ecp"dg"cej kgxgf "htqo "y gug"ugcmpu"]64."54."53\_"qy gt" uwf kgu"j cxg"cnq"kf gpvkhgf "uki pkthecpv''ngxgnu"qh"r tgo cwttg"ugcmpv'hcknxtg"]44."45\_0'Rtgo cwtg" ugcmpv'hcknxtg"ku"cnq"htgs wgpvn{"tgr qtvgf "d{"ucvg"f gr ctvo gpvu"qh" tcpur qtvcvkqp0'C"pwo dgt"qh" r tgzkqwu'uwf kgu'j cxg"gxcnxcvgf "ugcmpv'r gthqto cpeg."dw'y g"hcevqtu'y j kej "eqpvtkdwg'vq"r tgo cwtg" ugcmpv'hcknxtg"ctg"pqv'y gm/gucdrkuj gf 0

Vj g"w q"r tko ct { "hcknwtg"o gej cpkuo u"hqt"ugcncpvu"ctg"cf j gukxg"cpf "eqj gukxg"hcknwtgu"]46\_0' Cf j gukxg"hcknwtg"qeewtu"y j gp"y g"dqpf "ku"nquv"dgw ggp"y g"lqkpv"ugcncpv"cpf "tgugtxqkt0'Cf j gukxg" hcknwtg"qeewtu"cu"c"tguwnv"qh"kpcf gs wcvg"eqpuvt wevkqp"r tcevkegu. "uwej "cu"pqv"cf gs wcvgn{ "engcpkpi "y g" tgugtxqkt"r tkqt "vq"r mego gpv."c"j ki j "eqpetgvg"o qkuwtg"eqpvgpv"cv"y g"vko g"qh"ugcnkpi ."qt"cp"ko r tqr gt" ugcncpv"vgo r gtcwxtg"f wtkpi "]6: ."52\_0'Eqj gukxg"hcknwtg"qeewtu"y kj kp"y g"ugcncpv"o cvgtkcn"y j gp"y g" uvtguu" qh" y g" ugcncpv" ku" o qtg" y cp" y g" cmqy cdng" uvtguu." y j kej "ecp" qeewt "cu" c" tguwnv" qh" my " vgo r gtcwxtgu"cv"y g"vko g"qh"ugcnkpi "cpf "ci kpi "qh"y g"ugcncpv"]45."46."57\_0

Dqý "cf j gukxg"cpf "eqj gukxg"hcknutgu"ecp"qeeut "cu"c"t guwn/qh"gzeguukxg"lqkpv'qr gpkpi u"f wtkpi " ý g"eqnf gt"o qpý u0K/j cu"dggp"eqpenuf gf 'htqo "c"r tkqt "uwuf { "ý cv'ý g"o czko wo "cmqy cdng"uutckp"kp" ý g"ugcmpv'uj qwf "pqv"gzeggf "42' "dwv'ý ku"ku"v{r kecm{ "f kevcyf"d{ "ý g"ugcmpv'o cvgtkch'wugf "]6: \_0' Vj g"tgugtxqkt"y kf ý .'y .'uj qwf "dg"ugngevgf "uwej "ý cv'ý g"uutckp"ý cv'f gxgnqr u"cv'ý g"o czko wo "lqkpv" qr gpkpi "ku'y kj kp"ý g"cmqy cdng"ho ko0'Uwuf kgu"j cxg"cnq"uj qy p"ý g"wug"qh"c"uwkcdng"uj cr g"hcevqt" \*UH+.'f ghkpgf "cu'ý g"tcvkq"qh'ý g"ugcmpv'f gr ý .'F .'vq"y kf ý .'y ."cpf "ku"pgeguuct { "vq"tgf weg"ý g"uutguu" kp"ý g"ugcmpv0I gpgtcm{.'ý g"UH'ku"tgeqo o gpf gf "vq"dg"4F <3y "hqt"ukrkeqpg"ugcmpvu"cpf "3F <3y "hqt" cur j cnv"ugcmpnu"]6: .''3; .''59\_0'Vq"gpuwtg"ý g"cmqy cdng"uutckp"etkkgtkc"ku"o gv.'ý g"o czko wo "co qwpv" ý g"lqkpv'y kn'qr gp"o wur'dg"ceewtcvgn{"guko cvgf 0

Ewttgpv'ugcrcpv'tgugtxqkt"f guki p"eqpukuvu"qh"guvcdrkuj kpi "y g"y kf y ."y ."qh"y g"tgugtxqkt"d{" f gvgto kpkpi "y g"o czko wo "lqkpv'qr gpkpi "y cv'y kn"qeewt"uvej "y cv'y g"cmqy cdrg"uvtckp"rko kv'y kn" pqv'dg"gzeggf gf 0'Qpeg"y g"tgugtxqkt"y kf y "ku"f gvgto kpgf ."y g"f gr y "ku"ugrgevgf "vq"gpuvtg"UH" tgs wktgo gpvu"ctg"o gv']5; \_0'Vq"r tgf kev'j qy "o vej "c"lqkpv'qr gpu."ewttgpv'f guki p"o gy qf qmi {" r tgf kew'ej cpi gu'kp"urcd"rgpi y 0'Vj g"ej cpi g"kp"urcd"rgpi y "ku"c'hvpevkqp"qh'y g"kkkcn'urcd"rgpi y ." ej cpi g"kp"vgo r gtcwtg."y g"eqghhkelgpv'qh'y gto cn'gzr cpukqp"\*EVG+:"ft{kpi "uj tkpnci g."cpf "y g" htkevkqpcn'eqghhkelgpv'\*E/xcnvg+0'Vj ku'ku'uj qy p"kp'Gs wcvkqp"3"]46\_0

gs (B)

Y j gtg.

ê N'? 'ej cpi g'kp'urcd''rgpi y .'kp

E"? "ht/evkqpcn'eqghhe/gpv'\*2087"hqt 'uvcd/rkt/gf="20"hqt"i tcpwrct"dcug="hqt"urcd"qp"uvdi tcfg+

```
N'? 'kpkkcn'urcd'ngpi ý .'kp
V'? '\go r gtcwtg''ej cpi g'*Vugv'ó''Vo kp+.''ÅH
Vugv'? 'r cxgo gpv'ugv'\go r gtcwtg.''ÅH
Vo kp'? 'o kpko wo '\go r gtcwtg''y g'r cxgo gpv'gzr gtkgpegu.''ÅH'
''? 'rcdqtcvqt{ ''eqghhekgpv'qh'y gto cn'gzr cpukqp'*EVG+.''32<sup>/8</sup>1ÅH''
<sub>EU</sub>''? 'rcdqtcvqt{ ''wnko cvg''f t{ kpi ''uj tkpnci g.''32<sup>/8</sup>
```

Vj g'wug''qh''y ku''gs wcwqpu''tgs wktgu''cp''ceewtcvg''ej ctcevgtk cwqp''qh''y g'hp/ukww'ft { kpi ''uj tkpmci g'' cpf ''EVG''uq''y cv''y g''ncdqtcvqt { ''xcnwgu''ecp''dg''eqttgevn{ ''cf lwuvgf ''y kj ''y g''htlewlqpcn''eqghhekgpv.''E0' Vj gug'' y tgg''r ctco gvgtu'' \*ft { kpi ''uj tkpmci g. ''EVG''cpf ''htlevlqpcn''eqghhekgpv+''ctg'' gcej ''f kuewuugf '' dgrqy 0

#### 4''@'Ft{kpi 'Uj tkpmci g

Ft{kpi 'uj tkpnei g''qh''y g'' cxgo gpv'ut wewtg''xctkgu'ygo r qtcm{ "cpf 'ku'uki pkhkecpu{ "chhgevgf "d{" mecvkqp'y ky kp''y g''urcd''cpf 'y g'o qkuwtg''eqpvgpv'qh'y g''eqpetgvg0Rtgxkqwu''tgugctej 'j cu'hqwpf 'y cv' qxgt''72' ''qh'y g''ft{kpi ''uj tkpnei g''y kn'f gxgnqr ''y ky kp''y g''htuv''ukz''o qpy u. "cpf ''ft{kpi ''uj tkpnei g'' y kn' uvcdktk g'' y ky kp'' y g''htuv''hxg'' {gctu''hqt''r cxgo gpv''ugevkqpu''eqput wevgf ''kp''O kppguqvc''cpf '' Rgppu{mcpkc'']6; .''72\_0'Vj g''ft{kpi ''uj tkpnei g''cr r tqzko cvgn{ ''7"{gctu''chgt''r cxkpi ''y cu''tgr qtvgf ''q'' dg''dgw ggp''5; ''cpf ''599'' ''hqt''ugevkqpu''kp''O kppguqvc'']72\_0'Uko krct ''tguwnu''y gtg''qdvckpgf ''htqo ''c'' tqcf y c{ ''kp''Rgppu{mcpkc''y j gtg''y g''ft{kpi ''uj tkpnei g''xctkgf ''y tqwi j qw''y g''r cxgo gpv''cpf ''cpi gf '' dgw ggp''72'\q''422'' ''chygt''cdqwi'372'fc{u'']6; \_0

Vj g"ft{kpi "uj tkpmci g"qh"ý gug"r cxgo gpv"utvewtgu"ctg"uki pkhecpvi{ "rguu"ý cp"ý g"wnko cvg" ft{kpi "uj tkpmci g"eqo o qpn{"o gcuvtgf "hqt"ý g"eqpetgvg"o kzwtg"y j gp"vgukpi "kp"ceeqtf cpeg"y kj " CUVO "E3790'Vj ku"ku "kp"r ctv."f vg"vq"ý g"f khegtgpeg"kp"ý g"uccpf ctf "ewtkpi "eqpf kkqpu"vugf "kp"ý g" rcd"cpf "ý g" co dkgpv"eqpf kkqpu"r tgugpv"kp"ý g"hkgtf "cpf "tguvckpv"eqpf kkqpu0'Wpf gt "E379."ý g" ur geko gpu"ctg"o ckpvckpgf "cv"c"tgrcvkzg"j vo kf kk{ "\*TJ +"qh"72' "]73\_0J qy gxgt."hqt"r cxgo gpvu."ý g" TJ 'j cu"dggp"o gcuvtgf "cv": 2' "vq": 7' "dgrqy "ý g"wr r gt"4"kp"qh"ý g"uccd"cpf "322' "cv"ý g"dqvqo "qh" ý g"uccd"]6; ."74."75\_0'Cu"c"tguvx."ý g"rcdqtcvqt {"eqpf kkqpu"f q"pqv"tgr nkecvg"ý g"kp/ukw"o qkuvtg" uvcvg"qh"ý g"r cxgo gpv"utvewtg0'Cff kkqpcm{."ý g"eqpuvcpv"j vo kf kk{ "qh"ý g"rcdqtcvqt {"fqgu"pqv" tgr nkecvg"j vo kf kk{ "hnvewcvkqpu." y j kej "qeewt"kp"r cxgo gpv"utvewtg0'Cnj qwi j "ý g"TJ "cv"ý g" uvthceg"ecp"f getgcug"vq"pgct"72' ."r tgekr kcvkqp"tgkpvtqf wegu"o qkuvtg" vg "qi y g"wr r gt"r qtvkqp"qh"ý g" urcd."cpf "52' "qh'ý g"ft {kpi 'uj tkpnci g"ku"tgeqxgtcdrg"hqt"c"v{r kecn"r cxkpi "o kz wtg"f wg"vq"tgy gwkpi " ]76\_0

Uqo g'uwf kgu'j cxg''gxcnxcvgf 'vj g''ghhgev'qh'tckphcm'qp''tgeqxgtcdrg'f t { kpi 'vj tkpnri g0'Qpg''uwf { "eqpenyf gf 'vj cv'f c { u'y kj 'tckp''gxgpu'j gcxkn{ 'kphrwgpegf 'vj g''f t { kpi 'vj tkpnri g''tgeqxgtgf ''cv'yj g''qr " qh''yj g''r cxgo gpv''y j krg''yj g''f t { kpi ''uj tkpnri g''cv''yj g''dqwqo ''qh''y g''r cxgo gpv'y cu''wpchhgevgf '']77\_0' Hqt''gzco r rg.''c'6/kp''cpf '8/kp''dqpf gf ''eqpetgvg''qxgtrr{ ''qh''cur j cn/kp''O kppguqvc''gzj kdkgf ''c'f getgcug'' kp''f t { kpi ''uj tkpnri g''qh''72''cpf ''97'' ...''tgur gevkxgn{ ..'qp''f c { u'chygt ''kv''tckpgf 0'Kv'y cu''cnuq ''eqpenyf gf '' y cv'tckp''gxgpuu'y kj ''nyy ''kpvgpukv{ ..'dw'j ki j ''f wtcvkqp''y qwrf ''kpetgcug''y g''o qkrwtg''eqpvgpv'o qtg''uq'' y cp''f c { u''y kj ''uj qtv.''j ki j ''kpvgpukv{ ''tckp''ceewo wrcvkqpu.''y wu''tguwnkpi ''kp''c''j ki j gt''co qwpv''qh'' tgeqxgtgf ''f t { kpi ''uj tkpnri g'']77\_0

Ncum{.'k/j cu'dggp"qdugtxgf ''y cv'f t{kpi ''uj tkpmci g'xctkgu''y tqwi j qwi'y g'uncd'cu'c'hwpevkqp"qh'' tguvtckpv'eqpf kkqpu'qt'r tqzko kk{ ''vq"lqkpvu'cpf "etcemu0'Vj g'f t{kpi ''uj tkpmci g''y cv'f gxgmr u'kp''c''uncd'' ku'tguvtckpgf ''f wg'\q''y g'htkevkqp"dgwy ggp''y g''dqwqo ''qh''y g''uncd''cpf ''y g''dcug''cpf ''y g''tguvtckpv'ecwugf '' d{''f qy gn'cpf ''vg''dctu.''y j kej ''hwty gt''tgf wegu''f t{kpi ''uj tkpmci g''o gcuwtgf ''kp''y g''uncd''cu''eqo r ctgf '' vq"y g"htgg"uj tkpmci g"o gcuwtgf "kp"ceeqtf cpeg"y kj "CUVO "E3790'Ft {kpi "uj tkpmci g"y cu"cnq" qdugtxgf "vq"dg"j ki j gt"cv'y g"lqkpw"y j gp"eqo r ctgf "cv'y g"o kf/r cpgn'hqt"kf gpvkecn'f gr yi u"kp"y g"urcd" ]6; \_0'K'y cu"j {r qy guk gf "y cv'y g"kpetgcug"kp"ft {kpi "uj tkpmci g"y cu"f wg"vq"y g"hnxewcvkqp"kp" ucwtcvkqp"ngxgn'cpf "gzr quwtg"vq"y g"cvo qur j gtg"cv'y g"lqkpv0'Vj ku"tgpf "y cu"ci ckp"qdugtxgf "y j gp" eqo r ctkpi "y g"vkgf "egpvgtnkpg"mpi kwf kpcn'lqkpv'vq"cm"qy gt"lqkpv0'Vj g"kg"dctu"r tgxgpv"y g"rcpgu" htqo "ugr ctcvkpi "cpf "gzr qukpi "y g"hceg"qh'y g"egpvgtnkpg"lqkpv'vq"y g"cvo qur j gtg0'Vj ku"tgf wegf "y g" nuu"qh'y cvgt"cv'y g"egpvgtnkpg"lqkpv."y gtghqtg."tgf wegf "y g"ft {kpi "uj tkpmci g"]6; ."77\_0

### 408''EqgHHelgpv'qh'Vj gto cnGzrcpulqp

Vq"o gcuwtg"'y g'EVG'hqt "eqpetgvg. 'hwm{ "ucwtcvgf "rcd"ur geko gpu"ctg"uwdlgevgf "vq"vgo r gtcwtg" ej cpi gu."cpf "y g"eqttgur qpf kpi "ej cpi g"kp"rgpi y "ku"o gcuwtgf "kp"ceeqtf cpeg"y kj 'CCUJ VQ"V'558/ 2; "]78\_0'Y j krg"y ku"cr r tqcej "ecr wtgu"y g"ghbgev'qh"f khbgtgpv'ci i tgi cvg"v{r gu"qp"EVG."y ku"vguv'f qgu" pqv'tgr rkecvg"y g"kp/ukwl'eqpf kkqpu"qh"c"r cxgo gpv"uvt wewtg"kp" y q"ng{ "cur geu0'Hktuv."y g"r cxgo gpv" uvt wewtg" ku" pqv" cny c{u" hwm{ "ucwtcvgf 0' Ugeqpf n{ ." wptguvtckpgf "ur geko gpu" ctg" vguvgf "kp" y g" rcdqtcvqt{ ."y j gtgcu"urcdu"kp"c"r cxgo gpv"uvt wewtg"ctg"tguvtckpgf "htqo "o qxgo gpv" fwg"vq"htkevkqp" y kj "y g"dcug"cpf "kg"dctu0

Ugxgtcn'kpxguvki cvqtu''j cxg''uwwf kgf ''y g''ghhgevu''qh''eqpetgyg''o qkuvwtg''eqpygpv''qp''E VG0'Hkuv.''kv'' j cu'dggp''uj qy p''yj cv'hwm{ 'ucwtcvgf ''eqpetgvg''ur geko gpu'j cxg''c''nqy gt 'EVG''yj cp''r ctvkcm{ ''ucwtcvgf '' vguv'ur gelo gpu0'kp'hcev.''y g'EVG''qh'c'r ctvkcm{ 'ucwtcvgf "eqpetgvg"j cu'dggp''uj qy p''vq'kpetgcug''d{ ''cu'' o wej "cu"72' "eqo r ctgf "vq"c"hwm{ "ucwtcvgf "rcd"ur geko gp"]79\_0'Rcuv'uwf kgu"y gtg"r gthqto gf "vq" s wcpvkh{ "y g"ghhgev'qh'eqpetgvg'TJ "qp"y g'EVG00 g{ gtu"eqpenvf gf "y cv'y g'o czko wo 'EVG'qeewttgf " y j gp"y g"eqpetgyg" cu'c'TJ "qh'92' "]7: \_0C"uko krct"uwuf { "r gthqto gf "d { \ qmkpi gt"gv'cn0hqwpf "y g" EVG"ku"j ki j guv"y j gp"y g"eqpetgyg"ku"cv"crrtqzko cvgn{"c": 7' "TJ 0'Cu"rtgxkqwun{"f guetkdgf."y g" wrrgt"rqtvkqp"qh"yg"urcd"ku"eqo o qpn{"rctvkcm{"ucwtcvgf0'Vjgtghqtg."fgvgto kpkpi"rcxgogpv" gzr cpukqp"cpf "eqpvtcevkqp"y kj "ej cpi gu"kp"vgo r gtcwtg"dcugf "qp"vj g"EVG"o gcuwtgf "kp"ceeqtf cpeg" y kj "CCUJ VQ"V"558/2; "ecp"tguwn/"kp"c"ftcuvke"wpfgtguvko cvkqp0'Oqtgqxgt." y g"EVG"qh" y g" eqpetgyg"ku"ny guv"y j gp"y g"TJ "ku"pgct"322' "qt"dgnqy "72' ."cpf "uo cm"ej cpi gu"kp"TJ "j cxg" uki pkhecpv'ghgevu'qp"y g'EVG'y j gp"y g'TJ "ku"i tgcvgt"y cp'72' "]7; \_0'Cu'r tgxkqwun{"uvcvgf."y g" o qkuwtg"kp"c"r cxgo gpv'uvtwewtg"ku"pqv'wpklqto "cpf "vj gtghqtg"vj g"EVG"ku"pqv'eqpuvcpv'vj tqwi j qwi" y g'r cxgo gpv'f gr y "cu'ku'ewttgpvn{ "cuuwo gf "kp"r cxgo gpv'f guki p0'Vj ku'kmwuvtcvgu'y cv'c"ukpi ng "EVG" xcnwg"f gvgto kpgf "vj tqwi j "mcdqtcvqt { "vguvkpi "qp"c"hwm { "ucwtcvgf "ur geko gp"f qgu"pqv"ceewtcvgn { " f gr kev'y g"kp/ukw/EVG"qh'c"urcd0'Vj ku"cnuq"j cu"tco khkecvkqpu"qp"y g"guvko cvgf "lqkpv'qr gpkpi "cpf" emukpi." cpf "j gpeg" ugcmpv'r gthqto cpeg." ukpeg" yj g" mdqtcvqt { "f gvgto kpgf " EVG" ku" c" etkkecn" r ctco gygt kp'lqkpv'f guki p0

Cf f kkqpcm{."y g"f gi tgg"qh"ucwtcvkqp"xctkgu"ur cvkcm{ "y tqwi j qw"y g"r cxgo gpv"f wg"vq"y g" r tgugpeg"qh"lqkpu"cpf "etcemu."y j kej "cmqy "o qkuwtg"vq"kphkntcvg"y g"r cxgo gpv"utvewtg0'V g" eqpetgvg"kp"tgi kqpu"enqugt "vq"lqkpu"cpf "etcemu"y kni'dg"ucwtcvgf "o qtg"htgs wgpvn{"eqo r ctgf "vq"y g" eqpetgvg"cv'o kf/urcd"qt"qy gt"tgi kqpu"cy c{ "htqo "r qkpu"qh"gpvt { "]6; \_0Vj ku"kpf kecvgu"y cv'y g"EVG" y kni'pqv'dg"eqpuvcpv'y tqwi j qw'y g"f gr y "qt"ngpi y "qh'y g"urcd0'Vj g"ghtgew"qh'y g"xctkcdktk{ "kp"y g" EVG"qp"y g"f gxgnqr o gpv'qh"ewthpi "uvtguugu"cu"y gm'cu"qp"y g"qr gpkpi "cpf "enqukpi "qh'y g"lqkpw"ku" pqv'ewttgpvn{"ceeqwpvgf 'hqt"kp"y g"f guk p"r tqeguu0

# 404''Ht levkqpcnEqghtelgpv

Nkwg"tgugctej "j cu"dggp"eqpf wevgf "vq"xcnkf cvg" vj g"htkevkqpcn'eqghhkekgpv."E0'Vj g"wug"qh" vj g"

htlevkqpcn"eqghhkekgpv"kp"Gs wcvkqp"3"y cu"kpvtqf wegf "d{ "F ctvgt"cpf "Dctgpdgti "kp"3; 99"]82\_0'Vj g" xcnwgu"eqo o qpn{ "wugf "hqt"y g"htlevkqpcn"eqghhkekgpv"ku"2087"hqt"c"urcd"qp"c"uvcdkkt gf "dcug. "20 2"hqt" c"urcd"qp"c"i tcpwrct"dcug"cpf "3"hqt"c"urcd"eqpuvtwevgf "f ktgevn{ "qp"y g"uvdi tcf g"]82\_0'J qy gxgt." y gtg"ctg"c"pwo dgt"qh"hto kscvkqpu"cuuqekcvgf "y kj "y g"o gy qf u'wugf "vq"guvcdrkuj "y gug"eqghhkekgpvu0' Hktuv."y g"htkevkqpcn"eqghhkekgpvu"y gtg"guvcdrkuj gf "dcugf "qp"c"hto kgf "co qwpv"qh"hkgrf "f cvc"htqo "hqw" f kthgtgpv"uwf kgu"eqpf wevgf "kp"y g"uvcyu"qh"Wcj ."Hnqtkf c.'O kej ki cp."cpf "Ecrkhqtpkc0'Vj g"f cvc"y cu" eqmgevgf "d{ "o cpwcm{ "o gcuwtkpi "y g"lqkpv"y kf y u"cpf "co dkgpv" vgo r gtcwtgu"cpf "eqpukuvgf "qh" no kgf "qdugtxcvkqpu0'Vj gtg"y cu"cnq"c"rcti g"f gi tgg"qh'xctkcdkrkv{ "kp"y g"ej cpi gu"kp"lqkpv"y kf y u"ctg" qpn{ "o gcuwtgf "qpeg."y kj qw"cf f kkqpcn"o gcuwtgo gpw"hqt"guvcdrkuj kpi "c"tgpf 0F wg"vq"y g"hto kxgf " f cvc"wugf "vq"guvcdrkuj "y g"htevkqp"eqghhkekgpv"wugf "kp"y g"f guki p"gs wcvkqp."y ku"uj qwf "dg"tgxkukgf 0

### 5''@'Ueqrg

Vj ku"uwf {"wugu"utckp"f cvc"eqmgevgf "qxgt"c"38/{gct"r gtkqf "htqo "cp"kputwo gpvgf "IRER"vq" s wcpvkh{ 'ý g'vgo r qtcri'cpf 'ur cvkcri/xctkcvkqp"ý cv'qeewt'y kj 'tgur gev'vq"f t{kpi 'uj tkpmci g"cpf 'EVG"kp" ý g" hlgrf 0' Vj g" f khlgtgpeg" dgw ggp" ý g" wnko cvg" f t{kpi "uj tkpmci g" cpf "EVG" o gcuwtgf "kp" ý g" rcdqtcvqt { "wukpi "ur geko gpu"ecuv'f wtkpi "r cxkpi "cpf "y g"kp/ukwi'f t{kpi "uj tkpmci g" cpf "EVG"qh"y g" r cxgo gpv'f wtkpi "ý g"38/{gct"ugtxkeg"rkhg"ctg"kpxguvki cvgf 0'Vj ku"kpxguvki cvkqp"ku"r gthqto gf "hqt" r cxgo gpv'uvtwewtgu"y kj "w q"f khlgtgpv'tguvtckpv'eqpf kkqpu."cu"f guetkdgf "dgmy 0'Kp"cf f kkqp"vq" kpxguvki cvkpi "ý g"nqpi /vgto "f t{kpi "uj tkpmci g" cpf "EVG."y g"hlgrf "guvko cvgf "cpf "r tgf kevgf "lqkpv' qr gpkpi "ctg" f gvgto kpgf "cpf "wugf "vq" gxcnvcvg" ý g"htkevkqpcn'eqghhkekgpv'wugf "kp"ugcncpv'hqt" ý g" tguvtckpgf 'r cxgo gpv'ugevkqp0

### 508''Kpuvt wo gpvgf 'Ugevkqp

Vj g'r cxgo gpv'ugevlqp''wugf 'hqt''y ku'uwf { 'ku'c'hqwt/mpg'f kxlf gf ''wtdcp''o clqt''ctvgtkcn'j ki j y c{ " y cv'ku'r ctv'qh''y g''Wpkxgtuk/ ''qh'Rkwudwti j ''Uo ctv'Rcxgo gpv'Rtqlgev'mecvgf 'kp''O wtt { uxkmg. 'RC. ''qp'' UT/440'Vj g'r cxgo gpv'ku'c''34/kp''y ken'IRER''y kj ''c''6/kp''cur j cn/vtgcvgf ''r gto gcdm''dcug''cpf ''c''7/kp'' f gpug''i tcf gf ''uwddcug0'Vj g''r cxgo gpv''eqpukuwi''qh''34/hv''y kf g''mcpgu''y kj ''vcpuxgtug'''lqkpwi''ur cegf '' gxgt { ''37''hv0'C ''eqpetgvg''ewtd''cpf ''i wwgt''twpu''cf lcegpv'vq''y g''qwukf g''ncpg''y j gtg''y g''hputwo gpvgf '' r cpgni''ctg''necvgf 0'Uqo g''qh'y g''urcdu''eqpvckp''30'/kp''gr qz { ''eqcvgf ''f qy gni''cpf ''P q07''gr qz { ''eqcvgf '' vg''dctu''ur cegf ''gxgt { ''40'''hv''cmpi ''y g''egpvgtnkpg''cpf ''ncpgluj qwf gt''mpi kwf kpcn'l'qkpu0'Vj gug''y km' dg'tghgttgf ''q''cu'y g''ōtguvtchpgf ö''urcdu0'Vj g''ōwptguvtchpgf ö''urcdu''f q''pqv'j cxg''f qy gmi'qt''kg''dctu0

# 504''Ugpuqt 'Nc{ qwv

Egmi'5"cpf '6'htqo ''y g''Uo ctv'Rcxgo gpv'Rtqlgev'ctg''wugf ''hqt''y ku''uwf {0'Vj g''urcdu''kp''Egmi'5" cpf '6''ctg''wptgutckpgf ''cpf ''tgutckpgf .'tgur gevkxgn{.''cpf ''kputwo gpvgf ''y ky ''uvcvke''uvtckp'i ci gu0'Vj g'' ugpuqtu''qh''kpvgtguv'hqt''y ku''uwf { ''ctg''I gqmqp'O qf gn'6422'xkdtcvkpi ''y ktg''uvckp'i ci gu'\*XY +''kpuvcmgf '' 3"kp''f qy p''htqo ''y g''vqr ''cpf ''3"kp''wr ''htqo ''y g''dqvqo ''qh''y g''urcd''r tkqt''q''r cxkpi 0'Vj gug''ugpuqtu'' kpenxf g'' pqv'' qpn{'' y g'' xkdtcvkpi ''y ktg'' cpf ''õr nxengtö'' j qvukpi '' hqt'' f gvgto kpkpi '' uvtckp'' dw'' cmq'' y gto kuvqtu''hqt''r tqxkf kpi ''c''go r gtcwtg''cv''y cv''necvkqp0'Vj g''kpuvcmgf ''uvtckp''i ci gu''ugpugtg ''hqt'' kpenxkqp''kp''y ku''cpcn{uku''ctg''qtkgpvgf ''kp''y g''npi kwf kpcn'f ktgevkqp''cpf ''mecvgf ''cv''o kf /'urcd''cpf ''cv'' y g"eqtpgtu"qh'y g"urcd0'Vj g"ugpuqtu"ctg"kpuvcngf "kp"y g"qwukf g"rcpg."y j kej "hgu"dgw ggp"y g"34/hv" kpukf g"rcpg"cpf "y g"4/hv"ewtd"cpf "i wwgt0

# 505" Fcvc'Eqngevkqp

Ugpuqt 'tgcf kpi u'j cxg''dggp''eqngevgf ''gxgt { ''37''o kpwgu''dgi kppkpi ''lww'r tkqt ''vq'r cxkpi 0'Vj gtg'' ctg''uqo g'i cr u''y cv'gzkw''kp''y g''uvtchp''f cvc0'Uvtchp''f cvc''ku''pqv''cxckrcdng''hqt ''Egm'5''hqt''ukz''o qpyj u'' dgw ggp''Cr tkn'422: "cpf ''O ctej ''422; 0'Uvtchp''f cvc''ku''pqv''cxckrcdng''hqt ''Egm'6''hqt''hkxg''o qpyj u''kp 4228. ''hqt ''y tgg''o qpyj u''kp''4234''cpf ''qpg''o qpyj ''kp''42350'Dqyj ''egmu''ctg''o kuukpi ''f cvc''htqo ''o kf/ F gego dgt ''422; ''vq''Cr tkn'42330'Cnuq. ''uqo g''qh'yj g''ugpuqtu''pq''nqpi gt ''r tqxkf gf ''xcnkf ''tgcf kpi u''chygt'' 4234''cpf ''y gtg''cngp''qhhrkpg0Qh'yj g''46''ugpuqtu''wgf ''kp''yj ku''uwf {.'9''ugpuqtu'y gtg''cngp''qhhrkpg0

# 6" @'O gyj qf qnqi {

Dqyj "yj g"o gej cpkecn'uvtckp"cpf "yj g"vqvcn'uvtckp"ctg"kpxguvki cvgf 0'Vj g"vqvcn'uvtckp"ku'yj g"uvtckp" yj cv'yj g"eqpetgvg'r cxgo gpv'y km'gzr gtkgpeg'f vg'vq"ej cpi gu'kp''yj g''yj gto cn'cpf "o qkuvvtg"eqpf kkqpu0' Vj g"o gej cpkecn'uvtckp"ku'yj g"vqvcn'uvtckp"y kyj "yj g''yj gto cn'uvtckp"tgo qxgf."yj kej "ku'wugf "vq"kuqmvg" uvtckp"f vg"vq"ft { kpi "uj tkpmci g0'Vj g"vqvcn'cpf "o gej cpkecn'uvtckp"y cu"ecnewrcvgf "hqt"gcej "ugpuqt" tgcf kpi "wukpi "Gs wcvkqp"4"cpf "5."tgur gevksgn{"]72\_0'Vq"ceeqo r nkuj "yj ku."yj g"ncd"o gcuvtgf "EVG"qh" y g"eqpetgvg."cmpi "y kyj "yj g''o cn'uvtckp0Vj g"rcdqtcvqt { "o gcuvtgf "EVG"qh'y g"eqpetgvg'ku'7093"

lÅHO'Vj g''nqecvkqp''qh'gcej ''ugpuqt''kpenwf gf ''kp''yj ku''cpcn{ uku''ku''r tqxkf gf ''kp''Vcdng''E0'cpf ''f gr kevgf '' kp''Hki wtg''E080'Vj g''o gej cpkecn'uvtckp''y cu''yj gp''r mwgf ''qxgt''yj g''hkbg''qh''yj g''r cxgo gpv''vq''uwwf { ''yj g'' gctn{ ''cpf ''nqpi /vgto ''uvtckp''vtgpf u''qh''yj g''r cxgo gpv0

tot "?"	* 3"/"	2+"- "***	3"/"	$C_2+"_t$	"	``+"		`04
mec	?" *	3" /"	2 <sup>+"-</sup> "***	G"/"r	£₽"e	''*` ''/'r	++"	`05
Yjgtg<								
tot``"? "vqvc	n'utckp."							
m.c "?"o	gej cpkeci	lutckp."						
2"? "uvtck	p"cv"y g"\k	o g"y g"eq	pet gvg"	ugvu."				
3"? "uvtcl	p"cv"vko g"	3."		-				
ي. ?''? ''vgo ۱	gtcwtg"c	v"yjg"\kog	''y g''eqp	oetgvg"ug	yu."ÅH			
3"? "vgo 1	gtcwtg"c	v"vkog"	3."ÅH					
$C^{,,t}$ "eqght	lekgpv'qh'y	gto cn'gz	rcpukqr	o"qh'y g"i	uvggn'y M	. '8099 1	lÅН	0

C ?? "eqghhkekgpv'qh'y gto cn'gzr cpukqp"qh'eqpetgyg"o gcuwtgf "kp"ncd. "7093" 1ÅH

Slab A	Slab 4	B ⊕	6-€ Slab C
		.L 3	
Slab Z	Slab A	Slab B	Slab C
		±10	<u>_</u> 11

= Static Strain Gages (VW)

Hki wtg'EBOUT/44' lac vke 'xkdt cvkpi 'y ktg' lat ckp'i cwi g'hqecvkqpu

Egm	Uncd	Nqecvkqp	Nqecvkqp	F gr yj	Ugpuqt 'KF	
	27 - P	2	010/	Vqr	5C/OR/V	
	0	3	Okt/r cpgn	Dqwqo	5C/OR/D	
	Ľ	Α	E sta st "Non all E surf st	Vqr	5C/EU/V	
		4	Eqtpgt Nopgioj dwn gt	Dqwqo	5C/EU/D	
5"		5	Eqtpgt "Ncpg1Uj qwrf gt	Dqwqo	5D/EU/D	
*Wptgutckpgf+	р	6	Olf/rongn	Vqr	5D/O R/V	
		0	O N / I Cpgn	Dqwqo	5D/O R/D	
		7	Eqtpgt 'Egpvgtnkpg	Vqr	5D/EE/V	
	F	8	Eatpat "Eappatidog	Vqr	5E/EE/V	
	Б	0	Eqtpgi Egpvginpg	Dqwqo	5E/EE/D	
	С				Vqr	6C/EE/V
		9	Eqtpgt'Egpvgtnkpg	5"kp"htqo "vqr	6C/EE/O	
				Dqwqo	6C/EE/D	
			O lf /r cnon	Vqr	6C/OR/V	
		. On / Tepgn		Dqwqo	6C/OR/D	
				Vqr	6D/EU/V	
6"		;	Eqtpgt'Ncpg1Uj qwrf gt	5"kp"htqo "vqr	6D/EU/O	
*Tguxtckpgf+	D			Dqwqo	6D/EU/D	
		22	Olf/range	Vqr	6D/O R/V	
		32	O M / I Cpgi	Dqwqo	6D/O R/D	
	· · · · · · · ·	33	Eatnot "Nonal Faurf at	Vqr	6E/EU/V	
	F	55	Eqipgi Nepgioj qwii gi	Dqwqo	6E/EU/D	
	Б	34	Olf/range	Vqr	6E/OR/V	
		54	U M / I Cpgli	Dqwqo	6E/OR/D	

Vcdig'EBONkw'qh'xkdt cvkpi 'y ktg'iat ckp'i ci gu'kpenwf gf 'kp'ij ku'iawf {

### 608''Fcvc'cpcn(uku

Ky 'ý ku'uwf {.'ý g"ghtgewi'qh'f t {kpi 'új tkpnæi g.'vgo r gtæwtg"xætkevkqp."cpf "r cxgo gpv'uæwtækqp" etg'uwf kgf 0Hkuw"c"f kut guu'uwtxg{ 'y cu'r gthqto gf 'vq"kf gpvkh{ 'hævqtu'ý ev'o ki j v'kphnvgpeg"ý g'utækp" tgef kpi u. 'uwej ''cu'lqkpv'eqpf kkqpu. 'ý g''r tgugpeg"qh'o evgtken'tgrævgf "f kut guu. 'ur emkpi .''etcenkpi .''gve0' Vj gp.''utækp''f eve"ku''wugf ''vq''f gvgto kpg"ý g"o gej epkech'utækp"qxgt 'vko g.''y j kej "ku'c"hwpevkqp"qh'y g" ft {kpi "uj tkpmei g0'P gzv.''ý g"utækp"f eve"ku''wugf ''vq" gæenævg" ý g" ghtgev''qh''ugeuqpen''vgo r gtæwtg" xætkevkqp"qp"utækp''tgur qpug0'Vj ku''epen{uku''y cu''wugf ''vq''i gpgtævg''ý g''o qpý n{ ''utækp''tgur qpug"qh'y g" r cxgo gpv'f wg''vq''y gto en''ej epi gu''hqt"f khgtgpv'r exgo gpv''meævkqpu.''uq''y g"ghtgevu''qp"tgutækpv'' eqpf kkqp.''vgo r gtæwtg.''co dkgpv'TJ .''cpf ''y g''eo qwpv'epf ''htgs wgpe{ ''qh''tækphem'eep''dg''gæenævegf 0'' Hkpem{.''y g''hgnf "guvko evgf ''epf ''r tgf kevgf ''ej epi g''kp''uæd''ngpi yi ''etg'f gvgto kpgf ''htqo ''y g''ej epi g''kp'' o czko wo "cpf ''o kpko wo ''utækp''en græenæveg''y g''hævkgnen''eqhkekgpv'kp''gs wevkqp''30

### 6000"F knvt guu'Uwt xg{

C"r cxgo gpv'f kntguu''uvtxg{ "y cu''r gthqto gf "cv'32<22"CO "qp"Lwpg"39."42430'Vj g"co dkgpv' vgo r gtcwtg'y cu''cdqw'92ÅHDVj g'r wtr qug"qh'y g'f kntguu''uvtxg{ "y cu''q'f gvgto kpg'kh'y gtg''y gtg''cp{" kphnwgpekpi "hcevqtu" y cv''uj qwrf "dg"eqpukf gtgf "y j gp"cpcn{| kpi "y g"uvtckp"f cvc0'C"f tcy kpi "qh''y g" f kntguu''uvtxg{ 'ku''uj qy p'kp''Hki wtg''E040Ky'y cu''qdugtxgf ''y cv'y g''qxgtcm'eqpf kkqp"qh''y g'' cxgo gpv' y cu"i qqf."y ky "pq"tcpuxgtug"etcemu."uki pu"qh"CUT."qt"j ki j "ugxgtk{"ur cmkpi 0'Qpg"eqtpgt"dtgcm" y cu"qdugtxgf "kp"y g"kpukf g"ncpg."cmpi 'y g"egpvgtnkpg"mpi kwf kpcn"lqkpv'cpf "cf lcegpv'vq"Egm5"Urcd" C"cv'Lqkpv'40



Hki wtg'E040F kut guu'lust xg{ 'ht qo 'Lwpg'39. '4243. 'y kj 'lqkpu'cpf 'lucd'pwo dgtu'lf gpvklkgf

Vj g''cur j cn/ugcmpv'y cu''qdugtxgf ''q''dg''kp''r qqt''eqpf kkqp''hqt''cm'lqkpu''gzegr v'Lqkpv'70Ur cmkpi " y cu''qdugtxgf ''cv'Lqkpu''3.''4.''6.''cpf '9.''y kj ''Lqkpv'9''gzj kdkkpi ''y g''o quv'ugxgtg''ur cmkpi 0'Vj g''ur cmkpi " cv'Lqkpv'9''y cu''mecvgf ''cmpi ''dqj ''y g''tcpuxgtug''cpf ''y g''mpi kwf kpcn''mpgluj qwf gt''lqkpu''y j gtg'' j gug''y q''lqkpu''kpvgtugev'kp''Urcd''6D0'Kf'uj qwf ''dg''pqvgf ''y cv'uvtckp''ugpuqtu''6C/EU/V''cpf ''6E/EU/D'' ctg'kp''Urcd''6E''d{''y g''ur cmkpi ''kp''Lqkpv'90

Vj g"tcpuxgtug"lqkpv'y kf yj u"xctkgf "cmpi "yj ku"r cxgo gpv'ugevkqp."dw"cm"tgutckpgf "urcd"lqkpu" y gtg"y kf gt"yj cp"yj g"wptgutckpgf "urcd"lqkpu0Vj g"cxgtci g"tcpuxgtug"lqkpv'y kf yj "hqt"yj g"wptgutckpgf " cpf "tgutckpgf "urcdu"y gtg"2063"kp"cpf "207: "kp."tgur gevkxgn{0K/y cu"qdugtxgf "yj cv'uo cm'r ctvkengu"qh" ucpf "cpf "uvqpg"htci o gpw"y gtg"r tgugpv"kp"cm"lqkpvu"yj cv'j cf "r qqt "ugcncpv"eqpf kkqpu."j qy gxgt." Iqkpvu'8"cpf '9"y gtg"xkukdn{ 'hvm'qh"kpeqo r tguukdng"o cvgtkcnt0F wg"vq"yj g"ncti g"lqkpv'y kf yj u"cpf "r qqt" ugcncpv"eqpf kkqp"cv"o quv"lqkpvu."kv"y cu"j {r qyj guk gf "yj cv"gzeguukxg"j qtk qpvcn"urcd"o qxgo gpv" qeewttgf "gkyj gt"cu"c"hvpevkqp"qh"f t {kpi "uj tkpnci g"qt"kp"tgur qpug"vq"yj gto cn'ej cpi gu0Vj g"gzeguukxg" urcd"o qxgo gpv'y cu"qdugtxgf "vq"tguvvn"kp"r qqt"lqkpv'eqpf kkqp."y kj "cr r tqzko cvgn{"72' "qh"yj g" lqkpvu"f kur m{kpi "ur cmkpi 0K/ku"cmq"kpvgtguvkpi "vq"pqvg"yj cv'ij g"kcpuxgtug"lqkpvu"kp"j g"cf lcegpv'ncpg" y gtg"cv'vo gu'uj khvgf ."qt"gxgp"qp"c"uncpv'cu"uggp"cvIqkpv8."cu"f gr kevgf "kp"Hki vtg"E**04**0

# 60804''Ft{kpi 'Uj tkpmci g

Vq"gxcnxcvg"y g"vgo r qtcn'cpf "ur cvkcn'xctkcvkqp"kp"f t { kpi "uj tkpmci g."y g"cxgtci g"o gej cpkecn" uvtckp"y cu"r mwgf "qxgt"c"38/{ gct"r gtkqf "kp"y g"mpi kwf kpcn'f ktgevkqp"cv'o kf urcd"hqt"y g'tguvtckpgf " cpf "wptguvtckpgf "urcdu0Vj gug"r myu"ecp"dg"hqwpf "kp"Hi wtg"E**(5**."tgur gevkzgn{0





Hki wtg'E0600 gej cpkecn'int ckp'hqt "wpt gust ckpgf "inc du"cv"o kf unc d

Vj g'o gej cpkechlutckp''cv'o kf r cpghhqt''y g'tgutckpgf ''urcdu'ku''uj qy p'kp''Hki wtg'E**05**0'Vj g'ft { kpi " uj tkpmci g'y cu''332''cpf ''3; 7" ''cv''y g''qr ''Urcdu'6D''cpf ''6E.''tgur gevkxgn{.''cpf ''92.''; 2''cpf ''357'' ''cv'' y g''dqwqo ''Urcdu''6C.''6D''cpf ''6E.''tgur gevkxgn{0'Vj ku''ku''uki pkhecpv''xctkcdktkv{ ''dgw ggp''urcdu0'K/'ku'' pqv'eqo r ngvgn{ ''wpgzr gevgf ''cu''y gtg''y cu''c''uki pkhecpv''co qwpv'qh''xctkcdktkv{ ''lp''y g''y le''tcvkq''hqt''y g'' eqpetgwg''wugf 'hqt''r cxkpi 0'Vj g''o letqy cxg''qxgp''yguv'y cu''r gthqto gf ''kp''ceeqtf cpeg'y kj ''CCUI VQ'' V''53: '']83\_''qp''eqpetgwg''uco r ngu''vcngp''cv''y tgg''f khtgtgpv''nqecvkqpu''cpf ''cdqwv'82''hv''cr ctv'y j krg''y g'' lputwo gpvgf ''urcdu''y gtg''dgkpi ''r cxgf 0'Vj g''o gcuwtgf ''y le''tcvkqu''y gtg''2064.''2060''cpf ''20690'Vj ku''ku''c'' uki pkhecpv'co qwpv'qh''xctkcdktkv{.''\q''y g''r qkpv'y cv''y gtg'y cu''c''xkukdng'f khtgtgpeg''dgw ggp''y g''o y go'' ncf u'cpf ''y g''of t { ö''ncf u''qh'eqpetgwg''f wo r gf ''qp''y g''i tcf g.''r tkqt'\q''y g''r cuukpi ''qh'y g''r cxgt0'Vj ku'' ecp''gzr nchp''y g''uki pkhecpv'xctkcdktkv{ ''kp''y g''f { kpi ''y g''f t{ kpi ''y g''r cuukpi ''qh'y ggp''Urcd'6E''cpf '' Urcdu'6C''cpf ''6D0'Vj ku''y cu'cnq''tghrgevgf ''kp''y g''wnko cvg'ft { kpi ''uj tkpmci g''o gcuwtgf ''kp''y g''rcd''kp'' ceeqtf cpeg'y kj ''CUVO 'E379''ht''uco r ngu''qh''eqpetgvg''vcngp'r cxkpi ''cu''y gug''xcnvgu''tcpi gf ''dgw ggp'' 852''vq'', 52'' 0'Qh''eqwtug. ''qpn{"c''uo cm'htcevkqp''qh''j g''wnko cvg''ft { kpi ''uj tkpmci g''ku''tgcrk gf ''kp''y g'' kgrf 0' Vj g'' rcd'' o gcuwtgo gpvu'' ctg'' tgr tgugpvcvkxg'' qh'' ft { kpi ''uj tkpmci g'' ku''tgcrk gf ''kp''y g'' eqpetgvg''ku'o ckpvckpgf ''cv'c''tgrcvkxg''j wo kf k{ ''qh'72' ''y j krg''y g''cxgtci g''co dkgpv'tgrcvkxg''j wo kf k{ '' ht''y ku''tgi kqp'y cu''8; '''dgw ggp''4234''cpf ''42370'Kp''cff kkqp. ''wptguvtckpgf ''uj tkpmci g''ku''o gcuwtgf '' kp''rcdqtcvqt {.''y j gtgcu''y g''eqpetgvg''urcdu''ctg''tguvtckpgf ''d { ''vg''dctu''\*kp''y g''tguvtckpgf ''urcd+''cpf '' htkskqp''dgw ggp''y g''urcd''cpf ''dcug''qt''uwttqwpf kpi ''urcdu0'Uqo g''qh''y ku''tguvtckpgf ''uj tkpmci g''ku''nuv'' y tqwi j ''etggr ''y j krg''q j gt''r qtvkqpu''eqpvtkdwg''q'vgpukrg''uvguu''dwkf ''wr ''kp''y g''urcdu0

Vj g"ft {kpi "uj tkpmei g"y cu"er r tqzko evgn{"352" "ev'y g"vqr "epf": 2" "ev'y g"dqvqo "qh"Uredu" 5C"cpf "5D. 'tgur gevksgn{0'Vj ku'ku'urki j vn{"j ki j gt"y cp"y ev'gzj kdksgf "kp"Ured"6C"dwi'urki j vn{"rguu'y cp" y ev'qh"Ured"6D0'Ki'ku"kpvgtguvkpi "vq"pqvg"y ev'y g"uredu"y kj "tgf wegf "tguvtekpv"eqpf kkqpu"gzj kdksgf " ft {kpi 'uj tkpmei g"o wej 'o qtg"s vkemn{"y kj 'o quv'f gxgrqr kpi 'y kj kp"yj g"htuv"{get"chvgt"eqpuvt wevkqp" y j kg"yj g"tguvtekpgf "uredu"eqpvkpvvgf "vq"gzj kdkv'ft {kpi "uj tkpmei g"qxgt"yj g"htuv"34"{getu"ukpeg"yj g" vko g"qh"eqpuvt wevkqp0'Ki'uj qwrf "dg"pqvgf "yi ev'gxgp"yj qwi j "ft {kpi "uj tkpmei g"eqpvkpvvgf "vq"f gxgrqr " qxgt"y g"34"{getu"hqt"y g"tguvtekpgf "uredu. "y g"o clqtkv{"qh"kv"f gxgrqr gf "y kyj kp"yj g"htuv"{get"engt" eqpuvt wevkqp0

Vj gtg"y cu"c"42"vq"58' "f khlgtgpeg"kp"yj g"f t { kpi "uj tkpnci g"y j gp"eqo r ctkpi "yj g"vqr "cpf "yj g" dqwqo "qh" yj g"tguvtckpgf "uncdu" cpf "69' "hqt" yj g" wptguvtckpgf "uncdu0' Vj ku" uwr r qtw" yj g"tgncvkxg" j wo kf k{ "hkpf kpi u"r tgugpvgf "gctnkgt"htqo "r tgxkqwu"uwwf kgu"y kj "yj g"tgncvkxg" j wo kf k{ "cv'yj g"dqwqo " qh"yj g"uncd"pgctkpi "322' "cpf "yj cv'cv'yj g"vqr "qh'yj g"uncd"dgkpi "o wej "nguu0'Cu"gz vtgo g"j gcv'gxgpvu" dgeqo g"o qtg"htgs wgpv'y kj "enko cvg"ej cpi g. "yj gtg"ku"yj g"r qvgpvkcn"hqt "yj g"tgncvkxg" j wo kf kk{ "qh'yj g" eqpetgys"vq"f tqr "gxgp"ny gt"cv'yj g"uwthceg"cpf "yj gtg{ "kpetgcukpi "yj g"f t{ kpi "uj tkpnci g0

C"eqpugs wgpeg"qh"y g"j ki j "ft { kpi "uj tkpmci g"ku"cp"kpetgcug"kp"y g"lqkpv'y kf y uO'Cu"ecp"dg"kp" y g"f kntguu"uwtxg { "uwo o ct { "r tqxkf gf "kp"Hki wtg"E**04**. "y g"lqkpu"j cxg"y kf gpgf "gz vgpukxgn{ "ukpeg" eqputwevkqp0'Vj g"lqkpu"y gtg"qtki kpcm{ "ucy gf "vq"c"y kf y "qh"20597"kp"cpf "pqy "y g"lqkpu"kp"y g" tgutckpgf "ucdu"ctg"wr "vq"2085"kp"y kf g"y kj "y g"lqkpu"kp"y g"wptgutckpgf "ucdu"dgkpi "utki j vn{ "rguu" y cv'y cv0'Vj ku"o quv'rkngn{ "eqpvtkdwgf "vq"y g"gz vgpukxg"lqkpv"ugcrepv'f co ci g0'K/uj qwrf "dg"pqvgf " y cv'y cv'y g"lqkpwij cxg"pqv'dggp"tgugcngf "ukpeg"y g"r cxgo gpv'y cu"qtki kpcm{ "eqputwevgf "kp"42260

Ft{kpi "uj tkpnei g"y cu"gxcnxcvgf "cv"37/o kpwg"kpvgtxcni"vq"kpxguvki cvg"ugcuqperi'xctkcvkqp"kp" ft{kpi "uj tkpnei g"y tqwi j qwi'y g"38/{gct"cpen{uku"r gtkqf."cu"uj qy p"kp"Hki wtg"E**07** "hqt"Uted"6E0' Vj tqwi j qwi'y g"{gct."ft{kpi "uj tkpnei g"y cu"hqwpf "vq"xct{"crrtqzko cvgn{": 8" "cpf"69" "hqt"y g" vqr"cpf"dqwqo "qh'y g"ucd."tgur gevksgn{0'Vj g"r gcmift{kpi "uj tkpnei g"qeewttgf"kp"y g"y kpvgt"o qpyj u" f wtkpi ''y g"htuv'6"{gctu"chgt"r cxkpi . ''y j krg"r gcmift {kpi ''uj tkpnei g"dgi cp"f gxgnqr kpi 'kp"y g"uvo o gt" o qpyj u"chgt"y ku"r gtkqf 0'Vj ku"crr ctgpv"kpetgcug"kp"ecnewrcvgf "ft{kpi ''uj tkpnei g"crr gctu"vq"j cxg" qeewttgf "dgecwug" ugcnepv"hcknxtg" gpcdrgf "kpeqo r tguukdrgu" vq" gpvgt" y g"lqkpv"f wtkpi "y g"y kpvgt" o qpyj u'y j krg"y g"lqkpvu'y gtg"qr gp."y j kej "kp"wtp"r tgxgpvgf "y g"urcd"htqo "cf gs wcvgn{"gzr cpf kpi " y kj "kpetgcugu"kp"vgo r gtcwxtg"f wtkpi "y g"uvo o gt"o qpyj u0"Y j gp"urcdu"ctg"r tgxgpvgf "htqo "htggn{" gzr cpf kpi "f wg" vq"lqkpv"rqeni'wr."y g"r qtvkqp"qh"vqcn"utckp"ecwugf "d{"ft{kpi "uj tkpnei g"ecp"dg" qxgtguvko cvgf 0'Cp"cuuwo gf ''y gto cn'gzr cpukqp"ku"uvdvcevgf 'htqo ''y g"qcn"utckp'uq''y cv'y g"ft {kpi " uj tkpnei g"ecp"dg"guvko cvgf 0'Y j gp"y ku"cuuvo gf "gzr cpukqp"ku"i tgcvgt ''y cp"y j cv'cewcm{"qeewtu" dgecwug'y g"gzr cpukqp"qh'y g"urcd"ku"tguvckpgf "d{"y g"kpeqo r tguukdrgu"kp"y cp"y j cv'cewcm{"qeewtu" dgecwug'y g"gzr cpukqp"qh'y gusto cvgf 0



Hki wtg'E070Ft{kpi 'uj tkpmci g'cv'o kf urcd''qh'Urcd'6E''cv'37/o kpwg'kpvgtxcnu

Vj ku''cr r ctgpv'kpetgcug'kp'ft { kpi ''uj tkpmci g'f gxgmr gf 'kp''Urcd''5C''f wtkpi ''yj g''uwo o gt''qh'4232." cu'uj qy p'kp'Hki wtg'E (80'Vj ku'kpf kecvgu'ugenepv'heknytg'epf.'uwdugs wgpvn{.'kpeqo r tguukdngu'gpvgtgf" Iqkpv'4"qp''y g'tki j v'ukf g"qh'Ucd"5C0Vj g'f kut guu''uwt xg{ ''uj qy gf ''y cv''y g''ugcrepv'kp''Iqkpu''3"cpf ''4" j cf "nguu"f co ci g"eqo r ctgf "\q"\j g"ugcmpv"kp"Iqkpuu'9"cpf ": "cf lcegpv'\q"Und"6E0Vj ku"j gm u'\q"gzr mkp" y j { ''y g''cr r ctgpv'kpetgcug'kp'f t { kpi ''uj tkpmci g'kpkkcvgf ''kp''Uncd''5C ''y tgg''{ gctu''chvgt ''Uncd''6E0'Vj gtg'' y cu"cniq"ur cmkpi "r tgugpv"cmpi "Iqkpui'3"cpf "4"dwi'y cv"o quv'rkngn{ "ecp"dg"cwtkdwgf "vq"r qqt"nqcf " vtcpuhgt"kp"yj g"wptguvtckpgf "\*pq"f qy gn+"urcd"cpf "pqv"hckrwtg"qh"yj g"lqkpv"ugcrcpv0'Vj g"hcwrwkpi " qdugtxgf "cv"Iqkpvu"3 "y tqwi j "6"ku"cpqy gt "kpf kecvkqp" y cv" y cv" y g"mcf "vtcpubgt "cv" y gug"lqkpvu" j cu" dggp"tgf wegf "cpf "eqwrf "dg"eqpvtkdwkpi "vq"yj g"ur cmkpi "qdugtxgf 0"Uncdu"6D"cpf "6E"y gtg"eqo r ctgf " vq"gxcnvcvg"yjg"kpetgcug"kp"crrctgpv"ft{kpi "ujtkpmcig"dgwggp"urcdu"yjcv"jcxg"ukokrct"eqpfkkqpu"qh" y g"ugcncpv"kp"cf lcegpv"lqkpu0'Cu"uj qy p"kp"Hki wtg"E**0**. "Uncd"6D"gzj kdku"cp"kpetgcug"kp"crrctgpv" ft{kpi "uj tkpmci g"qh"yj g"uco g"o ci pkwf g"cu"qdugtxgf "kp"Uncd"6E0'O qtgqxgt."yj ku"kpetgcug"kpkkcvgu" kp"4229"hqt"dqyj "Urcdu"6D"cpf "6E. "kpf kecvkpi "yj g"uco g"r j gpqo gpqp"ku"qeewttkpi 0I.qkpv'9"ugr ctcvgu" Urd '6D'cpf '6E0Vj ku'lqkpv'j cu'uki pkhecpv'ugcrepv'f co ci g. 'r tqxkf kpi 'gxkf gpeg'y cv'y g'kpetgcug'kp'' crrctgpv'ft{kpi "uj tkpnci g"ku"ecwugf "d{"yj g"kpvtwukqp"qh"kpeqortguukdngu"kpvq"yj g"lqkpv"gpcdngf "d{" yj g"lqkpv"ugcrcpv'f co ci g0'Cu"ecp"dg"uggp."y kj "yj ku"v{r g"qh"cpcn{uku."yj g"ghhgevkxgpguu"qh"lqkpv" ugcncpv'qp'r cxgo gpv'r gthqto cpeg'ecp''dg''guvcdnuj gf 0



Figure C.6. Drying shrinkage at midslab of Slab 3A at 15-minute intervals



Hki wtg'E000Ft{kpi 'uj tkpmci g'cv'o kf urcd'qh'Urcd'6D'cv'37/o kpwg'kpvgtxcnu

#### 60804''Ghigev'qh'Vgorgt cwtg

K'y cu''j {r qý guk gf "ý cv'ý g"tgur qpug"qh'ý g"r cxgo gpv'utvewutg"q" go r gtcwutg"ej cpi gu"ku"c" hwpevkqp"qh'o qkuwtg"cpf "urcd"tgutckpw0Vq"gxcnwcyg"ý ku 'ý g"r tqeguu'f gxgmr gf "d{ "Dwtpj co "cpf " Mqwdcc" 4223+'y cu'wugf "q"s wcpvkh{"y g"ej cpi g"kp"utckp"qh'ý g"urcd"r gt "wkk'ej cpi g"kp" go r gtcwutg." y j kej "ku"tghgttgf "q"cu''ý g"utvewutch'eqghhkekgpv'qh'ý gto cn'gzr cpukqp"\*UEVG+"]72\_0'Hktuv" {gctn{" vycn'utckp"f cvc"htqo "4234'vq"4237'y cu'i tqwr gf "d{ 'o qpý "uq'ý cv'ý g" go r qtcn'ej cpi gu"kp"UEVG" eqwf "dg"gxcnwcvgf 0'Vj g"o qpvj n{ "vqcn'utckp"y cu'r mwgf "ci ckpuv'ý g"eqttgur qpf kpi 'vgo r gtcwutg"hqt" gcej "37/o kpwg"kpvgtxcn0Vj g"unqr g"qh'ý g"hpg"qh'dguvhkv'y cu'eqpukf gtgf "ý g"UEVG'xcnwg0'Kp"uqo g" ecugu. 'ý g"tgmvkqpuj kr "dgw ggp'vgo r gtcwtg"cpf 'utckp'y cu'dkhpgct. 'y kj 'kpetgcugu'kp'vgo r gtcwtg" r cuv'cp"kphrgevkqp"r qkpv'{kgrf kpi "pq"kpetgcug"kp"utckp0Vj gug"ecugu'y gtg"kf gpvkhkgf "cu'j cxkpi "lqkpv" memvr. "cpf 'ý g"unqr g"qh'ý g"dguvhkv'hgg"nqt 'vgo r gtcwtgu"ny gt 'ý cp"y g"kphrgevkqp"r qkpv'y cu'wugf " cu''y g"UEVG0'Gzco r m"r mu"qh'o qpy n{ "UEVG" y kj "dqy "pq"lqkpv'memvr "cpf "lqkpv'memvr "ctg" uj qy p"kp"Hki wtg"E**0** 0'Vj g"UEVG'hqt"ku'8088" lÅH'cpf "pq"lqkpv'memvr "qeewtu'kp"Hki wtg"E**0** c0'Vj g" UEVG'ku'8027" lÅH'cpf "lqkpv'memvr "qeewtu'cv'cr r tqzko cyn{ '', 2ÅH'kp'Hki wtg'E**0** d0





Hk wtg'EQ OGzcorng'UEVG'rnqui'hqt "ecug"y j gtg"\*c +'pq"lqkpv'hqemvr "qeewtu."cpf "\*d+'lqkpv'hqemvr" qeewtu

Vq'f gvgto kpg'ý g''UEVG'ý tqwi j qwl'ý g'r cxgo gpv.'uvtckp'f cvc'y cu''wugf 'htqo '8'f khegtgpv'urcdu." qh'y j kej ''ý tgg''y gtg''tguvtckpgf ''urcdu''cpf ''ý tgg''y gtg''wptguvtckpgf 0'Kp''gcej ''urcd. ''w q''ugpuqtu'y gtg'' wugf.''qpg''nqcvgf ''3'kp'htqo ''ý g''qr ''cpf ''qpg''3'kp'htqo ''ý g''dqwqo ''qh'ý g''r cxgo gpv0'Vj g''wptguvtckpgf '' urcdu''j cf ''y tgg''ugpuqtu''nqcvgf ''cv'ý g''rcpg hij qwf gt''eqtpgt ''cpf ''5''ugpuqtu''cmpi ''y g''eqtpgt''cv'ý g'' egpvgtrkpg0'Vj g'' tguvtckpgf ''urcdu''j cf ''hqwt''ugpuqtu''nqcvgf ''cv' ý g'' rcpg hij qwf gt''eqtpgt''cpf ''y q'' ugpuqtu''cmpi ''y g''eqtpgt''cv'ý g''egpvgt0'Cm'ugpuqtu''kpenwf gf ''ctg''qtkgpvgf ''kp''y g''npi kwf kpcn'f ktgevkqp'' q''gxcnwcyg''tcpuxgtug''qkpv'o qxgo gpv0'Vj g''o qpyj n{ ''cxgtci g''UEVG'y cu'f gvgto kpgf ''htqo ''4234''q'' 4237. ''cpf ''y g''tguvnu''ctg'uwo o ctk gf ''kp''Vcdrg'E**G**0

	5C/"	5C/"	5D/"	5D/"	5E/"	5E/"	Var "	Var"	Davao "	Davao "
O qpyj /[gct	EU/V	EUD	EE/V	EU/D	EE/V	EE/D	Cxi 0	INF ox	Cxi0	INF ox
$I_{cpwct}{/4234}$	/	/	/	/	/	/	/	/	/	/
Hedtwet{ $/4234$	/	/	/	/	/	/	/	/	/	/
Octej /4234	8054	8088	70:	807:	8028	8023	802;	2044	8064	2057
Crtkn/4234	8079	8089	8026	8074	8055	8044	8054	2049	8069	2045
Oc{/4234	8669	804:	8Ø2;	8065	8047	70.8	8049	203;	803;	204;
Lwpg/4234	8064	8062	8053	8 <b>B</b> ;	8 <b>B</b> :	8026	8052	2034	8043	203:
Lwn{/4234	8063	80B:	/	8045	8045	8025	8054	2035	8037	2032
Cwi wuv/4234	8073	8097	806:	8093	8072	8072	8072	2024	8087	2035
Ugrygo dgt/4234	8079	8057	804:	8053	8062	804:	8064	2037	8053	2025
Qevqdgt/4234	8095	808:	8043	8069	8068	8068	8069	2048	8076	2034
P qxgo dgt/4234	8069	808:	7Q;	8075	803:	8062	8043	2046	8075	2036
F gego dgt/4234	8054	807;	709:	8068	8025	8064	8026	2049	806;	202;
Lcpwct {/4235	8073	8049	8059	8085	8044	803	8058	2086	8039	202;
Hgdtwct{/4235	8049	8085	70,5	806;	70,7	8057	8027	203;	806;	2036
O ctej /4235	8088	8068	7099	<i>805:</i>	70,8	8052	70,9	203;	805:	202:
Crtkn/4235	8046	8085	7099	802;	8028	8028	8025	2046	802;	2026
Oc{/4235	8069	70.9	8043	709:	8044	709:	8052	2037	70.3	2027
Lwpg/4235	8059	70,4	/	704	8055	70 9	8057	2025	70 9	2027
Lwn{/4235	8055	8087	/	8027	8045	8084	804:	2029	803	2027
Cwi wuv/4235	8057	8098	8028	806;	8062	8069	8049	203:	8079	2038
Ugr vgo dgt/4235	8074	8059	8057	8Œ2	8Œ;	805;	8064	202:	8057	2027
Qevqdgt/4235	8062	806:	/	8059	8088	8063	804:	2039	8064	2027
Pqxgo dgt/4235	/	/	/	/	/	/	/	/	/	/
F gego dgt/4235	/	/	/	/	/	/	/	/	/	/
Lcpwct{/4236	<i>80</i> 5:	8083	8038	8053	8028	8066	8042	2038	8067	2037
Hgdtwct{/4236	8045	8074	705	8058	8023	804:	8024	2042	805;	2084
O ctej /4236	802:	8056	7093	804:	709	802:	70;	203;	8045	2035
Crthr/4236	8084	8048	708:	8036	70;;	802:	70,5	2045	8038	202;
Oc{/4236	8043	70.9	703	7085	8084	708;	8026	2043	7095	2034
Lwpg/4236	8056	70,6	7095	70.3	8 <b>B</b> ;	70;:	802:	2054	70,3	202;
Lwn{/4236	8066	8086	8074	70,2	8 <b>B</b> :	70,5	805:	203:	70;;	2035
Cwi wuv/4236	8Œ;	8082	/	8084	8026	806;	8043	2047	8062	2047
Ugr vgo dgt/4236	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4236	/	/	/	/	/	/	/	/	/	/
Pqxgo dgt/4236	8059	8052	/	8089	8088	8043	8049	2037	8045	2029
F gego dgt/4236	8066	8065	/	8024	8045	8054	8056	2037	8048	2043
Lcpwct {/4237	8064	8022	/	7086	8043	70,9	8054	2037	70.9	2042
Hgdtwct{/4237	8043	8042	/	70.4	8034	70;	8039	2028	70,9	2042
O ctej /4237	<i>80</i> 2;	8076	/	8Œ;	8084	8089	8082	2025	8059	203;
<u>Crthr/4237</u>	8043	8023	/	8028	/	7094	8043	/	70,5	203:
Oc{/4237	8066	70,5	/	704	/	7095	8066	/	70 5	2082
Lwpg/4237	806:	804:	/	7085	/	4032	806:	/	70,8	2068
Lwn{/4237	80B:	/	/	7087	/	<u>306:</u>	80B:	/	7087	/
<u>Cwi wuv</u> 4237	8057	70:	/	7047	/	3087	8057	/	7084	2074
Ugr vgo dgt/4237	8052	8082	/	70:	/	804:	8052	/	802;	2042
Qevqdgt/4237	8067	8062	/	8046	/	8Ø4	8067	/	8047	2036
P qxgo dgt/4237	806:	8074	/	8052	/	8052	806:	/	8059	2085
F gego dot/4237	/	/	/	/	/ _	/	/	/	/	/

Vcdig'E'040Egml5" wpt gut ckpgf "UEVG"\* IÅH+

**Dqrf** 'lpf lecvgu'lqlpv'enquwtg''qeewttgf 0Kcrleu'lpf lecvgu'pq'lqlpv'enquwtg''qeewttgf 0 õ, ö'lpf lecvgu'liwnilqlpv'injeni'wr "cpf ''y g''xcnwg'lu'wptgr tgugpvcvkxg''qh''y g''lqlpv'o qxgo gpv0 õ/ö'egmilpf lecvgu'ly cv'y gtg''y cu'lpuwhhekgpv'f cvc''q''guvcdrkuj "c''UE VG''xcnwg''cpf "ctg''pqv'lpenwf gf " kp"cxgtci gu0

O qpyj /[gct	6C/" EE/V	6C/" EE/D	6D/" EU/V	6D/" EU/D	6E/" EU/V	6E/" EU∕D	Vqr" Cxi0	Vqr "	Dqwqo" Cxi0	Dqwqo" LIVF 9x
Lenwet{/4234	802.	8095	8027	8079	8048	808·	8085	2083	8088	202.
Hedtwet{ $/4234$	8088	8096	8026	8082	8036	<u> </u>	803	2029	808:	2029
O ctej /4234	70.3	8053	70.2	8@5	70.5	70.8	70.3	2023	8029	2045
Crtkp/4234	8042	807:	804:	804:	8083	70:	8042	202:	804:	2052
Oc{/4234	8@2	70,5	8028	7056	70:	606:	8023	2026	7047	2095
Lwpg/4234	70.8	8Œ:	8027	7067	7098	60.2	70;	2087	7069	208;
Lwn{/4234	7095	8048	70,2	704;	7096	606;	709;	202;	7057	20;
Cwi wuv/4234	804;	8084	8089	8083	8027	802:	8089	2084	8049	2052
Ugr vgo dgt/4234	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4234	/	/	/	/	/	/	/	/	/	/
Pqxgo dgt/4234	8047	<i>80</i> 9;	8 <b>B</b> 9	8094	8Ø3	8099	8Œ:	2029	8098	2025
F gego dgt/4234	/	/	/	/	/	/	/	/	/	/
Lcpwct{/4235	/	/	/	/	/	/	/	/	/	/
Hgdtwct{/4235	7Q 6	808:	807:	70,6	8027	<i>80</i> 9;	8Œ;	2056	8069	2068
O ctej /4235	7Q 4	8089	703	8076	<i>70</i> 9;	8086	70.6	2029	8084	2029
Crtkn/4235	70,2	804;	70 :	70,2	70,5	70;:	70,2	2024	8028	2043
O c{/4235	70,5	802;	8 <b>B</b> ;	7088	8026	7089	8028	2085	70 3	2047
Lwpg/4235	8024	7088	8025	60 5	7096	<u>40 8</u>	70,5	2038	7047	207;
Lwn{/4235	70.8	8085	708	7049	7097	<u>408:</u>	704	2028	70,7	20,8
Cwi wuv/4235	804;	8052	8053	60.4	804;	<u>5092</u>	8052	2023	7078	3027
Ugr vgo dgt/4235	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4235	8027	8094	8Ø;	8059	/	8056	8034	2032	8069	2043
P qxgo dgt/4235	8Ø3	8084	8 <b>B</b> 9	8065	8Ø8	8077	8037	2025	8075	2082
F gego dgt/4235	8045	8088	8Ø6	806:	8044	806;	8042	2027	8076	2032
Lcpwct {/4236	8Ø2;	<i>80</i> 6;	7Q 4	8073	8026	<i>80</i> 8:	8024	202;	8078	2083
Hgdtwct{/4236	7099	8073	704	8069	70;	8098	70 5	2028	807:	2037
O ctej /4236	7092	8076	7099	8047	7086	8084	7092	2028	8069	2042
Crtkn/4236	70.8	8Œ;	70.3	7Q 6	7092	8023	709;	202:	803	2046
<u>Oc{/4236</u>	7078	7094	7078	7065	6087	60.2	7048	2074	7054	2069
Lwpg/4236	70,8	6085	70,3	<u>4093</u>	6Q :	<u>30 9</u>	707:	2083	6085	/
Lwn{/4236	70,8	<u>808;</u>	70.8	7088	6075	<u>4026</u>	7067	20.2	70,5	2059
Cwi wu√4236	70;;	706	8027	<b>705;</b>	6077	<u>40.2</u>	7075	207	7083	2054
<u>Ug</u> r <u>vgo dgt/4236</u>	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4236	8049	9023	8Ø;	8082	/	8072	8045	2028	8092	2049
P qxgo dgt/4236	8022	8074	8082	8054	/	8065	8027	2029	8064	2082
F gego dgt/4236	8045	808;	808:	8077	/	8082	8042	2025	8083	2029
Lcpwct {/4237	704	8056	706	<u>805:</u>	/	8046	70 5	2024	8054	2029
Hgdtwct { $/4237$	7086	8077	7Q 3	8084	/	<u>    808;                               </u>	709:	203;	8084	2029
O ctej /4237	707	8065	707	8055	/	806:	707	2022	8064	202:
<u>Crtkn/4237</u>	70,4	8029	70;;	7075	/	7@4	70,8	2027	7076	2075
<u>Oc{/4237</u>	7 <b>0</b> ;	802;	70,7	60,5	6087	<u>4024</u>	7068	2093	7073	20.4
Lwpg/4237	8 <b>(B</b> 9	70,5	8087	6068	6073	<u>    305:                                </u>	7083	20,7	7042	3026
Lwn{/4237	6098	7063	608;	<u>308</u>	<u>5064</u>	<u>4026</u>	6094	2027	7063	/
<u>Cwi wuv/4237</u>	7087	70.6	70,9	<u>3096</u>	<u>4097</u>	<u>3059</u>	70.3	2045	70.6	
Ugr vgo dgt/4237	70.9	804	7096	7072	702;	<u>4086</u>	70/9	2064	803	20.8
Qevqdgt/4237	8042	8089	8026	70;	70,3	7092	8027	2087	8034	20/2
P qxgo dgt/4237	8UB;	808:	8047	8052	8088	8042	8042	2027	805;	2017
F gego dgt/4237	/		/	/	/	/	/	/	/	/

õ, ö'kpf kecvgu'hvmilqkpv'injeni'vr "cpf "ij g'xcnvg'ku''wptgr tgugpvcvkxg''qh'ij g''lqkpv'o qxgo gpv0 õ/ö''egmikpf kecvgu'ij cv'ij gtg''y cu'kpuvkhkekgpvi'f cvc''q''guvcdrkuj "c''UE VG''xcnvg''cpf "ctg"pqv'kpenvf gf "

kp"cxgtci gu0

Vj g"cxgtci g"UEVG"y cu'8044"cpf "8043" 1ÅH"hqt"yj g"vqr "cpf "dqwqo "qh"yj g"wptguvtckpgf "urcdu." tgur gevksgn (0'Vj g"csgtci g"UEVG"y cu'70; "cpf '8085" IÅH hqt 'y g"vqr "cpf "dqwqo "qh'y g'tgutckpgf" urcdu. "tgur gevkxgn{ 0'Vj gug"xcnwgu"ctg"i tgcvgt"vj cp"vj g"4: /f c{ "EVG"qh'7093" lÅH'o gcuwtgf "kp"vj g" rcdqtcvqt { "qp"ur geko gpu"ecuv"f wtkpi "r cxkpi 0'Vj g"f khhgtgpeg"dgw ggp"EVG"f gygto kpgf "vj tqwi j " rcdqtcvqt{"vgukpi "cpf"UEVG"ku."kp"r ctv."cwtkdwgf"vq" y g"f khbgtgpeg"kp"o qkuwtg"eqpvgpv0'Cu" r tgxkqwun{ "f guetkdgf."y g"EVG"y km'dg"j ki j gt"y cp"y g"EVG'hqt"ucwtcvgf "eqpetgvg"\*EVGucv+"cu"y g" kpvgtpcn'' tgrcvkxg'' j wo kf kv{ "kpetgcugu'' qxgt'' 72' 0' Vj g'' EVG'' j cu'' dggp'' uj qy p'' vq'' kpetgcug'' vq'' crrtqzko cvgn{"4"vko gu'y g'EVGucv'y j gp'y g'tgrcvkxg'j wo kf kv{ "ku'ctqwpf '92' cpf 'y gp'f genkpgu'vq" crrtqzko cvgn{"308"vko gu"EVGucv"cv"c"tgncvkxgn{"j wo kf kv{"qh": 7' "wpvkn"gxgpwcm{"crrtqcej kpi " EVGucv'qpeg''ci ckp0'Ncdqtcvqt { 'ur geko gpu''ctg'\guvgf 'kp''c''ucwtcvgf ''eqpf kkqp. 'y j gtgcu''y g'tgrcvkxg'' j wo kf kv{ "o gcuwtgf "kp" vj g"ucd" hqt" vj g"hktuv 5" { gctu" chvgt "r cxkpi "tcpi gf "htqo "crrtqzko cvgn{"82" vq" : 2' 0'Vj ku'gzr nckpu'y j { ''y g''UEVG''ku'i tgcvgt ''y cp''y g''EVG0'KVy qwrf ''dg''cpvkekr cvgf ''y cv''y g''UEVG'' y qwrf "dg"gxgp"j ki j gt"\*cu"o wej "cu"4" q "308" k gu"j ki j gt" i cp" i g"EVG+"hat "i gug"t grcvkxg"j wo kf k/{ " eqpf kkqpu'r tgugpv'kp''y g'hgff 0'Cpqy gt''f khgtgpeg''dgw ggp''y g'rcdqtcvqt { "EVG"cpf ''y g''UEVG'ku" y cv'y g'EVG'ku'o gcuwtgf 'kp''cp''wptguvtckpgf ''eqpf kkqp0'Vj g'tguvtckpv'eqpf kkqpu'\*htkevkqp''dgw ggp'' y g'dqwqo "qh'y g'urcd"cpf "y g'dcug. 'Wg'dctu. "gwo#kp'y g'urcd"y knitgf weg'y g'UEVG'cu'eqo r ctgf 'Yq" vi g"wptguvtckogf "EVG"cpf "eqpvtkdwg"vq "vj g"f gxgrqr o gpv"qh"uvtguu0'Vj gug"tguvtckpv"eqpf kkqpu"ctg" vj g"tgcuqp"vj g"UEVG"kp"vj g"hkgrf "ku"pqv'4"vq"308"vko gu"j ki j gt"vj cp"vj g"EVG"kp"vj g"rcd."y j gp"vj g" tgncvkxg'' wo kf kv/ 'kp''y g'hkgnf 'y cu'dgw ggp'82''vq': 2' 0

Wpf gt "guko cvkqp"qh'y g'EVG'ngcf u'vq" wpceeqwpvgf "gzr cpukqp"cpf "eqpvtcevkqp"qh'y g''urcd"y ky " vgo r gtcwtg"ej cpi gu0'Gzeguukxg"lqkpv'qr gpkpi "ecp"ecwug"lqkpv'ugcrcpv'f co ci g"cpf "tgf wevkqp"qh" ci i tgi cvg"kpvgtrqen0'Vj g"o czko wo "UEVG"qeewttgf "kp"yj g"y kpvgt"cpf "hcm'o qpyj u'y ky "y g"'UEVG" dgeqo kpi "cu"j ki j "cu"9023" lÅH0'Vj g"kpetgcugf "UEVG"kp"eqrf gt"o qpyj u"eqpvtkdwgu"vq"y g"lqkpv" ugcrcpv'f co ci g.'ur cmkpi .'cpf 'hcwnkpi 'kp'yj g"wptguvtckpgf "urcdu"\*pq"f qy gn'dctu+'uggp'kp''y g''f kuvtguu" uwtxg{0'Vj g"rcti gt "EVG"y km'cmq"kpetgcug"y g"o ci pkwf g"qh''y g"ewtrkpi "yj cv'f gxgmr u'y kj kp''y g" r cxgo gpv'cpf "j gpeg''y g"ewtrkpi 'tgrcvgf 'urtguu0

Erko cvg"hcevqtu" y gtg"hvt ý gt"kpxguški cvgf "vq"f gvgto kpg" j qy "UEVG" xctkgu" vgo r qtcm{0'Cu" r tgxkqwun{"f guetkdgf."eqpetgvg"EVG"ku"chbgevgf "uki pkhecpvn{"d{"ý g"kpvgtpcn"tgrcvkxg"j wo kf kv{"kp" ý g"eqpetgvg."y j kej "uwi i guvu" y cv"ej cpi gu"kp"co dkgpv"tgrcvkxg"j wo kf kv{"qt"tckphcm"eqwrf "ecwug" UEVG" xctkcvkqp0"Hktuv."ugcuqpcn" xctkcvkqp"kp"UEVG" y gtg"eqo r ctgf "vq"o gcuwtgf "co dkgpv"tgrcvkxg" j wo kf kv{."uj qy p"kp"Hki wtg"EQ, 'cpf "Hki wtg"E020'Ugeqpf."cxgtci g"o qpy n{"UEVG" y cu"eqo r ctgf " vq"ewo wrcvkxg"o qpvj n{"tckphcm"cpf "pwo dgt"qh"tckp"gxgpwu"r gt"o qpvj "vq"cuuguu" y g"tgrcvkqpuj kr " dgw ggp"r tgekr kcvkqp"r cvgtpu"cpf "UEVG" o gcuwtgo gpvu."uj qy p"kp"Hki wtg"E083'cpf "Hki wtg"E0840' Rtgekr kcvkqp"f cvc" y cu"eqngevgf "htqo "y g"P cvkqpcn"Qegcpke"cpf "Cvo qur j gtg"Cf o kpkuvtcvkqpøu" \*P QCC+"Nqecn"Erko cvqnqi kecn"F cvc"\*NEF +"]84\_0



Figure C.9. Unrestrained (Cell 3) SCTE vs ambient relative humidity



Hki wtg'EB20T gut ckpgf "Egnl6+'UEVG'xu'co dkgpv't grcvkxg'j wo kf kf



Hki wtg'E0840T gut ckpgf "\*Egnl6+'UEVG'h qo "4234"\q"4237

Vj g"UEVG"ku"qdugtxgf "vq"j cxg"c"r qukskxg"eqttgrcvkqp"y kj "vj g"TJ ."cu"uggp"kp"Hki wtg"EQ, 'cpf " Hki wtg"E0820Cu'vj g"TJ "kpetgcugu."vj g"UEVG"f qgu"cu'y gm"cpf "xkeg"xgtuc0Vj ku"hnvewcvkqp"ku"o quv" r tqo kpgpv"qp"vj g"r cxgo gpv"uwthceg"cpf "nguu"uq"cv'vj g"dqvqo "qh'vj g"urcd"y j gtg"vj g"kpvgtpcnTJ "qh" vj g"eqpetgvg"ku"nguu"chhgevgf "d{"vj g"co dkgpv"tgrcvkxg"j wo kf kv{0

Vj gtg"y cu"pq"eqttgrcvkqp"qdugtxgf "dgw ggp"UEVG"hqt"yj g"vqr "qh"yj g"urcd"cpf "htgs wgpe{"qt" co qwpv"qh"tckp0'J qy gxgt."c"pgi cvkxg"eqttgrcvkqp"y cu"qdugtxgf "dgw ggp"tckp"cpf "UEVG"cv"yj g" dqwqo "qh"urcdu0'K/ku"yj gqtk gf "yj cv'yj g"urcd"uwthceg"ecp"uwhkekgpvn{"ft{"chvgt"tckp"gxgpvu."yj gtgcu" yj g"dqwqo "qh"yj g"urcd"tgo ckpu"ucwtcvgf "cpf "yj gtghqtg"c"f getgcug"kp"UEVG"ku"qdugtxgf 0

C"uvcvkuvkecn'cpcn{uku"y cu"r gthqto gf "vq"s vcpvkh{ "vj g"uki pkhecpeg"qh'xctkqwu"r cxgo gpv'cpf " enko cvg"hgcwtgu"qp"UEVG0'Hktuv."; 7' "eqphkf gpeg"kpvgtxcnu"y gtg"f gvgto kpgf "hqt"UEVG"cpf "ctg" uj qy p"kp"Vcdng"E060Vj g"ncd"o gcuwtgf "EVG"qh'7093 1ÅH'hcmu"qwukf g"cm'vj g"eqphkf gpeg"kpvgtxcnu." y j kej "kpf kecvgu'vj cv'vj g"vtwg"UEVG'xcnwg"ku'ncti gt "vj cp"vj g"ncd"o gcuwtgf "EVG"xcnwg0

Egm	Nqecvkqp	;7' 'Eqphkfgpeg'' Kpvgtxcn'* 1ÅH+					
Ę	Vqr	*803:.'8049+					
5	Dqwqo	*8038.'8048+					
6	Vqr	*70 4.'70 8+					
0	Dqwqo	*8024.'8047+					

Vcdug'E060; 7' 'UEVG'Eqphf gpeg'Kpvgtxcn

P gz v." yj g"ghhgev' qh"enko cvg" cpf "r cxgo gpv' hgcwtgu" qp" UE VG" y gtg" gxcnxcvgf 0'Cpcn{ uku" qh" Xctkcpeg'\*CP QXC+'vguvkpi "y cu'r gthqto gf "qp" yj g"o qpyj n{ "UE VG." yj krg"eqpukf gtkpi "yj g"hqmqy kpi " hcevqtu<tguvtchpv'eqpf kkqp."ur cvkcn'mecvkqp."o qpyj ."co qwpv'qh"tckp."cpf "htgs wgpe{ "qh"tckp" gxgpvu0' Vj g"pwn"j {r qyj guku"ucvgf "yj cv'yj g"cxgtci g"UE VG" hqt"cm'rgxgn" qh"c"i kxgp "hcevqt" y gtg" gs wcn"cpf " y g"cngtpcvkxg"j {r qyj guku"ucvgf "yj cv'cxgtci g"UE VG" https://guwnu"htqo "yj g"CP QXC" yuvkpi "ctg" uj qy p"kp" Vcdng" E**07**0' Vj g"uki pkhlecpeg" rgxgn" ."wugf "htqo "yj g"cpcn{ uku" y cu" 2027"\*7' +0' O qpyj u'yj cv'gzr gtkgpegf "hvml qkpv'memivr" y gtg'tgo qxgf "htqo "yj g"cpcn{ uku" ukpeg' yj g"UE VG" f wtkpi " y gug"o qpyj u'ku'wptgr tgugpvcvkxg" qh'yj g"cewcn'UE VG" xcnvg0

Vcdng'E070CP	QXC'hqt 'UEVG
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Vtgcvo gpv" Hcevqtu	F gi tggu"qh" Htggf qo	Cflwuvgf "Uwo" qh"Uswctgu	Cflwurgf "Ogcp" Uswctg	H∕Xcnwg	R/Xcnwg
Nqecvkqp	3	3029	3029	:075	20226
Tgutckpv	3	7068	7068	6508:	20222
O qpyj	33	9024	2086	7082	20222
Tckphcm'*kp+	9	5053	2069	509:	20223
Htgs 0'qh'Tckphcm	33	509:	2056	4097	20224

Tguwnu"htqo "y g"CPQXC"vguv"uj qy "y cv"cm"vtgcvo gpv"hcevqtu"j cf "c"r/xcnwg"nguu"y cp"y g" uki pkhecpeg"ngxgn'qh'2027."kpf kecvkpi "y cv'y g"cxgtci g"UEVG"xctkgf "cu"c"hwpevkqp"qh'gcej "hcevqt0 J qy gxgt."c"r quv'j qe"vguv'y cu"r gthqto gf "vq"kf gpvkh{ "j qy "UE VG"xctkgf "y kj kp"gcej "hcevqt0'Hktuv." w q/uco r ng"v/vguvu"y gtg"r gthqto gf "vq"vguv"y g"f khgtgpeg"qh"o gcpu"hqt"y g"ur cvkcn"mecvkqp"cpf " tguvtchv'eqpf kkqp0'Vj g"w q/uco r ng"v/vguvu"tguvungf "kp"c"r/xcnwgu"qh'20224."2024"cpf "20222"y j gp" vguvkpi 'hqt"xgtvkecn\*vqr "cpf "dqwqo "qh'y g"urcd+"cpf "j qtk qpvcn\*urcd"eqtpgt "cmpi "y g"egpvgtnkpg"xu" eqtpgt"cf lcegpv'vq"y g"ncpgluj qwrf gt"lqkpv+"ur cvkcn"mecvkqp"cpf "tguvtckpv"eqpf kkqpu."tgur gevkxgn{0' Ukpeg"cm"r/xcnwgu"hqt"y g"w q/uco r ng"v/vguvu"y gtg"dgmy "y g"uki pkhecpeg"ngxgn'qh"2027."kv"y cu" eqpenwf gf "y cv'ur cvkcn"mecvkqp"cpf "tguvtckpv"eqpf kkqpu"y gtg"uvcvkuvkecm{"uki pkhecpv'hcevqtu"y cv' chhgev'y g"UE VG0

Vj g"UE VG"vgpf u"vq"dg"j ki j gt"cv"yj g"dqwqo "qh"yj g"urcd"f wtkpi "yj g"uwo o gt"o qpyj u"cpf "yj gp" nyy gt"f wtkpi "yj g"eqnf gt"o qpyj u0Dqyj "yj g"f khgtgpeg"kp"yj g"kpvgtpcn"tgrcvkxg"j wo kf k{ "qh"yj g"eqpetgvg" dgw ggp"yj g"dqwqo "cpf "yj g"vqr "qh"yj g"urcd"cpf "yj g"vko g"yj g"wr r gt"cpf "nyy gt"r qtvkqp"qh"yj g"lqkpv" nemi'wr "o quv'hkngn{ "eqpvtkdwwg"vq"yj ku"vtgpf 0Cu"yj g"vgo r gtcwxtg"qh'yj g"urcd"kpetgcugu. "lqkpv'ngem/wr " y km"vgpf "vq"qeewt "cv'yj g"dqwqo "qh"yj g"urcd"htuv'ukpeg"yj g"etcemiku"pcttqy gt"yj cp"cv'yj g"dqwqo "cu" eqo r ctgf "vq"yj g"vqr "qh"yj g"urcd"yj g"20597"kp"lqkpv'ugcrcpv'tgugtxqkt"ku"r tgugpv0'Vj ku"cf f kkqpcn" tguvtckpv'tguwnu"kp"c"tgf wevkqp"qh"yj g"UE VG0

Vwng{"r ckty kug"eqo r ctkuqp"vguvkpi "y cu"r gthqto gf "vq"kf gpvkh{"y g"ghbgev"qh"y g"hqmqy kpi " hcevqtu"qp"UEVG<o qpyj."co qwpv'qh"o qpyj n{"tckphcm"cpf "htgs wgpe{"qh"tckphcm0"Kp"yj ku"cpcn{uku." ngxgnu"qh"c"i kxgp"hcevqt"y gtg"i tqwr gf. "cpf "ngxgnu"kp"f khgtgpv"i tqwr u"y gtg"uvcvkuvkecm{ "f khgtgpv" y j gtgcu"ngxgnu"y kj kp"c"i tqwr "ecppqv"dg"eqpukf gtgf "uvcvkuvkecm{"uki pkhecpv0'Hktuv."UEVG"y cu" gxcnxcvgf "cu"c"hwpevkqp"qh"o qpyj. "cpf "kv"y cu"uggp"yj cv"C wi wuv"yj tqwi j "O ctej "j cf "c"uvcvkuvkecm{" j ki j gt "UEVG" y cp"Crtkn" y tqwi j "Lwn (0"V j ku" y cu" o quv" kngn {"f wg" \q" j ki j gt" tckphcm" kp" y g" urtkpi "cpf" uwo o gt" o qpyj u" yj cv' nyy gtgf " yj g" UEVGO' Vq" cuuguu" yj g" ghgev' qh' tckphcm" Vwng{" r ckty kug" eqo r ctkuqp"vgukpi "y cu'r gthqto gf "hqt"co qwpv'qh'tckphcmlkp"c"o qpyj 0'O qpyj u'y kyj "2"kp. "3"kp. "4"kp." cpf "5"kp"qh'\qvcn'tckphcm'j cf "c"uvcvkuvkecm{ 'j ki j gt"UEVG'y j gp"eqo r ctgf '\q"o qpvj u'y ky '6"kp."7"kp." cpf "9"kp"qh"vqvcn"tckphcm0'Vj g"qpn{ "o qpyj "y kj "8"kp"qh"tckphcm'y cu"kp"Lwn{ "qh"4235"cpf "y cu" eqpulf gtgf "cp"qwrlgt"f wg"vq"cp"kpuwlhlekgpv"pwo dgt"qh"qdugtxcvkqpu0'Vj gug"tguwnu"kpf kecvg"vj cv" kpetgcugf "tckphcmltguwngf "kp"c"f getgcugf "kp"y g"UE VG0'Vj g"hkpcn'Vwng{ "r ckty kug"eqo r ctkuqp "vguv" y cu'r gthqto gf '\q'hkpf 'i tqwr kpi u'hqt' y g'tckphcmhtgs wgpe{0J qy gxgt. 'y gtg' y gtg' pq'i tqwr kpi u'y cv' engctn{"uj qy gf "yj cv'yj g"htgs wgpe{"qh"tckp"gxgpvu"j cf "c"uvcvkuvkecm{"uki pkhecpv"kphnwgpeg"qp"yj g" UE VG0'kp "eqpenxukqp. 'y g'kphwgpeg'qh'y g'nqeckqp. 'tguxtckpv'eqpf kkqpu. 'ko g'qh'{gct. 'cpf 'co qwpv' qh"tckphcm"ctg"uvcvkuvkecm{ "uki pkhecpv"hcevqtu"y cv"chhgev'y g"UEVG="j qy gxgt."y g"htgs wgpe{ "qh" tckphcm'y cu'pqv0'Vj ku'r tqxkf gu'gxkf gpeg"y cv'dqy "y g"tgutckpv'eqpf kkqpu'r tgugpv'kp"y g"urcd"cu" y gm'cu'y g'tgncvkxg'j wo kf kv{ 'kp'y g'uncd'kphnvgpeg'y g'UEVG0

#### 60605''Lqkpv'Qrgpkpi 'cpf 'Emukpi 'qp'UT/44

O qpyj n{"ej cpi g'kp"lqkpv'y kf yj 'y cu"guvko cvgf "hqt 'yj g"{gctu'4234"yj tqwi j "4237"wukpi "gcej "qh" yj g"ugpuqtu"cv'mecvkqpu'9"yj tqwi j "32."Hki wtg"E**06**0'Kp"yj ku"uwwf {."yj g"lqkpv'qr gpkpi "cpf "empukpi "ku" guvko cvgf "wukpi "uvtckp"i ci g'f cvc. 'y j kej 'y km'dg'tghgttgf ''q"cu"hkgrf "guvko cvgf 0'Vj g"hkgrf "guvko cvgf " o qpyj n{ 'ej cpi g'kp"lqkpv'y kf yj 'ku'f gvgto kpgf "dcugf "qp'yj g"ej cpi g'kp'o czko wo "cpf 'o kpko wo "uvtckp" yj g"urcd"gzr gtkgpegf "f wtkpi "c"o qpyj 0'Vj g"ej cpi g"kp"uvtckp"y cu"eqpxgtvgf "vq"c"ej cpi g'kp"ngpi yj ." wukpi "Gs wcvkqp"50'Kf'y cu"cuuwo gf "yj cv" yj cv" yj g"ej cpi g"kp"urcd"ngpi yj "\*tguvtckpv'eqpf kkqpu+"ku" wpkhqto "yj tqwi j qw'yj g"ngpi yj "qh'yj g"urcd"dw'xctkgf "vtcpuxgtugn{"cetquu'yj g"urcd"cpf 'y kj 'f gr yj 0

Y j gtg. ê N<sub>hgff</sub> "guv0"? "hkgff "guvko cvgf "o qpvj n{ "ej cpi g"kp"lqkpv'y kf vj ."o kn" o kp"? "o kpko wo "uvtckp"gzr gtkgpegf "kp"c"i kxgp"o qpvj 32<sup>/8</sup>" o cz "? "o czko wo "uvtckp"gzr gtkgpegf "kp"vj g"uco g"o qpvj ."32<sup>/8</sup>" N"? "urcd"ngpi vj "\*stcpuxgtug"lqkpv'ur cekpi +:"3: 2"kp

Vj g"r tgf kevgf "ej cpi g"kp"lqkpv'y kf yj "ku"f gvgto kpgf "dcugf "qp" y g"ej cpi g"kp" y g"vgo r gtcwtg" tgeqtf gf "cv'y g''ko g''y g'o kpko wo "cpf "o czko wo "uvtckpu"qeewttgf 0'Vj ku"ej cpi g"kp"vgo r gtcwtg" y cu y gp"o wnkr nkgf "d{ "y g"rcdqtcvqt{"o gcuwtgf "EVG"vq"f gvgto kpg"cp"gs wkxcngpv"ej cpi g"kp"uvtckp."y j kej " ku"y gp"eqpxgtvgf "vq"c"ej cpi g"kp"urcd"pgi y .'wukpi "Gs wcvkqp"60

 $\hat{e} \operatorname{Nrtgf} \operatorname{kevgf} ?? "*V_0 cz/V_0 kp+ N 3222° krý"$ 

gs 06

#### Y j gtg.

 $\hat{e} N_{rtgf kevgf} "? "rtgf kevgf "o qpvj n{ "ej cpi g'kp" ||qkpv'y kf vj ."o kn \\ V_{o cz} "? "eqttgur qpf kpi "urcd" vgo r gtcwstg" cv'o kpko wo "uvtckp" kp" vj g" urcd. "ÅH" \\ V_{o kp} "? "eqttgur qpf kpi "urcd" vgo r gtcwstg" cv'o czko wo "uvtckp" kp" vj g" urcd. "ÅH" "? "rcdqtcvqt { "eqghhkekgpv'qh' vj gto cn'gzr cpukqp. "7093z32/81ÅH$ N"? "urcd" vgo vj "\*vtcpuxgtug" ||qkpv' ur cekpi + "3: 2" kp

Vj g"o czło wo "cpf "o kpło wo "utckpu"y gtg"gucdrkuj gf "kp"c"utki j vl "f khętgpv'o cppgt "hqt"y g" uwo o gt"o qpyj u"yj cv"gzr gtkgpeg"lqkpv"mem/wr "eqo r ctgf "vq"yj g"eqrf gt"o qpyj u"yj cv"f q"pqv0Hki wtg" E0 c"ku"cp"gzco r ng"r mv"qh"utckp"f cvc "hqt"c"o qpyj "y j gp"lqkpv"mem/wr "f qgu"pqv"qeewt0Kv"ku"uggp"yj cv" gzr cpukqp"qeewtu"cu"yj g"vgo r gtcwtgu"kpetgcug0'Hqt"yj ku"uegpctkq. "yj g"o kplo wo "cpf "o czko wo " utckpu"cpf "vgo r gtcwtgu"kpetgcug0'Hqt"yj ku"uegpctkq. "yj g"o kplo wo "cpf "o czko wo " utckpu"cpf "vgo r gtcwtgu"kp" y g"cpcn{uku"ctg"mecvgf "cv' yj g" vg "gz vtgo g"gpf u"qh"yj g"r mv0' J qy gxgt."y j gp"lqkpv"mem/wr "qeewtu "utckpu"y kn"tgo ckp"eqpucpv"y kj "kpetgcugu"kp"vgo r gtcwtg" chqt"yj g"lqkpv"memi'wr 0'Vj ku"ku"f gr kevgf "qp"yj g"tki j v'ukf g"qh"yj g"i tcrj "kp"Hki wtg"E0 d0'Y j gp"yj ku" qeewtu "y q"hpgct"hggu"ctg"hk/vq"yj g"dkhqpgct"f cvc"ugv0'Vj g"urqr g"qh'yj g"hpg"yj cv'hku'yj g"utckpu"hqt" vgo r gtcwtg0'Vj gtghtg. "hqt 'yj ku"uegpctkq. "yj g"utckp"cpf "vgo r gtcwtg"cv'yj ku" qj cp i gu"kp "yo r gtcwtg0'Vj gtghtg. "hqt 'yj ku"uegpctkq. "yj g"utckp" qdf" ghyo'f ghyoy" q" ej cpi gu"kp"vgo r gtcwtg"cpf "o kplo wo "utckp"% o czko wo "gzr cpukqp+"vq"dg"wugf "kp"yf ghkpgu" y g"o czko wo "vgo r gtcwtg"cpf "o kplo wo "utckp"% o czko wo "gzr cpukqp+"vq"dg"wugf "kp"yf ghkpgu" i g"o czko wo "vgo r gtcwtg"cpf "o kplo wo "utckp"% o czko wo "gzr cpukqp+"vq"dg"wugf "kp"yf ghkpgu" i go "loo yg "lqkpv'mem/wr "qeewtu"ku"gucdrkuj gf "d{"yj g"r qkpv'qh"kpvgtugevkqp"qh'yj gug'y q "hpgct" nkpgu0

### 60806''Hlegf 'Gurko cvgf 'O qpvj n( 'Ej cpi g'lp'Lqlpv'Y lf vj

Vj g'hgnf "guko cvgf "o qpý n{ "ej cpi g'kp'lqkpv'y cu"guxcdrkuj gf "wukpi "gs wcvkqp'5'hqt "gcej "ugpuqt" cpf "r tgugpvgf "kp"Vcdng"E**08**0'Vj g"cxgtci g"qh"yj g"o qpý n{ "ej cpi gu"kp"lqkpv'y kf ý "cv'ý g"vqr "qh"yj g" urcd"ku"62'o kni'cv'ý g"eqtpgt"<sup>\*\*</sup>Nqecvkqpu'9"cpf "; +"cpf "59"o kni'cv'o kf urcd"<sup>\*\*</sup>Nqecvkqpu': "cpf "32+."y j kg" ý g"dqwqo "qh'ý g"urcd"ku'46"o kni'cv'ý g"eqtpgt "cpf "43"o kni'cv'o kf urcd."tgur gevkxgn{0Kp"cf f kkqp."ý g" xctkcdkkk{ "ý tqwi j qwl'ý g"{gct"ku"cnuq"uko krct0'Vj g"vqr "qh'ý g"urcd"hqt "ý g"eqtpgt "cpf "o kf urcd"ugpuqtu" j cf "c'uvcpf ctf "f gxkcvkqp"qh'34"cpf "35"o kn. 'tgur gevkxgn{. 'y j krg'ý g"dqwqo "qh'ý g"urcd"j cu"c'uvcpf ctf " f gxkcvkqp"qh"; "cpf "32"o kn. 'tgur gevkxgn{0Kv'uj qwrf "dg"pqvgf "ý cv'f khlgtgpegu"kp"yg or gtcvwtgu0

KVku'gzr gevgf ''y cv''y g''dqwqo ''qh''y g''urcd''gzr gtkgpegu''uo cmgt ''ej cpi gu''kp''lqkpv'y kf y ''y cp''y g''

vqr "qh'y g"und"dgecwug"y g"vqr "qh'y g"und"gzr gtkgpegu"ncti gt"vgo r gtcwtg"uy kpi u0J qy gxgt."kv"ku" pqkegf 'y cv'ur tkpi "cpf 'uwo o gt'o qpy u"cewcm{ 'j cxg"c"tgf wevkqp"kp"y g"ej cpi g"kp"lqkpv'y kf y "gxgp" y qwi j "y gug"ctg"y g"o qpy u"y kj "y g"ncti guv"vgo r gtcwtg"uy kpi u0'Vj ku"ku"dgecwug"lqkpv'mentwr " qeewtu"f wtkpi 'y gug"vko gu"cpf "cff kkqpcn"kpetgcugu"kp"vgo r gtcwtg"y km"pqv"eqttgncvg"vq"cff kkqpcn' lqkpv"emuwtg0

Vj g"cxgtci g"ej cpi g"kp"lqkpv"y kf y "guvko cvgf "dcugf "qp"ugpuqt "mecvkqp" \*kQ0"cxgtci g"qh"cm" ugpuqtu"cv"y g"vqr "qh"y g"r cxgo gpv"cpf "kp"y g"eqtpgt."cxgtci g"qh"cm"ugpuqtu"cv"y g"dqwqo "qh"y g" r cxgo gpv"cpf "cv"o kf urcd."gve0#"ctg"i tcr j kecm{ "f gr kevgf "kp"Hki vtg"E**085**'cpf "**Gt t qt # T ghgt gpeg**" uqwt eg'pqv'hqwpf 00'Hktuv."y g"ej cpi g"kp"lqkpv"y kf y "cv"y g"eqtpgt"cpf "5"kp"htqo "y g"uwthceg"ku" dgw ggp"y g"ej cpi gu"guvko cvgf "cv'y g"vqr "cpf "dqwqo "dw"o qtg"uko krct"vq"y g"dqwqo ."cu'uj qy p"kp" Hki vtg"E**085**0Vj g"cxgtci g"f khigtgpeg"dgw ggp"y g"vqr "qh"y g"urcd"cpf "5"kp"f qy p"ku"32"o knu'xgtuwu'8" o knu'y j gp"eqo r ctkpi "5"kp"f qy p"cpf "cv'dqwqo "qh'y g"urcd0

# Vcdng'E(80Hkgrf "gusko cvgf <u>"</u>lqkpv"qr gpkpi "cpf "enqukpi " \*o ku

	6C/"				, 	, 	ĺ	Í		
Oqpvj/[gct	EE/	6C/"	6C/"	6C/"	6C/"	6D/"	6D/"	6D/"	6D/"	6D/"
	V	EE/O	EE/D		OR/D	EUV	EUO	EUD		OR/D
Lcpwct{/4234	73	53	40	63	44	63	35	40	64	4/
Hgdtwct {/4234	65	30	48	64	40	<u>64</u>	5/	48	65	48
Octej /4234	7:	74	64	6:	62	73	65	64	65	62
<u>Crtkn/4234</u>	75	69	59	66	53	6;	62	57	62	53
Oc{/4234	64	57	48	58	42	5:	4;	44	52	38
Lwpg/4234	56	53	44	55	39	55	4:	42	4;	34
Lwn(/4234	53	44	34	45	:	46	3:	34	3:	8
<u>Cwi wuv</u> 4234	62	48	37	4;	32	53	44	32	45	8
Ugr vgo dgt/4234	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4234	/	/	/	/	/	/	/	/	/	/
P qxgo dgt/4234	69	57	49	5;	46	63	55	47	5;	47
F gego dgt/4234	/	/	/	/	/	/	/	/	/	/
Lcpwct{/4235	/	/	/	/	/	/	/	/	/	/
Hgdtwct {/4235	6:	56	46	69	44	69	59	47	6:	47
O ctej /4235	75	53	4:	65	46	66	62	48	65	47
<u>Cr tkn/4235</u>	74	57	62	6;	55	68	62	5;	66	54
<u>Oc</u> {/4235	67	55	53	62	42	65	56	46	54	39
Lwpg/4235	54	43	3:	4;	33	53	44	37	46	;
Lwn{/4235	5:	39	35	45	8	48	42	32	3;	9
C wi wu√4235	64	46	44	55	32	53	46	36	47	:
Ugr vgo dgt/4235	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4235	7:	64	65	77	59	78	69	5:	74	59
P qxgo dgt/4235	76	58	5;	72	57	73	65	59	72	58
F gego dgt/4235	5;	52	4:	5;	47	5;	55	49	5:	49
Lcpwct{/4236	42	3:	39	75	53	75	65	4;	79	56
Hgdtwct{/4236	72	62	39	75	47	75	63	49	79	4:
O ctej /4236	7;	58	52	78	52	69	62	55	77	54
Crtkn/4236	68	55	55	58	4:	5:	49	4:	56	4:
O c{/4236	55	4:	54	4:	42	55	47	3;	49	36
Lwpg/4236	46	3;	42	43	;	46	37	,	39	:
Lwn{/4236	4:	46	39	47	;	47	3:	32	3;	:
Cwi wuv/4236	53	45	43	48	36	47	3;	33	42	9
Ugr vgo dgt/4236	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4236	62	55	46	5:	42	5:	4;	43	58	43
P qxgo dgt/4236	6;	63	55	6;	53	6;	64	54	6;	54
F gego dgt/4236	53	4:	47	54	43	52	48	45	53	44
Lcpwct{/4237	64	42	3:	6;	49	67	58	39	6;	4;
Hgdtwct{/4237	7:	39	35	83	54	7;	68	4;	86	58
O ctej /4237	7;	56	47	84	49	7:	67	52	85	55
Crtkn/4237	57	56	54	58	44	57	47	3;	55	44
Oc{/4237	53	48	42	54	39	52	43	38	46	36
Lwpg/4237	45	39	35	44	:	44	37	:	38	:
Lwn{/4237	42	32	32	39	:	3;	32		36	:
Cwi wuv/4237	3:	3:	35	49	:	48	39	L,	3:	9
Ugr vgo dgt/4237	43	44	3:	4:	34	4:	42	35	47	32
Oevadet/4237	72	65	56	6:	4:	69	59	4:	63	4:
Paxgo dot/4237	73	65	57	6:	.52	6:	5.	.52	69	.53
F gego $dgt/4237$	/	/	/		/	/	/	/	/	/
Cxgtci g	63	52	47	5:	43	5:	53	45	58	43
Ucpf ctf 'F gx0	34	;	;	34	;	33	32	;	36	33



Hki wtg'E050Cxgtcig'Hgnf "gunko cvgf "o qpvj nf" ej cpig'kp'lqkpv'y kf vj "cv'vjg'urcd" eqtpgtu



Hki wtg'EB60Cxgtcig'Hgnf "gunko cvgf "o qpvj nf" ej cpig'hp'lqkpv'y hf vj "cv'o hf uncd

# 60807''Rt gf levgf 'Ej cpi g'lp'O qpvj n( 'Lqlpv'Y lf vj

Vj g"o gcuwtgf "urcd" yo r gtcwtg" y cu'wugf "vq"f gvgto kpg" y g"ej cpi g"kp"lqkpv" y kf y "cv"gcej "ugpuqt" hqt "y g"f wtcvkqp" qh" y g"cpcn{uku'wukpi "Gs wcvkqp"60" Vj g"xcnwgu" ctg" tgr qtvgf "kp" Vcdng" E**0**0" Vj gtg" ctg" uko kretkkgu" kp" y g"r tgf kevgf "xcnwgu" hqt" y g"eqtpgt" cpf "o kf urcd" ugpuqtu0" Vj g"vqr "qh" y g"r cxgo gpv" j cf "cp" cxgtci g"r tgf kevgf "o qpyj n{"ej cpi g"kp"lqkpv" y kf y "qh"5; "o knu" cv" y g"eqtpgt" cpf "62" o knu" cv" o kf urcd0" Vj g"dqwqo "qh" y g"urcd" j cf "cp" cxgtci g"r tgf kevgf "o qpyj n{"lqkpv" y kf y "ej cpi g"qh" 44" o knu" cv" y g"eqtpgt" cpf "42" o knu" cv" o kf urcd0" Kv" ku" kpwkk kg" y cv" y g"dqwqo "qh" y g" urcd" y g" qurcd" y g"urcd" ej cpi g"kp"lqkpv" y kf y "qr gpkpi "ukpeg" y gtg" ctg" my gt" vgo r gtcwt g" uy kpi u" cv" y g"dqwqo "qh" y g" urcd" eqo r ctgf "vq" y g" vqr "qh" y g" urcd0" Kp" cff kkqp. "y g" xctkcdkkk{" "kp" y g"f cv" ku" cr r tqzko cvgn{" y g" uccd" y g" urcd" u u" vy g" urcd" y g" urcd" u u" vy g" urcd" y g

Nkng'ý g'hkgnf "guvko cvgf "ej cpi g"kp"o qpyj n{ "lqkpv'y kf ý ."ý g'uncd"gzr gtkgpegf "c'uo cmgt"ej cpi g" kp"lqkpv'y kf ý "kp"ý g"un tkpi "cpf" uvo o gt"o qpyj u"f vg" vq"lqkpv' mem/wr 0'Lqkpv' mem/wr "v{r kecm{" qeewttgf 'y j gp"ý g'uncd'vgo r gtcwtg'y cu'dgwy ggp'97"cpf "; 2ÅH 'f gr gpf kpi "qp"ý g'vko g'qh"{ gct"cpf " mecvkqp'y kj kp'ý g'uncd0

# Vcdng'EØ0Rt gf kevgf "o qpvj nf "ej cpi g"kp"lqkpv'y kf vj "\*o ku+

	6C/"	6C/"	6C/"	6C/"	6C/"	6D/"	6D/"	6D/"	6D/"	6D/"
O qpvj /[gct	EE/V	EE/O	EE/D			EUV	EUO	EUD		OR/D
Icpwct{/4234	72	54	52	66	42	62	52	42	66	43
Hedtwet{/4234	64	56	46	66	44	63	.54	44	66	45
Octei /4234	78	74	66	6:	5:	73	64	5:	65	5:
Crtkn/4234	77	67	54	67	4:	67	59	53	64	52
$Oc{/4234}$	5:	56	46	5:	42	59	4:	44	54	39
Iwpg/4234	52	4:	42	59	3:	53	49	42	57	34
Iwn (/4234)	54	44	32	4:	:	45	3:	34	45	
C wi ww/4234	58	43	35	55	32	4:	42	:	4:	
L  br wo dot/4234	/	/	/	/	/	/	/	. /	/	. /
Oevadot/4234	/	/	,	/	/	/	/	/	/	/
Paxeo det/4234	62	53	44	63	42	5.	52	43	63	43
F gego dgt/4234	/	/	/	/	/	/	/	/	/	/
$\frac{1 \operatorname{gego} \operatorname{ugl} + 234}{\operatorname{Icnwct} \left\{ / 4235 \right\}}$	/	/	/	/	/	/	/	/	/	/
Hedtwet { /4235	6.	40	45	73	43	69	57	43	72	1
Octei /4235	74	58	45	6.	43	68	56	43	6.	44
Crth/4235	72	64	58	75	52	6.	62	5.	<u> </u>	<u> </u>
Oct/4235	65	58	<u> </u>	65	43	5.	54	<u> </u>	57	<del>7</del> , <b>38</b>
Iung/4235	52	43	30	54	35	<u> </u>	3.	37	4.	33
Lwpg/4233	57	3.	33	47	0	 /7	3.	37		
<u>LW1</u> (74233	65	3;		57	22	4/	<u> </u>	34	45	, ,
Ubr upo dot/4235	05	<b>4</b> /	42	51		<b>4</b> ;	43		49	<u> </u>
$\frac{0}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{10000} \frac{1}{10000000000000000000000000000000000$	76	68	57	7.	55	76	67	56	7.	56
$\frac{Qequgt/4233}{Paxro dat/4235}$	70	64	55	7.	53	60	62	53	7.	54
$\frac{\Gamma q x g 0 d g t / 4233}{F g a g 0 d g t / 4235}$	58	53	16	5.	15	58	52	15	5.	16
Lopupt [/4235	2.	2.	26	70 70	45	74	62	45		52
Hedtwet [/4230	73	<u> </u>	36	79	4.	74	62	4.	79	<u> </u>
$\frac{1}{2}$	75 94	50	18	70 95	40	68	5.	4/ 52	70 <b>91</b>	52
Crtlm/4230	68	54	52	5.	4,	50	<u> </u>	1.	59	1.
$\frac{C11N14230}{Oa(1/4226)}$	57	<u> </u>	52	52	49	59	49	4.	50	4.
UC{/4230	51	4;	33	52	42	<u> </u>	49	;		<u> </u>
Lwpg/4230	40		27	43	35	43	3/	, 30	42	
LW1(74230	4;	44	37	4/	;	40	3:	32	44	
Um www.4230		43	42	4;	<u> </u>	40			45	
$\frac{\text{Ogr} \text{ go ugl}/4230}{\text{Ogr} \text{ dgt}/4226}$	5.	1.	2.	62	20	50	10	2.	62	2.
Qevqugt/4250	5:	4;	<u> </u>	74	39	59	49	3:	05	<u> </u>
F qxg0 dgt/4230	52	; 	4;	54	2.	09	<u> </u>	4:	52	4;
F gego ugt/4250	52	40	<u>45</u> 20	54	3;	4;	4/	3; 27	55	42
Lepwei {/4257	7.	20	20	09	4/	7.	50	3/	00	<u>40</u> 52
$\frac{\text{Hgatwet}{/423/}}{\text{O}_{\text{stat}}/4227}$	/;	59	33	80	4;	/:	60	4:	00	51
Octej /4237	<u> </u>	55	<u> </u>	<u>89</u>	40	82 50	08	32	00 50	34
Crtkn4237	57	34	34	5:	43	<u> </u>	48	3;	<u> </u>	43
$\frac{0c}{4237}$	52	45	3;	33	3:	48	43	3;	48	38
Lwpg/4237	44	39	34	4/	32	43	38	;	3;	32
$\frac{1}{1200}$	43	35	33	46	33	44	35	,	43	
<u>Cwi wuv 4237</u>	39	39	33	4:	33	45	59	,	43	;
Ugr vgo dgt/423/	44	5:	56	52	53	49	43	53	49	;
Qevqagt/4237	08	<u> </u>	49	/2	4/	08	59	48	03	48
P qxgo dgt/4237	69	<u> </u>	4:	/3	49	09	<u> </u>	49	/3	4:
F gego dgt/4237		/	/	/	/	/		/	<u>/</u>	/
Cxgtc1 g	62	4;	44	63	42	5:	4;	44	5;	42
UVCPUF gx0	34	32	1 :	34	1 :	33	52	1 :	1 35	1 ;

**Dqrf** 'lpf lecvgu'lqlpv'enquwtg'qeewttgf 0Kcrleu'lpf lecvgu'pq'lqlpv'enquwtg'qeewttgf 0 õ, ö'lpf lecvgu'liwn'lqlpv'iqeni'wr "cpf ''y g'xcrwg'lu'wptgr tgugpvcvkxg"qh''y g'lqlpv'o qxgo gpv0 õ/ö'egmilipf lecvgu'y cv'y gtg'y cu'lpuwhlekgpv'f cvc''q"guvcdrkuj ''c''UE VG'xcrwg''cpf ''ctg"pqv'lperwf gf '' kp"cxgtci gu0



Hki wtg'E0370Cxgtcig"rtgfkevgf "o qpvjn{"ejcpig"kp"lqkpv'y kfyj"cv'vjg"uncd"eqtpgtu



His wtg'EB80Cxgtcig'rtgfkevgf 'o qpyjn('ejcpig'kp'lqkpv'y kfyj'cv'o kfuncd

# 60808''Hlgtf 'Gurko cvgf 'xgt uwu'Rt gf levgf 'O qpvj n( 'Ej cpi g'lp'Lqkpv'Y lf vj

I torj keon'ego rotkugpu''gh'y g'hkgnf "guvko ovgf "xgtuwu''r tgf kevgf "oxgtoi g"o gpyj n{ "ej opi g''kp''lgkpv" y kf ý "cv'ý g"und"eqtpgt "ku'uj qy p"kp"Hki wtg"E**069'**ý tqwi j "Hki wtg"E**06; 'h**qt"ý g"vqr. "5"kp"htqo "ý g" uwthceg. "cpf "dqwqo "qh'y g'urcd. "tgur gevkxgn{ 0K/ku'y qwi j v'y cv'y g'htkevkqp"dgw ggp"y g'dqwqo "qh" y g"und"cpf "vqr "qh"y g"dcug"rc { gt "tgf wegu"y g"qxgtcm'und"o qxgo gpv0'Hqt "c"und"qp "c"uvcdktk gf " dcug. 'y g'htlevlqpcn'eqghhelgpv'ku'cuuwo gf 'vq'dg'20870J qy gxgt. 'kv'ku'engctn{ 'uj qy p'kp'Hki wtg'E089'' y tqwi j "Hki wtg"E (B; 'Y cv'y gtg"ctg"pq"ncti g"tgf wevkqpu"kp"y g"hkgnf "guvko cvgf "o qpy n{ "ej cpi g"kp" lqkpv'y kf y "eqo r ctgf "\q"y g"r tgf kevgf "xcnwg0Kp" hcev. "Hki wtg" E06; "kpf kecvgu" y cv'y g"hgrf "guvko cvgf" xcnwg"ecp"dg"cewcm{ "rcti gt"y cp"y j cv"ku"r tgf kevgf 0'Vj ku"o quvn{ "qeewtu"dgecwug"y j g"kp/ukw"E VG"qh" y g"uncd"ku"unki j vn{"ncti gt"y cp"y g"ncdqtcvqt{"o gcuvtgf"EVG"qh"y g"eqpetgvg0'V g"ncdqtcvqt{" o gcuwtgf "EVG"y cu"7093" 1ÅH eqo r ctgf "vq"cp"kp/ukw'uvt wewtch EVG. "r tgxkqwun("f gvgto kpgf."qh" 70; "IÅH"cpf "8085" IÅH"hqt "y g"vqr "cpf "dqwqo "qh"y g"urcd. "tgur gevkxgn("]85\_0'Vj g"r tgf kevgf " o qpy n{ "ej cpi g"kp" lqkpv'y kf y "ku'f gygto kpgf "wukpi "y g" rcdqtcvqt { "o gcuwtgf "EVG0'V j g" rcdqtcvqt { " EVG"ku"rqy gt" y cp" y g"kp/ukw"uvtwewtcn" EVG." f wg"kp/r ctv" vq" y g" f khigtgpeg" kp" y g" o qkuwtg" eqpf kkqpu'qh'y g'icdqtcvqt { 'ur geko gp'kp''eqo r ctkuqp''vq''y g'kp/ukw''eqpf kkqpu']85\_0'Vj gtghqtg.''y gtg' ku"c"uo cml'f khigtgpeg"kp"yj g"r tgf kevgf "o qpyj n{ "ej cpi g"kp"lqkpv'y kf yj "y j gp"wukpi "yj g"rcdqtcvqt { " o gcuwtgf 'EVG'xgtuwu''y g'kp/ukw'EVG0Vj g''cxgtci g'f khegtgpeg''dgw ggp''y g'hkgrf ''gurko cvgf ''o qpy n{ '' cxgtci g'ej cpi g'kp'lqkpv'y kf y 'cpf 'y g'xcnwg'r tgf kevgf 'wukpi 'y g'vgo r gtcwtg'f cvc'y cu'303. '20. 'cpf

404" o ku''hqt ''y g''vqr .''5''kp''f qy p.''cpf ''dqwqo ''ugpuqtu''nqecvgf ''kp''y g''urcd''eqtpgtu.''tgur gevkxgn{0'Kp'' cff kkqp.''y g''uvcpf ctf ''f gxkcvkqp''hqt''y g''f khigtgpeg''kp''hkgrf ''guvko cvgf ''cpf ''y g''r tgf kevgf ''ej cpi g''kp'' lqkpv''qr gpkpi ''cv'y g''urcd''eqtpgt ''ku''402.''406.''cpf ''405''o kuu''hqt''y g''vqr .''5''kp''f qy p.''cpf ''dqwqo ''qh'y g'' urcd0' Ci ckp.'' y gug'' f khigtgpegu'' ctg'' o quv'' nkngn{"f wg'' vq'' y g'' f khigtgpeg'' dgw ggp'' y g'' rcdqtcvqt {'' o gcuwtgf ''cpf ''kp/ukw'EVG0Vj ku'kpf kecvgu''y cv'y g''htevkqpcn''eqghhekgpv'qh'2087''j kuvqtkecm{ ''wugf ''kp'' r tgf kevkpi ''y g''ej cpi g''kp''lqkpv'y kf y ''hqt''r cxgo gpvu''qp''c''uvcdkk{ gf ''dcug''vpf gtguvko cvgu''y g''cewvcn'' xcnwg''cu''y gtg'y cu''pqv'c''87' ''f khigtgpeg''dgw ggp''y g''hgrf ''guvko cvgf ''cpf ''r tgf kevgf ''xcnwgu0



Hki wtg'E090Hkgnf "gunko cvgf "xu"rtgf kevgf "cxgt ci g"o qpvj nf "ej cpi g"kp"lqkpv"y kf vj "cv"vj g"vqr "qh"vj g" urcd"kp"vj g"eqtpgtu



Hki wtg'ECB: OHkgrf "gunko cvgf "xu"rtgf kevgf "cxgt cig"o qpvj n("ej cpig"kp"lqkpv'y kf vj '5"kp"f qyp"kp" vjg"eqtpgtu



Hki wtg'EB; OHkgrf "gunko cvgf "xu"rtgf kevgf "cxgt ci g"o qpvj nf "ej cpi g"kp"lqkpv"y kf vj "cv"vj g"dqwqo" qlivj g"urcd"kp"vj g"eqtpgt
#### 6000 DcemEcrewrcvgf 'Ht levkqpcnEqgHtlelgpv<'Vj gt o cnEj cpi gu

Vj g'f guki p''gs wcvkqp''wugf ''vq''r tgf kev'y g''ej cpi g''kp''urcd''rgpi y .''y j kej ''ku''gs wkxcrgpv''vq''ej cpi g'' kp''lqkpv'y kf y .''ku''r tqxkf g''kp''Gs wcvkqp'7'']86\_0'Vj g''htkevkqpcn'eqghhkekgpv'kp''Gs wcvkqp'7''ceeqwpw''hqt'' tguvtchpv'kp''urcd'f ghqto cvkqp'f wg''vq''htkevkqp''dgwy ggp''y g''dcug''cpf ''y g''wpf gtn{kpi ''rc { gt0

gs 07

Y j gtg.

 $\hat{e}\,N_{\!f\,gu\!k\!i\,p}$ ''? 'f guki p''ej c<br/>pi g''kp''uncd''ngpi vj $.'k\!p$ 

E '? 'htke kqp'eqghhekgpv\*2087'hqt'uvcdkrk gf = '20 'hqt'i tcpwrct'dcug='3'hqt'urcd'qp'uvdi tcf g+ N'? 'kpkkcn'urcd''rgpi yj .'kp

V"? "vgo r gtcwtg"ej cpi g. "ÅH

"? "rcdqtcvqt { "o gcuwtgf "eqpetgvg"eqghhkekgpv"qh"yj gto cn"gzr cpukqp."32/81ÅH

 $_{\rm FU}$ "? "ncdqtcvqt{"o gcuwtgf "wnko cvg"f t{kpi "uj tkpmci g"qh'yj g"eqpetgvg."32^8

 $\label{eq:kgcm} \begin{array}{l} \texttt{Kgcm} . "yj g" \ensuremath{\hat{v}}_{fguki p}" \ensuremath{htqo} "Gs werkqp" 7" uj qwrf" "gs werl'yj g" ej epi g" \ensuremath{kp}" ured" ngpi yj "gurko evgf" wukpi "yj g' \ensuremath{htgrf}" fewe. "\ensuremath{\hat{v}}_{hgrf" \ensuremath{gund}}" \ensuremath{htqo} "Gs werkqp" 5. "qt \\ \end{array}$ 

#### ê Nf guki p"? "Ê Nhkgrf "gur0"

gs 0'8

Upeg'ý g'hgrf "guvlo cvgf "cpf "r tgf levgf "ej cpi g'hp'lqkpv'y kf ý "hqt'ý ku'uwxf { "ctg"f gvgto kpgf "qp" c"o qpý n{ "dcuku"cpf 'ý g"f cvc"wugf 'y cu"eqngevgf "chygt"r cxgo gpv'y cu"qxgt"34"{ gctu"qrf ."kv"ecp"dg" cuuwo gf ''ý cv'f t{kpi "uj tkpnci g"y kn'j cxg"c"o kpko cn"ghbgev'qp"'y g"r tgf levgf "ej cpi g"kp"lqkpv'y kf ý "hqt"c"i kxgp"o qpý 0'Vj wu. 'ý g"f t{kpi 'uj tkpnci g'ý cv'f gxgrqr u"ecp"dg"cuuwo gf ''q"dg"| gtq"hqt"Gs wcvkqp" 70'Dcugf "qp"'y ku. 'ý g"htlevkqpcn'eqghblekgpv'ku'uko r n{ ''y g"tcvkq"qh''y g"hgrf "guvko cvgf "ej cpi g"kp"lqkpv" y kf ý ''q"r tgf levgf "xcrwg. ''uj qy p'kp'Gs wcvkqp''90

$$C = \frac{* \circ cz'' \circ kp + N '3222^{\circ kn} y_{p''}}{*V_{o} cz/V_{o} kp + N 3222^{\circ kn} y_{p}} gs \Theta$$

Kp"y ku"ecug. "y g"htkevkqpcn"eqghhkekgpv"y cv"ku"dgkpi "f gvgto kpgf "ecp"qpn{ "dg"cr r nkgf "vq"y g" y gto cn'ej cpi g"kp"uncd"ngpi y ."pqv'vq"y g"f t{kpi 'uj tkpnci g0'Vj g"dcenecnevncvgf "htkevkqpcn'eqghhkekgpv" hqt"gcej "o qpy "cpf 'ugpuqt"nqecvkqp"ku"uj qy p"kp"Vcdng"E0 0'Dcenecnevncvgf "htkevkqpcn'eqghhkekgpv. y gto cn'E/xcnvg. "y ky "o qpy n{ "cxgtci g"htkevkqpcn'eqghhkekgpvu"i tcr j kecn{ "f gr kevgf "kp"Hki vtg"E042" cpf "Hki vtg"E0430'Vj g"cxgtci g"dcenecnevncvgf "htkevkqpcn'eqghhkekgpvu"cpf "uvcpf ctf "f gxkcvkqpu"ctg" tgr qtvgf "cv"y g"dqvqo "qh"Vcdng"E070'Vj gug"xcnvgu"ctg"o qtg"tgr tgugpvcvkxg"qh"c"uncd"qp"uvdi tcf g" f guki p. "y j gtg"y g"htkevkqpcn'eqghhkekgpviku"cunvo gf "vq"dg"3."cpf "pqv'c"uvcdktk gf "dcug. "y j kej "ku"20870

O qpvj /[gct	6C/" EE/V	6C/" EE/O	6C/" EE/D	6C/" OR/V	6C/" O R/D	6D/" EU/V	6D/" EU/O	6D/" EU/D	6D/" O R/V	6D/" O R/D
Lcpwct{/4234	3025	20,7	202	20,5	302:	3024	302:	<i>30</i> 88	20,8	<i>30</i> 87
Hgdtwct{/4234	3025	3022	3Œ;	20,6	3084	3025	<i>30</i> 2:	<i>30</i> 88	2Q :	<i>30</i> 86
O ctej /4234	3026	3022	207	20;	3029	3022	3024	302;	3@22	3026

Cr tkn/4234	20;:	3026	3089	20;:	302:	3082	302:	3087	20,8	3026
Oc{/4234	302;	3027	3083	20,5	20;;	3026	3028	3022	20,6	20,6
Lwpg/4234	3083	3026	3083	20:	20,4	3029	3026	3023	20.4	3022
Lwn{/4234	20,9	3024	<b>308:</b>	209;	20,8	3024	3022	20,8	2099	2095
Cwi wuv/4234	3083	3045	30B:	20:	20,5	3083	3087	3043	20.2	20.6
Ugr ygo dgt/4234	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4234	/	/	/	/	/	/	/	/	/	/
P qxgo dgt/4234	3089	3086	3045	20,8	3087	302:	3084	3044	20,8	<i>30</i> 89
F gego dgt/4234	/	/	/	/	/	/	/	/	/	/
Lcpwct{/4235	/	/	/	/	/	/	/	/	/	/
Hgdtwct{/4235	3022	3046	3027	20,5	302:	3023	3028	3087	20,7	<i>30</i> 85
O ctej /4235	3024	209	308:	20:	3084	20,7	308:	3089	20:	<i>30</i> 86
Crtkn/4235	3026	206	3083	20,4	3082	20;:	3022	3024	20,4	302;
Oc{/4235	3028	20,4	3084	20,4	3022	302;	3027	302:	20,4	3027
Lwpg/4235	3029	20; :	302:	20;	20.2	3033	3045	20,8	20.9	20.3
Lwn{/4235	302:	20,3	3046	20,7	20,8	3026	3027	3024	20.6	2099
Cwi wuv/4235	20,8	20; :	3082	20,5	20,4	302:	3@6	20;;	20,4	20, ;
Ugr vgo dgt/4235	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4235	3028	20,3	3043	20,6	3Ø3	3025	3026	3085	20;	302;
Pqxgo dgt/4235	302;	209	3042	3022	3084	302:	3029	<i>30</i> 88	2Q;	3035
F gego dgt/4235	302;	20,6	<i>30</i> 88	3022	3082	302;	3082	3086	2Q;	3035
Lcpwct {/4236	3025	2Q 9	30B;	20,5	30B3	3025	3027	3023	3022	3034
Hgdtwct{/4236	20:	20,6	<i>30</i> 88	20,5	3027	3022	3026	3082	3024	3Ø3
O ctej /4236	20,7	20,8	3089	20,2	3024	3023	3023	3029	20;	3027
<u>Crtkn/4236</u>	3022	3023	3035	20,8	3025	3025	20:	3023	20,6	2Q :
<u>Oc</u> {/4236	20,7	3022	3025	20,7	3025	20,9	20,6	20; :	20 :	3028
Lwpg/4236	20;;	3027	20,2	20,4	20.2	3026	3022	,	20.9	2096
Lwn{/4236	20,8	3082	3086	20;;	20,6	20; :	20,9	3027	20:	3024
<u>Cwi</u> wuv/4236	3022	3084	3029	20:	20.3	3029	3026	3024	20;	20,3
Ugr vgo dgt/4236	/	/	/	/	/	/	/	/	/	/
Qevqdgt/4236	3027	3087	304:	20,4	<i>30</i> 88	3024	3028	3042	20:	<i>30</i> 88
P qxgo dgt/4236	3026	3027	3089	20,7	3084	3026	3082	3087	20,7	3085
F gego dgt/4236	3027	3027	3042	3023	3083	3026	3026	308:	2Q;	<i>30</i> 85
Lcpwct {/4237	20,5	3085	3084	3027	302:	3024	3024	3088	3029	3084
Hgdtwct{/4237	2Q:	3024	308:	20,8	3Œ;	3025	3027	3023	3023	<i>30</i> 89
O ctej /4237	20,8	3027	3089	20,4	3084	20,8	20,9	2Q;	20,7	3025
<u>Crtkn/4237</u>	20;;	3027	3024	20,7	3027	3024	20;:	3025	20,4	3026
<u>Oc{/4237</u>	3025	3083	3028	20,7	20,6	3084	3022	204	20,5	20:
Lwpg/4237	3024	3026	3029	20,3	20,2	3026	20,7	20.9	205	20.3
Lwn{/4237	20,5	20.2	20;;	2092	2097	20.7	209;	,	2089	2084
<u>Cwi</u> wuv/4237	3083	3084	3084	20,9	208:	3085	3025	, <u> </u>	20,5	20.4
Ugr vgo dgt/4237	20,8	3045	304;	20,7	3083	3026	20,7	3082	20,3	3089
Qevqdgt/4237	3029	3084	3046	20,8	3082	3023	3023	3084	20,8	3033
P qxgo dgt/4237	302;	3082	3044	20,8	3033	3025	3026	3084	20,6	3035
F gego dgt/4237	/	/	/	/	/	/	/	/	/	/
Cxgtci g	3025	3025	3085	20,5	3024	3025	3026	3029	20,4	3024
Ucp0F gx0	2028	2032	2032	2028	2034	2027	2029	202;	2029	2037

Vcdrg'EQ ODcenecrewrcvgf /ht/kevkqpcn/eqg/lkekgpu/sjgtocn/E/xcrwg

Dqnf 'kpf kecvgu'lqkpv'enquvtg''qeewttgf 0Kcrkeu'kpf kecvgu'pq'lqkpv'enquvtg''qeewttgf 0 õ, ö'kpf kecvgu'livml'qkpv'hqenl'wr "cpf 'yj g'xcnvg'ku'wptgr tgugpvcvkxg''qh'yj g'lqkpv'o qxgo gpv0 õ/ö'egmlkpf kecvgu'y cv'yj gtg'y cu'kpuvhhekgpv'f cvc''\q''guvcdrkuj "c''UE VG'xcnvg''cpf "ctg''pqv'kpenvf gf " kp''cxgtci gu0 Vj gug"hkpf kpi u"kpf kecvg"yj cv'yj g"ej cpi g"kp"lqkpv"y kf yj "f wg"vq"ej cpi gu"kp"vgo r gtcwxtg"ku" o wej "rcti gt"yj cp"y j cv"ku"ceeqwpvgf "hqt"kp"yj g"f guki p"r tqeguu0'Vj ku"r qvgpvkcm{ "ecp"j cxg"cf xgtug" eqpugs wgpegu"qp"yj g"r gthqto cpeg"qh"yj g"lqkpv"ugcrcpv0'Gzeguukxgn{ "rcti g"lqkpv"qr gpkpi u"kp"yj g" y kpvgt 'yj cv"ctg"wpceeqwpvgf "hqt"ecp"tguwn/kp"utckpu"kp"yj g"ugcrcpv'yj cv"gzeggf "yj g"crqy cdrg"utckp" yj tguj qnf "tguwnkpi "kp"cf j gukxg"qt"eqj gukxg"hcknwtgu0

Hki wtg'E042'cpf "Hki wtg'E043'uj qy "yj cv'yj g'rcti guv'htkevkqpcn'eqghhkekgpv'ku'qdugtxgf "kp"yj g'rcm" cpf ''y kpygt 'o qpyj u''y j gp'lqkpv'enquwtg'f qgu'pqv'qeewt 'cpf ''y g'kp/ukw'uvt wewtch'EVG'ku'ncti guv']85\_." y j krg''y g''uo cmgt 'ht kevkapcn'eqghhkekgpvu''ctg''qdugt xgf 'kp''y g''ur tkpi ''cpf ''uwo o gt ''o qpy u''y j gp''lqkpv'' enquwtg"qeewtu0'Vj ku"ku"gur gekcm{ "vtwg"hqt "yj g"o kf uncd"dcemecnewncvgf "htlevkqpcn'eqghhkelgpvu0'Vj g" tgf wevkqp'kp''y g'htkevkqpcn'eqghhkekgpv'kp''y g''ur tkpi "cpf ''uwo o gt ''o qpy u''ku''nkmgn( ''dgecwug''y g'hkgnf '' guko cvgf "cpf "r tgf kevgf "lqkpv'emukpi u"ctg"uo cm<sup>1%</sup>Kg0"guu'y cp'32"o kn+"eqo r ctgf "vq"o qpy u'y j gp" lqkpv"enquwtg"f qgu"pqv"qeewt0'Ukpeg"yj g"dcenecrewrcvgf "htkevkqpcn"eqghhekgpv"ku"yj g"tcvkq"qh"yj g" r tgf kevgf "vq"hkgnf "guvko cvgf "ej cpi g"kp"lqkpv"y kf ý ."uo cm'f khlgtgpegu"dgw ggp"ý g"r tgf kevgf "cpf " hlgnf "guvko cvgf "xcnvg"ecvug"ncti g"ej cpi gu'kp'vj g'htkevkqpcn'eqghhkekgpv0Hqt"gzco r ng. "ugpuqt"6C/EE/" V"j cf "c"hkgnf "guvko cvgf "cpf "r tgf kevgf "ej cpi g"kp"lqkpv"y kf vj "qh"73"cpf "72"o knu."tgur gevkxgn{."kp" Icpwct { "qh'42340Kp'F gego dgt "qh'4236." y g'hgnf "guvko cvgf "cpf "r tgf kevgf "ej cpi g'kp'lqkpv'y kf y 'y cu" 53"cpf "52"o knu."tgur gevkxgn{0Vj g'f khhgtgpeg"dgw ggp"vj g"hkgnf "guvko cvgf "cpf "r tgf kevgf "ej cpi g"kp" lqkpv'y kf y "ku"qpn{ "3"o kn0J qy gxgt." y g"hkgnf "guvko cvgf "ej cpi g"kp"lqkpv'y kf y "kp"Lcpvct { "qh"4234"ku" ncti gt"yj cp"yj cv"kp"F gego dgt"qh"42360'Vj gtghqtg."y j gp"yj g"r tgf kevgf "ej cpi g"kp"lqkpv"y kf yj "ku" pqto cnk gf "d{ "y g"hkgrf "guvko cvgf "xcnwg. "y gtg"y km'dg"c"ncti gt "ej cpi g"kp"y g"htkevkqpcn'eqghhkekgpv" ht "F gego dgt "4236"dgecwug" y g"f gpqo kpcvqt "ku"uo cmgt0 Vj ku"ku"o qtg"pqvkegcdng" hqt" y g"o qpy u" y kj "lqkpv"nqen/wr "ukpeg" y g"hkgrf "guvko cvgf "ej cpi g"kp"lqkpv" y kf y "ku"uo crngt "kp" y qug" o qpy u" eqo r ctgf "vq"y g'hcm"cpf "y kpvgt "o qpy u'y j gp"lqkpv'mem/wr "f qgu'pqv'qeewt0



Hki wtg'E0420Cxgtcig'oqpvjn('htkevkqpcn'eqghkekgpvu'\*vjgtocn+'dcenecrewrcvgf'hqt'eqtpgt'iutckpu' \*4234'vjtqvij'4237+



Hi wtg'E0430Cxgtcig'oqpvjn 'htkevkqpcn'eqghkekgpvu'\*vjgtocn+dcenecrewrcvgf'hqt'okfurcd'' utckpu'\*4234''vjtqwij''4237+

Vq" guvcdrkuj "c" tgr tgugpvcvkxg" htlevkqpcn' eqghhlekgpv." vj g" ur cvkcn' xctkcdkrkv{" o wuv' httuv' dg" kpxguvki cvgf 0' Hki wtg" E 083" cpf " Hki wtg" E 084" uj qy " uqo g" ugcuqpen' xetkevkqp" kp" vj g" htkevkqpen' egghhelegpulug" apn{"vj g"xcnwgu"ko"vj g"egnf gt"o apvj u"\*P axgo dgt."F gego dgt."Lcpwct{."cpf "Hedtwct{+" ctg"eqpulf gtgf "ukpeg" y ku"ku" y j gp" y g"lqkpv" y kf y "y km'dg" y g" y kf gu O'Hktuv." c"r cktgf "V guv" uj qy gf." y kj "c"; 7' "rgxgrl'qh'eqpht gpeg." y cv'y gtg"ku'pqv'c"uvcvkuvlecm{ "uki pkhecpv'f khgtgpeg"dgw ggp"vqr " cpf "dqwqo "qh'y g'urcd"tgi ctf rguu"qh'y g'ugpuqt "rgecvkqp"\*9.": ."; ."32+0Vj g'r/xcrwg"hqt "gcej "rgecvkqp" y cu" 20222." 20222." 2025: ." cpf " 20222." tgur gevkx gnf 0'T guwnu" kpf kecvg" yj cv" yj gtg" ku" c" uvcvkuvkecn" f khlgtgpeg"dgw ggp"vi g"var "cpf "dawao "ah"vi g"und"cv"cm"hawt "mecvkapu0"Ukpeg"lakov"ugcn:pvu"ctg" r r cegf "cv'vj g'vqr "qh'vj g'ured. "vj g'hqewu'y km'dg"qp'f cvc "eqmgevgf "htqo "vj g'vqr "ugpuqtu0C "r cktgf "V vguvu''cnuq''uj qy gf. ''y kj ''c''; 7' ''ngxgn'qh'eqpht gpeg'\*r/xcnvg''? ''2056; +.''vj cv''vj gtg''ku''pqv'c''uvcvkuvkecm{" uki pkhecpv'f khetgpeg'kp'htkevkapcn'eaghhekgpu'guvcdrkuj gf "pgct" vj g''tcpuxgtug''akov'cpf "cf lcegpv'va" y g"egpygtrkpg"npi kwf kpcn"lgkpv"\*Ngecykgp"9+"cpf "cf lcegpv"yg"y g"ewtd"cpf "i wygt"\*Ngecykgp"; +0" J qy gxgt. "y gtg"ku"c "uxcvkuvkecm{ "uki pkhecpv"f khgtgpeg"cv"c"; 7' "eqphtf gpeg"rgxgn\*r / xcnvg"? "20222+." dgw ggp"yi g"htkeykapch'egghhkekgpy'guvcdrkui gf "wukpi "yi g"o kf urcd"r cpgn'ugpuqtu"eqo r ctgf "yq"yi g" eqtpgt "ugpuqtu0/C" uwo o ct { "qh'y g'htkevkqpcn'eqghhkekgpvu "hqt y gug'uwdi tqwr u "ku'r tqxkf gf "kp" Vcdrg" EQ OCi ckp. 'vj ku'ku'qpn{ 'hqt 'vj g'o qpvj u'qh'P qxgo dgt. 'F gego dgt. 'Lcpvct { 'cpf 'Hgdtvct { OC 'urki j vn{ " eqpugtxcvkxg"crrtqcej "y qwrf "dg"vq"guvcdrkuj "vj g"htkevkqpcn"eqghikekgpv"d{ "kpetgcukpi "vj g"cxgtci g"qh" y g'var "ugpuqtu"cv"o kfr cpgn"cpf "kp" y g"eqtpgtu"d{ "qpg"uxcpf ctf "f gxkcvkqp"cpf "y gp"vcnkpi "cp"cxgtci g" qh'y g'w q'ngecygpu0Vj ku'y gwf 'dg'crrtgzko cvgn{ '30270

	Olfi	rcpgn	Eqtpgt			
	Vqr	Dqvvqo	Vqr	Dqvvqo		
Jkij	3029	3089	3089	3045		
Nqy	20,5	3027	20,5	20 2		
Cxi	20;:	3034	3026	3085		
Uxcp0Fgx0	2026	2025	2027	202;		

Vcdrg'EQ 0Y kpvgt 'vj gto criht kevkqpcn'eqghtkekgpu

Htqo "r tgxkqwu"tgugctej "qp"y ku"r cxgo gpv"ugekqp."y g"utckp"f cvc"y cu"wugf "vq"guvcdrkuj "y g" cxgtci g"kp/ukw"EVG"cpf "f t { kpi "uj tkpmci g"ctg"70 ; " lÅH'cpf "375" ."tgur gekxgn{"]85\_0'Vj g" rcdqtcvqt { "o gcuwtgf "EVG"y cu"7093" lÅH'cpf "y g"cxgtci g"f t { kpi "uj tkpmci g"o gcuwtgf "kp"y g" rcdqtcvqt { "ku'842" 0K/ku'pqvkegf 'vj cv'yj g"kp/ukw/EVG'ku'tgrcvkxgn{"emug"kp"o ci pkwf g"vq"y g"kp/ukw/ xcnwg."cpf ."kp"hcev."y g"tcvkq"qh" y g"lp/ukw/ u"rcd"o gcuwtgf "EVG"ku'30250'Vj ku"ku"qpn{"c"30, ' " f khtgtgpeg"dgw ggp" y g"tcvkq"hqt" y g"htkevkqpcnl"eqgthkekgpv."3027."cpf "y g"tcvkq"qh" y g"EVG0'Kp" cf f kkqp."qpn{"cdqw'47' "qh'y g"f t { kpi "uj tkpmci g'y cu'tgcrk{ gf "kp"yj g"r cxgo gpv0'Vj g'tgf wevkqp"kp" f t { kpi "uj tkpmci g"y cu'f gvgto kpgf "vq'dg"r tko ctkn{ "kphrwgpegf 'd { 'r cxgo gpv1guvtckpv!eqpf kkqpu"cpf " cp"kpetgcug"kp'y g"o qkuvwtg"eqpvgpv!qh'yj g"r cxgo gpv2ytguvtckpv!eqpf kkqpu"cpf " cp"kpetgcug"kp'y g"o qkuvwtg"eqpvgpv!qh'y g"r cxgo gpv2ytguvckpv!apf kkqpu"cpf " gzr cpukqp"cpf "qpg"hqt"f t { kpi "uj tkpmci g0'Vj wu."Gs wckqp"3"dgeqo gu0

 $\hat{e} N? N* E v_{j \text{ go}} \hat{e} V - E FU FU + "$ 

gs 0

Yjgtg.

E<sub>Vigo</sub> "? "htkevkqp" hevqt "hqt" redqt cvqt { "EVG

E<sub>FU</sub>? "htkevkqp"hcevqt"hqt"ncdqtcvqt { "vmko cvg"ft { kpi "uj tkpmci g

Hqt "y g"r cxgo gpv"kp "y ku"uwsf {."y g"Ev<sub>j gto</sub> "y qwrf "dg"3027"cpf "EFU"y qwrf "dg"cr r tqzko cvgn{" 20470"Ky'u qwrf "dg"pqvgf "y cv'y gug"xcnwgu"ctg"ur gekhke "vq"y ku"r cxgo gpv"dwv'y g"hcev'y cv'y gug"xcnwgu" ctg"uwduvcpvkcm{"f khngtgpv"htqo "y j cv"ku"eqpewttgpvn{"wugf "y j gp"f guki pkpi "lqkpv"tgugtxqktu"kpf kecvgu" y cv"c"tg/gxcnwcvkqp"qh"y g"ewttgpvn{"wugf "xcnwgu"ku"y cttcpvgf 0

Vj g"ewttgpv{"wugf "htlevkqpcn'eqghhelegpv'\*2087"hqt"c"uvcdki{ gf "dcug+"y cu"wugf "cmpi "y kj " Gs wcvkqp"3"cpf "j g"y q"pgy n{"f gxgmr gf "htlevkqpcn'eqghhelegpvu'\*3027"hqt"j gto cn'f ghqto cvkqp"cpf " 2047"hqt"f t{kpi "uj tkpmci g+"cpf "Gs wcvkqp": "y gtg"wugf "vq"f guki p"c"lqkpv'tgugtxqkt"hqt"j g"UT/44" r cxgo gpv0Vj g"EVG'cpf "f t{kpi 'uj tkpmci g"o gcuwtgf 'kp"ij g"ncdqtcvqt{ 'hqt"j g"eqpetgw"wugf 'vq"r cxg" UT/44" y gtg"cmq"wugf 0'Vj g"urcd"ngpi y "ku"3: 2"kp"cpf "i g"ej cpi g"kp" yo r gtcwtg"ku": 2ÅH0'Vj ku" cuuwo gu'ij g'vgo r gtcwtg"qh'ij g"eqpetgw"cv'ij g"iko g"qh'ugchpi "ku"; 2ÅH'y kj "c"o kplo wo 'yo r gtcwtg" qh'32ÅH "y j kej "y cu"f gygto kpgf "htqo "yo r gtcwtg"f cvc"htqo "y g"utckp"i ci g0'Vj gug"kpr wu"y gtg" wugf "vq"ecnewrcy"j g"ej cpi g"kp"ippi y "qh'ij g"urcd0Vj g"ej cpi g"kp"ippi y "qh'ij g"urcd"y cu'ij gp"f kkf gf " d{ "ij g"cmy cdng"utckp"qh'2042."y j kej "y cu"f gygto kpgf "htqo "kgtcwtg"cu'ij g"kgo gj qf "y kj "qpg"htkevkqpcn'xcnwg" ku"2099"kp"eqo r ctgf "vq "2079"kp"hqt"ij g"pgy "o gi qf "y kj "w q"htkevkqpcn'eqghhelegpv0'Vj ku"ku"c"52" r gtegpv1f khgtgpeg"dgw ggp"ij gug'iy q"o gi qf u0

	P gy " *Gs wc vlqp'! +	E wt t gpv" *Gs wc vkqp'3+			
E vj gt o	3027	2007			
Efu	2047	2087			
N.'lp	3: 2				
EVG." 1ÅH	7093				
V.'ÅH	: 2	2			
Fan''	842				
N.'lp	2083	2038			
Cmy cdng'Uvt ckp	2042				
Tgugtxqkt 'Ykf vj.'kp	2079	2099			

Vcdrg'E020Gzco r ng't gugt xqkt "y kf vj "ecnewncvkqpu

#### 702'Eqpenwikqp

Ft{kpi "uj tkpmci g"cpf "eqghhkekgpv"qh"yj gto cn"gzr cpukqp"\*EVG+"ctg" w q"mg{"r ctco gvgtu"yj cv" chhgev"yj g"mpi /vgto "r gthqto cpeg"qh"eqpetgvg"r cxgo gpw"cpf "yj g"gzvgpv"q"yj kej "c"r cxgo gpv"lqkpv" qr gpu."cpf "j gpeg."ugcmpv"r gthqto cpeg0Vj g"r wtr qug"qh"yj ku"tgugctej "y cu"vq"kf gpvkh{"xctkcvkqpu"kp" ft{kpi "uj tkpmci g"cpf "EVG"y kj kp"yj g"r cxgo gpv"uvtvewtg"cpf "vq"eqo r ctg"mcdqtcvqt {"f gvgto kpgf" xcmvgu"y kj "kp/ukw"o gcuvtgo gpvu0Vj ku"uwf {"go r m{gf "uvtckp"f cvc"eqmgevgf "qxgt"yj g"eqwtug"qh"38" {gctu"htqo "cp"kp/ugtxkeg"lqkpvgf "r mkp"eqpetgvg"r cxgo gpv"\*IRER+"vq"f gvgto kpg"yj g"vgo r qtcn"cpf " ur cvkcn'xctkcvkqp"kp"ft{kpi "uj tkpmci g"cpf "EVG"Kphwgpekpi "hcevqtu."uwej "cu"tgutckpv"eqpf kkqpu." o qkuvvtg."mecvkqp."cpf "vko g"qh"yj g"{gct."ft{kpi "uj tkpmci g"cpf "y gto cn"gzr cpukqp"y gtg"kpxguvki cvgf." cpf "y g"uvtwewtcn"EVG\*\*UEVG+"y cu"r tgugpvgf 0'Vj g"uvtckp"f cvc"y cu"cmq"wugf "vq"f gvgto kpg"yj g"hgnf " guvko cvgf "cpf "r tgf kevgf "lqkpv"q rgpkpi "cpf "enqukpi "htt"getgetg" o qpvj "y j kej "ku"wugf "vq"guvko cvg"y g" htkevkqpcn"eqghhkekgpv'wugf "kp"lqkpv"gutxqkt"f guki p0

Ft{kpi "uj tkpnci g"y cu"hqwpf "vq"dg"kphnvgpegf "d{"o qkuvvtg"eqpvgpv."y le"tcvkq."cpf "tguvtckpv" eqpf kkqpu0'Kp/ukwi"wnko cvg"ft{kpi "uj tkpnci g"y cu"cu"my "cu"53' "qh"y g"rcdqtcvqt{"f gvgto kpgf" xcnvg."y j lej "eqwrf "tguvn/kp"qxgtguvko cvkqp"qh'y g"lqkpv'y kf y 0Ncti g"kpetgcugu'kp"ft{kpi "uj tkpnci g" y gtg"kf gpvkhkgf "kp"urcdu"y j gtg"kpeqo r tguukdrgu"y gtg"qdugtxgf."y j lej "kpf kecvgu"y cv'r qqt "ugcrcpv" eqwrf "eqpvtkdwg"vq"y g"dvkrf wr "qh"kpeqo r tguukdrgu"kp"y g"lqkpv'cpf "lqkpv'ingenwr 0

Qp"cxgtci g. "UE VG"y cu"hqwpf "vq"dg"i tgcvgt "y cp" y g"rcdqtcvqt { "o gcuwtgf "E VG0'Ucvkuvlecn' tguwnu"lpf lecvg" y g"UE VG"ku"lphnwgpegf "ur cvkcm{."f wg"vq"tguvckpv"eqpf kkqpu."cpf "y g"lpvgtpcn" tgrcvkzg" y wo kf kv{ "qh'y g"eqpetgvg0'J qy gxgt."y g"UE VG"ku"pqv"kphnwgpegf "d{ "y g"htgs wgpe{"qh'tckp" cu"kv"ku" j { r qy gul{ gf "y cv'y g"r cxgo gpv"ecp"uwhkekgpvn{"ft{"qwv"chvgt"tckp"gxgpvu0'V j gug"tguwnu" lpf lecvg" y cv'y g"etkkecn'r tqr gtvkgu"qh'ft { kpi "uj tkpnci g"cpf "E VG'xct { "uki pkhecpvn{ "y tqwi j qw'y g" urcd" cu" c" hwpevkqp" qh" enko cvg" cpf " tguvtckpv" eqpf kkqpu0' V j g" ewttgpvn{" tgrkgf " wr qp" rcdqtcvqt { " o gcuwtgo gpvu"ctg"wpcdrg"vq"ecr wtg" y ku"xctkcvkqp."y j kej "eqwrf "rgcf "vq"uki pkhecpv'f kuetgr cpekgu"

Vj g'hlgnf "gurko cvgf "cpf 'r tgf kevgf "lqkpv'qr gpkpi "cpf "enqukpi "ctg"uko krct0Vj ku'kpf kecvgu'y cv'y g" htkevkqpcn'eqghhlekgpv'f qgu'pqv'j cxg"c"uki pkhlecpv'ko r cev'qp"tgf vekpi "gzr cpukqp"cpf "eqpvtcevkqp"qh" y g" urcd" y j gp" y gto cn' ej cpi gu" qeewttgf 0' Vj g" vug" qh" cp" kpceewtcvg" htkevkqpcn' eqghhlekgpv' kp" gurko cvkpi "y g"o czko wo "lqkpv'qr gpkpi "y km'ngcf "vq"cp"ko r tqr gt"lqkpv'tgugtxqkt "f guki p"cpf "y g" r qvgpvkcn'hqt'r tgo cwttg'ugcncpv'hcknvtg0Ki/ku'tgeqo o gpf gf "y cv'ugr ctcvg'htkevkqpcn'eqghhlekgpvu."qpg" hqt 'y gto cn'ej cpi gu'cpf ''qpg'hqt 'f t { kpi ''uj tkpnci g.''uj qwf ''dg''wgf ''kp''y g'f guki p''qh'c''lqkpv'tgugtxqkt" hqt ''LRERu0T guwnu''htqo ''y g''uwf { ''kpf kecvgf ''y cv''y g''htkvkqpcn'eqghhkekgpv'hqt ''y gto cn'ej cpi gu''kp'' y g''urcd''ku''cr r tqzko cvgn{ ''3027'hqt ''y ku''r cxgo gpv.''y j kej 'ku''rcti gt''y cp''2087''y j kej 'ku'ewttgpvn{ ''wugf '' hqt ''c''urcd''qp''c''uvcdkrk gf ''dcug0'Kp''cf f kkqp. ''kv'ku''uwi i guvgf ''y cv'y g''htkvkqpcn'eqghhkekgpv'hqt ''f t { kpi '' uj tkpnci g''uj qwf ''dg''dgw ggp''2043''cpf ''2052''hqt ''y ku''r cxgo gpv''ugevkqp0'Hkpcm{ .''y gtg''ku''c''52' '' f khigtgpeg'kp'lqkpv'tgugtxqkt ''y kf y ''y j gp''wukpi ''y q''cpf ''qpg''htkvkqpcn'eqghhkekgpv'kp''ugcrcpv'f guki p0

# Crrgpf lz'F0Ncdqtcwqt { 'Gxcnwcwlqp'qhiUgcncpv'Rgt hqtocpeg

### 3''@'Kpvt qf wevkqp

Vtcpuxgtug'lqkpu'ctg'ucy gf 'vq'eqpvtqn'y g'necvkqp'qh'etcenif gxgnqr o gpv'f wg'vq'vgo r gtcwtg' hwe we kqpu"y j gp"eqput we kpi "c"lqkpvgf "r rekp"eqpet gvg"r cxgo gpv"\*IRER+0'Lqkpvu"ctg"v{r kecm{" ugengf "qt "hkngf "vq"r tgxgpv'r cxgo gpv'f kutguugu. "uwej "cu"lqkpv'ur entpi "cpf "hewnkpi 0'Vj g"etkkeen" hcevqtu"yj cv"o wuv"dg"eqpulf gtgf "y j gp"f guli pkpi "yj g"lqkpv"kpenwf g"yj g"ugcncpv"v(r g."yj g"tgugtxqlt" i gqo gyt {."cpf "y g"kpuyemeykqp"s werky{0Vj g"ugngeykqp"qh"lqkpy"ugempy"o cygthen'cpf "tgugtxqht"f guhi p" ecp"dg"qr vko k gf "vq"gpj cpeg"lqkpv'r gthqto cpeg. "cuuwo kpi "vj cv'vj g"lqkpv'eqpuvt wevkqp"r tcevkegu"ctg" uwhkelgpv0'Cnj qwi j "y gug"r tcevkegu"ctg"uvcpf ctf k gf."o cp{"uvcvg"f gr ctvo gpvu"qh"vtcpur qtvcvkqp" \*F QVu+'j cxg'tgr qtvgf 'r tgo cwtg''cf j gukxg''cpf 'eqj gukxg'lqkpv'ugcrcpv'hcknxtg0'Vj g'y qtni'f kuewuugf " rtgxkqwun{"j cu"guvcdrkuj gf "r quukdrg"eqttgrcvkqpu"dgw ggp"lqkpv"f kuvtguugu"cpf "rtgo cwvtg"ugcrcpv" hcknxtg0Cffkkqpcm{."rtgxkqwu'y qtm'j cu'uj qy p''y cv'y g'hgnf/o gcuwtgf "ej cpi g'kp''lqkpv'y kf y 'f wg" vq"ej cpi gu"kp"vgo r gtcwtg"ku"o wej "ncti gt" y cp" y j cv"ku" ceeqwpvgf "hqt"kp" y g"f guki p"r tqeguu0' Gzeguuksgn "rcti g"lqkpv'qr gpkpi u"kp"y g'y kpygt"y cv'ctg"wpceeqwpygf "hqt"ecp"tguwn/kp"utckpu"kp"y g" ugenepv"yj cv"gzeggf "yj g"enny edng"utekp"yj tguj qnf "tguwnkpi "kp"yj g"qdugtxgf "r tgo ewtg"heknutgu0" Vj gtghqtg." vj gtg" ku" c" pggf " vq" tgxkgy " vj g" v{r kech' vtcpuxgtug" lqkpv" f guki pu" cpf " cuuguu" vj gkt" r gthqto cpeg"y kj "tgur gev"vq"o qtg"ceewtcvg"hkgrf "eqpf kkqpu0'Vj g"uvcpf ctf "RgppF QV"vtcpuxgtug" lqkpv"f guki pu"hqt"cur j cn/"cpf "ukrkeqpg"ugcncpvu"j cxg"dggp"cuuguugf "y ky "tgur gev"vq"htgg| g/yj cy " f kur ncego gpvu'htqo 'xgj keng'nqcf u+."cpf 'gz vgpukdkrkv{0

### 4"<sup>(2)</sup>Ncdqtcvqt{'Uvvf{

Vj g''r wtr qug''qh'y g''rcdqtcvqt { ''uwf { ''f kuewugf ''kp''y ku''ugevkqp''ku''vq''cuuguu''cpf ''s wcpvkh{ ''y g'' r gthqto cpeg'' qh'' uvcpf ctf '' RgppF QV'' lqkpv' f guki pu'' cpf '' ugcrcpv'' o cvgtkcni'' wpf gt'' v{r kecn' hkgrf '' eqpf kkqpu''hqt''Rgppu{ nxcpkc0'Vj g''r gthqto cpeg''qh''y g''lqkpv''ku''tgrcvgf ''vq''ku''cdkkv{ ''vq''y kj uvcpf '' htgg| kpi ''eqpf kkqpu.''lqkpv'o qxgo gpv'htqo ''yo r gtcwtg''hwewcvkqpu.''cpf ''tgr gcvgf ''nqcf ''cr r kecvkqpu0' Vj gtghqtg.'' htgg| g/yi cy '' f wtcdktv{.'' tgukngpe{'' vq'' y gto cn' cpf '' xgj kewrct'' nqcf '' hcvki wg.'' cpf '' gz vgpukdktv{ ''dghqtg''cpf ''chvgt''eqpf kkqpkpi ''y gtg''cuuguugf ''hqt''xct { kpi ''lqkpv''tgugtxqkt ''f guki pu''cpf '' ugcrcpv'o cvgtkcnt0

### 408''Lqlpv'F guli pu'cpf 'Ugenepvu

Vy q"ugcrcpv"v{r gu"y gtg"wugf "hqt"vj ku"uwf {."ukrkeqpg"cpf "cur j cnv."ukpeg"vj g{ "ctg"vj g"o quv" eqo o qpn{ 'wugf 'ugcrcpv'o cvgtkcni'kp"Rgppu{ nccpkc0Vj g"ukrkeqpg"ugcrcpv'o cvgtkcn'wugf 'ku'vj g"Ukrcukri 94: "P qp/Uci "Ukrkeqpg"Ugcrcpv0'Ceeqtf kpi "vq"vj g"o cpwhcewtgt." vj ku"o cvgtkcn'j cu"dggp"vguvgf " ceeqtf kpi "vq"CUVO 'F/634"cpf "j cu"c"o gcuwtgf "vgpukrg"uvtgpi vj "qh'397"r uk']87\_0'Cff kkqpcm{."vj g" o cvgtkcn'vgpukrg"uvtgpi vj 'y cu'o gcuwtgf "vq"dg'57"r uk'cv'322' "grapi cvkqp"cpf "vj g"r gtegpv'grapi cvkqp" cv'dtgcmiku"cr r tqzko cvgn{ "3222' "r gt"CUVO 'F/6340'Vj g"cur j cnv'ugcrcpv'wugf "hqt"vj ku'uwrf {"ku'F wtc/" Hkm'5627"NO "\*M+"o cf g"d{ "R( V"Rtqf weu0'Ceeqtf kpi "vq"vj g"o cpwhcewtgt."vj ku'ugcrcpv'o ggw"cm' tgs wktgo gpwu"qh'CUVO /F 88; 2"]88\_0

Vj tgg'lqkpv'ugcrcpv'f guki pu'y gtg'eqpukf gtgf 'hqt'y ku'uwwf {.'f gr kevgf 'kp'+0'Vj gug'rcti g'uvtckpu'cv' y g''uwthceg''qh'y g''ugcrcpv'rgcf ''vq''y g''f gxgrqr o gpv'qh'eqj gukxg''hcknwtgu0'Cu''y g''eqj gukxg''hcknwtgu r tqr ci cvg''cv''y g''uwthceg''qh''y g''ugcrcpv.''y g''uvtguu''kp''y g''dwm''ugcrcpv'o cvgtkcn'ku'f kuukr cvgf ''cv''y g''

uwthceg."dw/k/ku'dgnkgxgf "y cv'y gtg"ku"cp"kpetgcug"kp"uvtguu"y cv'f gxgnru"cv'y g"kpygthceg"dgw ggp" y g'ugcncpv'cpf 'y g'eqpetgyg0'Vj ku'j ki j gt'uxtguu''cv'y g'eqpetgyg''kpygthceg''ngcf u''vq''y g'f gxgnqr o gpv' qh'cf j gukxg'hcknxtg. 'y j kej 'r tqr ci cvgu'f qy p'vj g'ngpi vj "qh'vj g'lqkpv."ecwukpi 'vj g'ugcrcpv'vq'r ggn'cy c{" htqo "yjg"eqpetgyg"y cm0'Vj ku"r j gpqo gpqp"y cu"uggp"hqt"o cp{"qh"yjg"cur j cm/"hkngf "cpf"cur j cm/" tgugtxqkt"ur geko gpu."y j gtg"htuv'eqj gukxg"hcknxtgu"f gxgrqr gf."y gp"cf j gukxg"hcknxtgu"hqrqy gf 0'KV y cu'uggp"hqt"ugxgtch'qh'y g"cur j ch/hkngf "cpf "cur j ch/tgugtxqkt"ur geko gpu'y cv'y g"cf j gukxg"hcknwtg" kpkkcvgf "cmpi "y g"uwtheeg"qh"y g"ugenepv."y j kej "y cu"gzr gevgf "deugf "qp"y g"eenewrevgf "uvtekpu"kp" Vcdrg'F 660'Vy q'f guki pu'y gtg'wugf 'hqt'ur geko gpu'ugcrgf 'y kj ''cur j cnx.''cpf ''qpg'f guki p'y cu'wugf 'hqt'' y qug" ugcngf "y kj " ukrkeqpg0' Vj g" f guki pu" eqpukf gtgf " hqt" y g" cur j cn/ugcngf " ur geko gpu" hqmqy " eqpetgyg'r cxgo gpv'lqkpv'F gyckrlF 'kp'RgppF QV'Rwdrkecykqp'94O ']89\_.'y j kej 'ku'y g'v{r kecrltgugtxqkt" f guki p"wugf "d{ "RgppFQV."cpf "y g"f ko gpukqpu"t geqo o gpf gf "d{ "y g"Co gtkecp"Eqpet gyg"Rcxgo gpv" Cuuqekcvkqp"\*CERC+'hqt "cur j cn/hkngf "lqkpu"]6\_0Cnj qwi j "RgppF QV"f qgu"pqv'v{r kecm{ "eqput wev" cur j cn/hkngf "lqkpvu." vj gtg" j cu"dggp" f kuewuukqp" qh" wukpi "vj ku" f guki p"kp" hwwtg" r cxgo gpv'r tqlgevu0 Vj gug'f guki pu'ctg'tghgttgf 'vq''cu''cur j cn/ugcngf ''cpf ''cur j cn/hkngf.''tgur gevkxgn{0Vj gug'lqkpv'f guki pu'' ctg"ucy gf "kpvq"5/kp"z"6/kp"z"8/kp"eqpetgyg"ur geko gpu."y j kej "tgrtgugpvu"c"ugevkqp"qh"c"LRER" vtcpuxgtug'lqkpv0'Vj g'lqkpv'tgugtxqkt"f guki p"hqt"vj g"cur j cn/ugcngf "ur geko gpu"eqpukuvu"qh"c"2035/kp" kpkkcn'ew."c"205: /kp"tgugtxqkt"y kf yj ."cpf "c"305: /kp"tgugtxqkt"f gr yj 0'Vj g"vqr "qh"yj g"dcengt"tqf "ku" r megf "20 : "kp"dgmy "y g"uwtheeg"qh"y g"eqpetgyg0Vj g"f gr y "qh"y g"cur j cn/ugcmpv"hqt "y ku"f guki p"ku" 2097 kp. "r tqxkf kpi "c'uj cr g'hcevqt"\*Y F +"qh'340Cnj qwi j "y ku'uj cr g'hcevqt "ku'f khgtgpv'y cp'y j cv'ku" eqo o qpn{"tgeqo o gpf gf" 33+"]6\_"]8: \_." yj ku" f guki p" ku" v{r kecm{"wugf "d{ "RgppF QV" cpf "ku" eqpulf gtgf "cf gs wcvg"hqt "y ku'uwwf {0'Vj g"tgugt xqkt "f guki p"hqt "y g"cur j cn/hkngf "lqkpvu"eqpukuvu"qh"c" ukpi ng'2047/kp"y kf g"ewi'f qy p"y g"j gki j v'qh"y g"ur geko gp0'C "307/kp"ur cegt "ku'r ncegf "cv'y g"dqwqo" qh'y g'cur j cn/hkngf ''ur geko gpu''vq''eqpvtqn'y g'f gr y ''qh'y g''ugcncpv0'Vj g'f gr y ''qh'y g''cur j cn/'ugcncpv'' ku"465: "kp"cpf "ku"tgeguugf "2665"kp"htqo "vj g"uwthceg"qh"vj g"eqpetgyg."r tqxkf kpi "c"uj cr g"hcevqt"qh" 3<070

Vj g'lqkpvltgugtxqkt'f guki p'wugf 'hqt'ur geko gpu'ugcngf 'y kj 'ukrkeqpg'hqmqy 'eqpetgvg'r cxgo gpv' lqkpv'V{r g'R'f guetkdgf 'kp'RgppF QV'Rwdnlecvkqp'94O '']89\_.'y j kej 'ku'eqo o qpn{ 'wugf 'd{ '' RgppF QV'hqt'ukrkeqpg/ugcngf ''lqkpw0'Vj g'y kf y ''cpf 'f gr y ''qh'y g'tgugtxqkt'y gtg'205: ''kp'cpf ''305: '' kp.'tgur gevkxgn{.'cpf 'c'2085/kp'y kf g'kpkkcn'ewi'ku'o cf g'f qy p''y g''j gki j v'qh'y g''ur geko gp0'Y j krg'' y ku'f guki p'ku'urki j vn{ ''o qf khkgf 'ht qo 'y g''v{r kecn'V{r g'R'f tcy kpi .''y g''o qf khkecvkqpu'y gtg''o cf g'' hqt ''gcug''qh'hcdtkecvkqp''cpf ''j cxg''pq''ko r cev'qp''y g''ugcncpv'uj cr g'hcevqt0Vj g''qr ''qh'y g''dcengt''tqf '' ku''r ncegf ''207' kp''dgrqy ''y g''ukrkeg''qh'y g''eqpetgvg.''cpf ''y g''ukrkeqpg''ku'tgeguugf ''2085'kp''dgrqy ''y g'' uwthceg''qh'y g''eqpetgvg0Vj g'y kf y ''qh'y g''ukrkeqpg''ugcncpv'hqt''y ku'f guki p'ku'205: ''kp.''r tqxkf kpi ''c'' uj cr g'hcevqt''qh''3<30

Hki wtg'F (B0Uej go cvke"qh\*c+'curj cnv't gugt xqkt 'f guki p'õCTö"\*d+'curj cnv'tkmgf 'f guki p'õCHö"\*e+' ukteqpg't gugt xqkt 'f guki p'õUTö



#### 4040B'O kz wt g'F guli p

Gcej "eqpetgw"ur geko gp"ku"ecuv"cpf "ewtgf "kp"yj g"rcdqtcvqt { "ceeqtf kpi "vq"CUVO "E3; "]8; \_0Vj g" o kzwtg" f guki p" f gzgnqr gf "hqt" yj gug" ur geko gpu" ku" tgr tgugpvcvkxg" qh" c" v(r kecn" urkr hqto "r cxkpi " o kzwtg." uj qy p"kp"Vcdng"F **(B**0'Vj g"vcti gv'4: /f c { "eqo r tguukzg"utgpi yj "cv'yj g"vbo g"qh"yguvkpi "ku"gs wcn" vq"7.722"r uk "yj g"vcti gv'ckt "eqpvgpv"ku"8' "- 1/"3' ."cpf "yj g"vcti gv'unvo r "ku"5"kp"- 1/"207"kp0'Eqpetgvg" o kzkpi "r tqegf wtgu"cu"y gm"cu"unvo r "cpf "ckt "eqpvgpv'vguvu"y gtg"hqmqy gf "kp"ceeqtf cpeg"y kyj "CUVO " uvcpf ctf u"]92. '8; .'93\_0Vj g"ur geko gpu"y gtg"f g/o qrf gf "chyt"46"j qwtu"cpf "r megf "kpvq"c"y gv'ewtkpi " tqqo " kp" ceeqtf cpeg" y kyj "CUVO "E3; 4" ]8; \_0' Vj g" eqo r tguukzg" urtgpi yj "qh" yj ku" o kzwtg" y cu" o gcuwtgf "hqmqy kpi "CUVO "E5; "]94\_0'Vj g"cxgtci g"4: /f c { "eqo r tguukzg"uvtgpi yj "hqt"yj ku"o kzwtg" f guki p"y cu"o gcuwtgf "vq"dg"cr r tqzko cygt "7.922"r uk0

Ocvgtken	Y gki j v'*nd le{+	Xqnwog'Htcevkqp		
Eqctug"nko guvqpg"ciitgi cvg	3; 3:	2064		
Hkpg"ciitgicvg	329:	2046		
Ego gpv	852	2084		
Y cvgt	487	2088		
Ck	/	2028		

Vcdng'F (BOE qpet gvg'o kzwt g'f guki p

Ewuqo "hqto u'y gtg'hcdtlecvgf "\q"o qnf "5/kp'z"6/kp'z"8/kp'\ur gelo gpu."cu'uj qy p'kp"Hki wtg'F **04**0' Vj g'hqto u'eqpukuv'qh'20347/kp'yj keni'r nuvke''ur cegtu''yj cv'gz vgpf '3"kp'kpvq''yj g"dqwqo "qh''yj g''ur gelo gp." y j kej "ku'o gcpv'\q"uko wn vg"c''r qt kqp"qh'cp'kpkkch'ucy "ewu'cpf "ku'wugf "cu''c'tghgtgpeg''r qkpv'hqt''yj g" ucy kpi ''r tqegf wtg0Cf f kkqpcm{."gcej ''ur gelo gp"o qnf "eqpukuvu'qh'6''dkpf kpi ''r quvu. "y q"qp"gcej 'hceg" qh''yj g''ur gelo gp. "y j kej "ctg''wugf ''q''kpuvcm''yj g''ur gelo gp"cpf "4''kp''kpy ctf "htqo "yj g"qwgt"gf i g."uj qy p''kp" Hki wtg'F **05**0Vy q"qh''yj g"ecuv'ur gelo gpu'ecp''dg''uggp'kp''Hki wtg'F **06**0



Hki wtg'F040Urgekogp'hqto



Hki wt g'F 050Kpf kxkf wc n'ur geko gp"o qıf



Hki wtg'F060Ecuv'ur geko gp"\*c+'ulf g"xkgy "cpf "\*d+'ht qpv'xkgy

### 40404'' Rncplpi 'tj g'Uwthceg

C'hrev'uwtheeg'ku'pggf gf 'hqt'o geuwtkpi 'yj g'r gto gedktx{ ''qh'yj g''ugerepv.'f guetkdgf ''revgt0'Vj g''vqr '' uwtheeg''qh''geej ''ur geko gp''ku'i tqwpf ''hrev'y kj ''c''322/i tk'i tkpf kpi ''y j ggn'qp''c''Erewukpi 'EUI 5C: 3: '' Uwtheeg''I tkpf kpi ''Vedng0'Hki wtg''F (7'' 'lyj qy u''gzeo r ngu''qh''wpi tqwpf ''epf ''i tqwpf ''ur geko gpu0'Geej '' r cuu''qh''yj g''i tkpf kpi ''y j ggn'tgo qxgu''er r tqzko cvgn{ "2023"kp''qh''o cvgtken''htqo ''yj g''uwtheeg''qh''y g'' uco r ng. ''epf ''gpqwi j ''r cuugu''etg''o ef g''wpvkri'e''uo qqyj. ''gxgp''uwtheeg''ku''eej kgxgf 0



Hki wtg'F070Vqr "xkgy "qh\*c@+"wpi tqwpf "cpf "\*c04+"i tqwpf "ur geko gpu."cpf "h qpv'xkgy "qh\*d@+" wpi tqwpf "cpf "\*d04+"i tqwpf "ur geko gpu



Hki wtg'F080Ercwukpi 'EUI 5C: 3: 'uwthceg'i thpf hpi 'vcdng

## 40405''Ucy kpi 'tj g'T gugt xqkt

Vj g'tgugtxqku'y gtg"ewi/wukpi "c'y gv'ucy "chgt"gcej "qh'y g'ur gelo gp"uwthcegu'y gtg"i tqwpf " hrcv0'Cp"cnvo kpwo "ewwkpi "lki "y cu"hcdtlecvgf "vq"j qrf "y g"ur gelo gp"f wtkpi "y g"ucy kpi "r tqegf wtg0' Vj g"ur gelo gp"ku"cvcej gf "vq"y g"lki "d{"y g"w q"dkpf kpi "r quvu"qp"qpg"qh"y g"gf i g"hcegu"qh"y g" eqpetgvg0C''2085/kp"ucy "dncf g"y cu'wugf "y ky "2085/kp"y kf g"ur cegtu'vq"cmqy "hkpg"cf lwuvo gput'vq"dg" o cf g"vq"y g"lki ."y j kg"ewwkpi "y g"cur j cn/cpf"ukteqpg"tgugtxqkt"lqkpvu0Vj g"dncf g"f gr y "y cu'ugv'vq" 305: "kp"htqo "y g"vqr "qh"eqpetgvg"vq"o ggv'y g"tgs vktgf "tgugtxqkt"f gr y "hqt"y gug"ur gelo gpu0Vy q"ewu" y gtg"o cf g"hqt"y g"w q"quwgt"gf i gu"qh'y g"tgugtxqkt0Vj g"y kf "ewv!tgs vktgf "y cv'y g"ur gelo gp0'Vj g" ur gelo gp"y cu"y gp"tg/kpuvcngf "vr ukf g"f qp p"kpvq"y g"lki "y ky "qpg"ur cegt"cpf "ewv!y kj "y g"2085/kp" y kf g"dncf g0Vj ku"ewv!tgs vktgf "y g"dncf g"f gr y 'vq"dg"ugv'y tqwi j "y g"gpvktg"j gki j v'qh'y g"ur gelo gp0' Vj g"tgugtxqkt "hqt"y g"cur j cn/hkngf "ur gelo gpu"tgs vktgf "c"2047/kp"dncf g"hqt"ewvkpi 0Vj g"ur gelo gp" vf g"tgugtxqkt "hqt"y g"cur j cn/hkngf "ur gelo gpu"tgs vktgf "c"2047/kp"dncf g"hqt"ewvkpi 0Vj g"ur gelo gp" vj g"tgugtxqkt "hqt"y g"cur j cn/hkngf "ur gelo gpu"tgs vktgf "c"2047/kp"dncf g"hqt"ewvkpi 0Vj g"ur gelo gp" vj g"tgugtxqkt "hqt"y g"cur j cn/hkngf "ur gelo gpu"tgs vktgf "c"2047/kp"dncf g"hqt"ewvkpi 0Vj g"ur gelo gp" vj g"tgugtxqkt "hqt y g"g" kp they "hq"y g"y g"t gelo gp0



Hki wt g'F @OUcy 'ewwkpi 'ugwr 'y kj 'lki

### 40406''Ugcnlpi

Vj g'r tqeguu'qh'ugchpi ''y g'uco r ngu'dgi kpu'd{ ''cttcpi kpi ''y go ''ukf g/d{/ukf g'kp'i tqwr u'qh'hng/ f guki pu0Ur cegtu'ctg'r neegf ''cv'y g''dqwqo ''qh'y g''kpkkch'ucy ''ewi'vq''o ckpvckp''c''r tqr gt 'tgugtxqkt ''y kf y 0' J ch/kpej '' f ko gygt'' dcengt'' tqf '' ku'' kpugt ygf ''kpwl'' y g'' cur j cnv'' tgugtxqkt'' cpf '' ukheqpg'' tgugtxqkt '' ur geko gpu'cpf ''ku''ugv'vq''y g''cr r tqr tkcyg'f gr y 0'Y qqf gp''dqctf u''y gtg''wugf ''vq''dqneni'y g''gpf u'qh''gcej '' ur geko gp''cpf ''ku''ugv'vq''y g''ntguj ''ugcmpy0'Vj gug''dqctf u''y gtg''cwcej gf ''2085''kp''dgnqy ''y g''uwthceg''qh'' y g''eqpetgyg''cpf ''emo r u''y gtg''wugf ''q''ugewtg''y g''dqctf u''vq''y g''ur geko gpu0'Vj g''y kf yj ''qh''gcej ''lqkv'' tgugtxqkt ''cpf ''y g''crki po gpv''qh''gcej ''ur geko gp''ku''ej gengf ''r tkqt ''q''ugcrhpi 0'Vj g'' i gpgtcn''ugwr ''ku'' u' q p ''kp''Hk wtg'F 0 0'Cm'yj g''cur j cn/'tgugtxqkt''cpf ''cur j cn/'hxngf ''ur geko gpu'y gtg''ugcngf ''kp''y g''hxgf '' y j kg'y g''ukheqpg''tgugtxqkt''ur geko gpu'y gtg''ugcngf ''kp''y g''ncdqtcvqt {0'Vj g''cur j cnv'ur geko gpu'y gtg'' ugcngf ''qpukg0'Vj g''gcmpv'y cu'j gcygf ''q''ku''o gnkpi ''yo r gtcwtg''cpf '' megf ''kp''gcej ''ur geko gp''qh'y g'' d{ ''y g''ugcnpv' yoo r gtcwtg.''j qy gygt.''o wej ''ectg''y cu''cmpp''q''gpuxtg''y cv'y g''tgeguu''qh''y g'' ugcmpv'y cu'2085'kp0'Vj g''ur geko gpu'y gtg''y gp''ngh'y'q''eqqn'hqt''crr tqzko cygn{''94''j qwtu0



Hki wt g'F Q OUgerkpi 'ugwr 'hqt "\*e+'eurj en/t gugt xqkt "epf "\*d+'eurj en/thrngf 'ur geko gpu. 'ugergf 'kp 'vj g" Ikgnf

Hqt"ukkeqpg"ur geko gpu."c"uvcpf ctf "ecwmi'i wp"ku"wugf "vq"dgcf "y g"tqqo /vgo r gtcwtg"ugcrcpv" kpvq"y g"lqkpv'qr gpkpi u."hknkpi "htqo "y g"vqr "qh"dcengt"tqf "wr "vq"cr r tqzko cvgn{"2085"kp"dgpgcy "y g" uwthceg"qh"y g"eqpetgvg"\*ugg"Hki wtg"F *Q* +0'C "r rcuvke"ngxgnkpi "vqqn"ku"wugf "vq"ngxgn"cpf "tgeguu"y g" ugcrcpv'2085"kp"dgnqy "y g"eqpetgvg"uwthceg0'Vj gug"ur geko gpu"ctg"nghv'vq"ugv'hqt"46"j qwtu0F wg"vq"y g" pqp/uci "r tqr gtvlgu"qh"y g"ukkeqpg"ugcrcpv."kv'y cu"uggp"kp"uqo g"ecugu"y cv'y g"ugcrcpv'f kf "pqv'hwn{" eqxgt"y g'vqr "qh'y g"dcengt"tqf "cv'y g"gf i gu"qh'y g"ur geko gpu0'Vj ku"ecp"dg"qdugtxgf "kp"Hki wtg"F 032e0



Hki wtg'FQ OUgcngf "ukrkeqpg"t gugt xqkt "ur geko gpu"kp"hcdqt cvqt {

Cp"gzco r ng"qh"gcej 'ur geko gp"v{r g'ku'uj qy p'kp"Hki vtg"F **(B2**0Gcej 'j chl'qh'yj g'lqkpv'hqt"gxgt { " ur geko gp'ku'ctdktctkn{ 'ncdgngf "cu'ukf g'C 'qt'ukf g"D.'y j kej 'ku'wugf 'f vtkpi 'kpuvcmcvkqp'kpvq''yj g"hcvki vg" nqcf 'htco g.'f guetkdgf 'ncvgt0'C 'r ncuvke''ur cegt'ku'ngr v'cv'yj g"dqvqo "qh"gcej ''ur geko gp''vq''o ckpvckp''yj g" eqttgev'tgugtxqkt ''uj cr g"f vtkpi ''uvqtci g"cpf ''vcpur qtvcvkqp"qh"gcej ''ur geko gp0'Cff kkqpcm{."j qqm/" cpf/mqr ''uvtcr u'ctg''vugf ''vq'j qnf ''gcej ''ur geko gp''ugevtgn{0



Hk wtg'F 0320Gzcorngu"qh\*c+'curjcn't gugt xqkt 'õCTö. "\*d+'curjcn'lkngf 'õCHö. "cpf "\*e+'ukkeqpg" t gugt xqkt 'õUTö"ur gekogpu

### 502'Uko wacvgf 'Hlegff 'Eqpf kslqpu

Vj g"i gpgtcn'crrtqcej "vq"s wcpvkh{kpi "lqkpv'r gthqto cpeg"ku"cu"hqmqy u0'Vj g"gzvgpukdkrkv{"qh" gcej "lqkpv'f guki p"ku"o gcuwtgf "vq"s wcpvkh{ "y g"r gthqto cpeg"qh"c"pgy n{ "eqpuvt wevgf "lqkpv0'Kpkkcn" r gthqto cpeg"vguvkpi "ku"eqpf wevgf "qp"cff kkqpcn"ur geko gpu"vq"o gcuwtg"vj g"dqpf "s wcrkv{ "dgw ggp" y g'ugcmpv/eqpetgyg'kpygthceg. 'y g'kpkkcn'uxkhpguu''qh''y g'ugcmpv.''cpf ''y g'uvqtgf ''gpgti { ''kp''y g'ugcmpv'' f wtkpi "lqkpv'qr gpkpi "cpf "emukpi 0'Vj gug"ur geko gpu"ctg"yj gp"uwdlgevgf "vq"ukz "htgg| g/yj cy "e{engu" cpf ''y g''r gthqto cpeg''qh''y g''lqkpv'ku''guvgf ''ci ckp0'Vj ku'r tqeguu'ku'o gcpv''vq''cpcn{| g''y g''f wtcdkrkv{ ''qh'' y g'ugcncpv'kp'tgur qpug'\q'htgg| g/y cy "eqpf kkqpu0P gzv."y g'tgukngpeg"qh'gcej "ur geko gp'ku'o gcuwtgf" y kj "cp"ceegngtcvgf "mcf kpi "r tqvqeqn0'Gcej "ur geko gp"ku"uvdlgevgf "vq": 72" y gto cn'mcf kpi "e{engu" cpf "7.222" xgj kewrct "mcf kpi "e {engu."uko wrcvkpi "9" {gctu"qh"hcvki wg"gzr quwtg0'Tgcrkurke "mcf kpi " eqpf kkqpu'hqt"cevkxcvgf "cpf "pqp/cevkxcvgf "lqkpvu'y gtg"kf gpvkhgf "wukpi "kp/ukwi'uvtckp"f cvc'htqo "cp" kpuxtwo gpvgf "IRER0'Vj g"r gthqto cpeg"qh" y g"lqkpv"ku"o gcuwtgf "qpeg" ci ckp. "cpf "y ku"r tqeguu"qh" hcvki wg"cpf "r gthqto cpeg"vguvkpi "ku"eqpf wevgf "8"vko gu0"kp"vqvcn"vj g"ur geko gpu"ctg"uvdlgevgf "vq"64" {gctu'qh'uko wrcvgf ''y gto cn'cpf ''xgj keng''nqcf kpi 0'Hkpcm{. ''y g''ur geko gpu''ctg''yuvgf ''hqt ''gz vgpukdkrkv{0' Vq"s wcpvkh{ "y g"ej cpi g"kp"r gthqto cpeg"qh"gcej "f guki p. "gzvgpukdkrkv{ "vguvkpi "ku"r gthqto gf "qp"dqyj " ur geko gpu"y cv"j cxg"dggp"mcf gf "vq"uko wrcvg"y g"64" { gctu"kp"ugtxkeg"cpf "ur geko gpu"y cv"y gtg" htguj n{ "ugcngf 0Vj ku"r tqeguu"ku"uwo o ctk gf "kp" y g"hqy ej ctv"dgqy 0



Hki wtg'F0B30Tgugctej "crrtqcej

### 508''Gzrquwtg

Vj g"f wtcdkrkv{ "qh"gcej "ugcncpv"v{r g"ku"o gcuwtgf "d{ "gzr qukpi "vj g"ur geko gpu"vq"e{engu"qh" htgg kpi "cpf "y cy kpi 0'Gcej "ur geko gp"ku"ucwtcvgf "kp"c"ewtg"tqqo "r tkqt"vq"y g"htuv"htgg g0'K/ku" gzr gevgf "vj cv'vj g"gzr cpukqp"cpf "eqpvtcevkqp"qh'y cvgt "r ctvkengu"y kn'kpf weg"f co ci g"kp"vj g"kpvgtpcn" uxtwewstg"qh'yj g'ugcrepv'cu'ky'htgg| gu'cpf 'yj cy u0'Vj ku'r tqegf wtg'ku'eqpf wevgf 'wukpi ''c''reti g'htgg| gt'' ej guv. "uj qy p"kp"Hki wtg"F **(B4**. "y j kej "j cu"c"o koko wo "vgo r gtcwtg"qh"/32ÅHOVj g"ucwtcvgf "ur geko gpu" ctg"r ncegf "kpvq" dcungvu" cv" vj g" dqwqo "qh" vj g" htgg| gt" ej guv0' Vy q" pqp/ugcngf "ur geko gpu" y kj " go dgf f gf " y gto qeqwr ngu" ctg" wugf " yq" o qpkqt" y g" kpygtpcn' eqpetgyg" vgo r gtcwtg0' Vj gug" ctg" eqppgevgf "vq"c"Ecordgm"Uekgpvkhe"f cvcmi i gt"cpf "rcrvqr" hqt"f cvc"eqmgevkqp."dqvj "qh"y j kej "ctg"qp" c"o qdkrg"ectv'qwukf g"vj g"htgg gt"ej guv0Vj g"ucwtcvgf "ur geko gpu"ctg"rghv'kp"vj g"htgg gt"wpvkn"vj g" kpvgtpcn'vgo r gtcwtg"qh'vj g"eqpetgyg"tgcej gu"7ÅH0'Vj ku'vgo r gtcwtg"y cu'ugrgevgf "dcugf "qp"kp/ukw" f cvc"eqngevgf "htqo "cp"kpuvt vo gpvgf "r cxgo gpv'ugevkqp"qp"UT/44"kp"O vtt {uxkng. "RC0Ki'tgr tgugpvu" yj g"cxgtci g"f ckn{ "ny "r cxgo gpv'vgo r gtcwtg"kp" yj g"y kpvgt "o kpwu" y q"uvcpf ctf "f gxkcvkqpu0KVvcngu" crrtqzko cvgn{ '9'j qwtu'hqt'vj g'ur geko gpu'vq'tgcej 'vj ku'kpvgtpcn'vgo r gtcwtg0Vj g'ur geko gpu'ctg'vj gp" tgo qxgf "htqo "y g"htgg gt"cpf "ctg"r megf "kp"c"ewtg"tqqo ."y j kej "ku"dgw ggp"92"cpf "99ÅH'cu"r gt" CUVO "E3; 4"]8; \_0'Vj g"ur geko gpu"ctg"rghv"kp"vj g"ewtg"tqqo "wpvkn"vj g"kpvgtpcn"vgo r gtcwtg"qh"vj g" eqpetgyg'uvcdkrk/gu'\q'95ÅH'y j kej '\cngu'crrtqzko cvgn{"4'j qwtu0Vj gtghqtg."qpg'htgg|g/y cy 'e{erg'' ecp"dg"ceeqo r nkuj gf "y ky kp"qpg"y qtnf c {0Kk"uj qwf "dg"pqvgf "y cv'y tqwi j qwhtgg kpi "cpf "y cy kpi ." gcej "ur geko gp"ku"dqwpf "y ky "c"j qqm/cpf/mqr "utcr "vq"r tgxgpv"lqkpv"o qxgo gpv"cpf "f co ci g"f wtkpi " vtcpuhgt0'Rtgnko kpct{"vguvkpi "kpf kecvgf "yj cv'hqt"cur j cnv'tgugtxqkt"cpf "cur j cnv'hkngf "ur geko gpu."pq" cffkkqpcn"uki pkhecpv"tgfwevkqp"kp"ugcncpv"uvkhpguu" y cu"qdugtxgf"chygt"8"htgg|g/yj cy "e{engu0" Cffkkapcm{."hqt"ukrkeqpg"tgugtxqkt"ur geko gpu."pq"cffkkapcn'uki pkrkecpv'tgfwevkap"kp"uvkhpguu"ku" qdugtxgf "chygt"3"htgg| g/yi cy "e{eng0Vj gtghqtg."gcej "yguv'ur geko gp"y cu"gzr qugf "yq"c"yqvcn8"htgg| g/ y cy "e{engu'ukpeg"pg"hwty gt "f co ci g"ku"gzr gevgf "vg"ceewo wrcvg"htqo "cf f kkapcn'e{enkpi 0



Hki wt g'F 0840Ur geko gpu'kp'ht gg/gt "cv'dgi kppkpi "qhht gg/g"e{eng"y kj "\j g"\j gto qeqwr ng/go dgf f gf" ur geko gpu"cv'\j g"hct "ngh/qh\j g"ht gg/gt



Hki wtg'F 0850Ur geko gpu'kp''y g''ewtg''t qqo ''cv''y g''dgi kppkpi ''qh''y g''y cy ''e{eng''y kj ''y g'' y gto qeqwrng/go dgf f gf ''ur geko gpu''ci ckpuv''y g''dcem'y cm

### 504" Hc vli wg

Vj g'tgukngpeg"qh'gcej "lqkpv'f guki p"ku"o gcuwtgf "d{ "hcvki wkpi "yj g"ur geko gp"j qtk qpvcm{ "vq" uko wncvg"lqkpv'qr gpkpi "cpf "enqukpi "kp"yj g"y kpvgt"o qpyj u."cpf "xgtvkecm{ "vq"uko wncvg"f khngtgpvkcn" f ghrgevkqpu"htqo "xgj keng"nqcf kpi 0'Gzeguukxg"lqkpv'o qxgo gpv."gur gekcm{ "f wtkpi "yj g"y kpvgt"ugcuqp." ku"c"rcti g"eqpvtkdwqt"vq"ugcrcpv'f gygtkqtcvkqp"cpf "rquu"kp"lqkpv'r gthqto cpeg0Vj gtghqtg."c"hcvki wg" vguv'y cu'f gxgrqr gf "vq"uko wrcvg"lqkpv'qr gpkpi "cpf "erqukpi "kp"tgur qpug"vq"eqpetgvg"y gto cn'ej cpi gu." cpf "xgj kerg"rqcf kpi "cetquu"y g"lqkpv'f wtkpi "y g'y kpvgt"o qpyj u0

### 50408''Vj gto cnhqcf u'\*Lqkpv'qr gpkpi 1enqukpi +

Vj g"eqphi wtckqp"/wgf '\q"uko wrcy" y gto cn'nqcf kpi 'ku'tghgttgf '\q"cu'y g"\gpukrg"f kr mego gpv" ncdqtcvqt { "ugwr ."uj qy p"kp"Hki wtg"F **066**0'Vj ku'uo cm'uecng"ncdqtcvqt { "ugwr "eqpukrwl"qh"c"707/nkr " j { ftcwke"cewcvqt."y j kej "ku"wgf "kp"f kr mego gpv"eqpvtqn" q"q gp"cpf "enqug" y g"ur geko gpu" q" uko wrcyg" y gto cn'nqcf kpi 0'Vj g"j qqm/cpf/mqr "uvtcr u"ctg"tgo qxgf "htqo "y g"yuvl"ur geko gp."cpf " cnwo kpwo "r myu"ctg"cwcej gf '\q"dqy "ukf gu"qh'y g'ur geko gp"\q"kpucmi'ki'kp"yj g"nqcf 'htco g0'Ukf g'C" qh'y g'ur geko gp"ku"cwcej gf '\q"y g"dcug"r mvg"cpf 'ukf g'D"ku"cwcej gf '\q"y g'\qr "r mvg0'Vj g"cewcvqt" f kr megu'ukf g"D'd { "c"r tg/f gygto kpgf 'co qwpv"kp"c" j cxgtukpg'y cxg"cv'c"tcwg"qh'3'J | 0'Vj g"ur geko gp" u'uwdlgevgf '\q": 72"e { engu"qh'lqkpv"qr gpkpi "cpf "enquepi 0'Vj ku"pwo dgt"qh'e { engu'y cu'ugnevgf "dcugf " qp"y g"pwo dgt"qh'y kpwt"f c { u'kp"y j kej 'c"lqkpv'y kn"qr gp"cpf "enquej'qxgt"c'9/ { gct"r gtkqf "\*343"y kpyt" f c { u'r gt" { gct" hqt" 9" { gctu+0' Hkrggp" { gctu" ku" y g" vf r kecn' co qwpv' qh' f co ci g" ceewo vrcvgf " j cnky c { '\q'y g 'Htuv'tgj cd"ecp"dg"s wcpkhkgf 0'Chgt"372"e { engu'qh'iqcf "cpf ''f kir mego gpv'' f cc"ctg"eqmgevgf 0'Vj ku'tgr gcvu'y tqwi j qw'y g"y g"y gto cn'hcvki wg" yuv." tguwnkpi "kp'7"i tqwru"qh'f cvc" r gt 'ur geko gp"r gt 'ygu0



Figure D.14. Tensile displacement setup



Hki wtg'F0370Lqkpv'qrgpkpi lenqukpi 'hcvki wg'\*c+kphtctgf 'rjqvq'cpf '\*d+'eqttgurqpf kpi 'urgekogp

# 50404''Lqkpv'qr gpkpi

Kp/ukwi'vgo r gtcwtg'f cvc'htqo ''UT/44''y cu'pqv'qpn{ 'wugf 'vq''guvcdnkuj ''y g''y guv'vgo r gtcwtg''qh'' y g''ur gelo gp''dwi'cnuq ''vq''guvko cvg''v{r kecn'lqkpv'o qxgo gpv'f wtkpi ''y g''y kpvgt''o qpyj u'kp''Rkwudwti j .'' RCO' F wtkpi '' Lcpwct {.'' Hgdtwct {.'' P qxgo dgt.'' cpf '' F gego dgt'' qh'' 4236.'' y g'' cxgtci g'' f ckn{ '' nqy '' vgo r gtcwtg'' o kpwu'' qpg'' uvcpf ctf '' f gxkcvkqp'' y cu'' hqwpf '' vq'' dg'' 47ÅHD' Vj g'' cxgtci g'' f ckn{ '' j ki j '' vgo r gtcwtg'' r nwu'' qpg'' uvcpf ctf '' f gxkcvkqp'' y cu'' hqwpf '' vq'' dg'' 72ÅHD' Vj gug'' vgo r gtcwtgu'' ecp'' dg'' eqttgrcvgf ''vq''lqkpv'o qxgo gpv'wukpi ''Gs wcvkqp'': ''f guetkdgf 'kp''Cr r gpf kz 'EO'Vj g''eqpetgvg''eqghthekgpv' qh'yj gto cn'gzr cpukqp'\*EVG+'cpf 'ft{kpi 'uj tkpnci g'y gtg'cuuwo gf '\q'dg'707z32<sup>/8</sup>" lÅH'cpf '742" ." tgur gevksgn{..'dcugf "qp"rcdqtcvqt{"o gcuwtgf "xcnwgu"cu"f guetkdgf "kp"Crrgpf kz"E0'Vj g"urcd"ngpi yj " cpf 'r cxgo gpv'vgo rgtcwtg'cv'vko g'qh'ugcnkpi 'y gtg'37'hv'cpf ': 7ÅH 'tgur gevksgn{0'Wukpi 'yj gug'xcnwgu." y g''yj gqtgvkecn'lqkpv'o qxgo gpv'eqttgur qpf kpi '\q'47ÅH'cpf '72ÅH'r cxgo gpv'vgo rgtcwtgu'ku'-9: "cpf" - 75'o knu.'tgur gevksgn{0'Vj gug'kpr wu'ctg''uwo o ctk gf 'kp"Vcdng'F **04**0

Lqkpv'Tgugtxqkt'Fgukip'Rctcogvgt	Хспид				
Eqpetgyg'EVG	707, 32 <sup>/8</sup> " 1ÅH				
Eqpetgvg'ft{kpi 'uj tkpmci g	742"				
Cxi 0'uncd'\gor0'B '\kog''qh'ugcn	: 7 <i>Å</i> H				
Uncd'hgpi y	37'hv				
Kokskori'lqkpv'y kf y	Tgugtxqkt"?"205:"kp="Hkmgf"?"2047"kp				
Rcxgo gpv'Vj gt o criEqpf kkqp,	Lqlpv'O qxgo gpv				
Cxi 0'nqy ''y kpvgt''vgo r 0'6''3''uvf ''f gx0?''47ÅH	Køksken'lqkøv'y kf vj "- '9: "o knu				
Cxi 0'j ki j "y kpvgt"vgo r 0'- "3"uvf "f gx0? "72ÅH	Koksken'lqkov'y kf yj ''- ''75''o knu				

Vcdrg'F040Pqp/cevkxcvgf 'lqkpv'o qxgo gpv'rctco gvgtu

, Guvedn<br/>kuj gf 'htqo ''UT/44''y gto qeqwr ng''f cwc''kp''Rkwudwt<br/>ij.''RC '\*Icp0''Hgd0''P qx0''F ge0'' 4236+

Gcej "lqkpvlf guki p"y cu"uwdlgevgf "q"lqkpvlqr gpkpi lenukpi "hcvki wg"uko wævkpi "y g"gzr gevgf " hwe wævkqpu" kp" r cxgo gpvl vgo r gtæwtg" y tqwi j qw" c" v{r kecn" y kpvgt0' Vj ku" y cu" r gthqto gf "d{" f kur mekpi "ukf g"D"qhl'y g"ur gelo gp"wr y ctf "d{"- 89"o kn"htqo "y g"qtki kpcn<sup>1%</sup>kQ0"wpqr gpgf +"r qukkqp0' Vj ku"ur gelo gp"ku"j grf "cv'y ku"neevkqp"hqt"3"o kpwg"uq"y g"ntteg"ecp"uvdktki g0'Vj g"ur gelo gp"ku"y gp" e{engf "dgw ggp"- 9: "cpf '- 75"o kn"qh"f kur mego gpvl"htqo "y g"qtki kpcn"r qukkqp"hqt": 72"e{engu0'Vj g" nqcf "egml'y gp"o qxgu"ukf g"D"qhl'y g"ur gelo gp"dceml'q"y g"qtki kpcn"r qukkqp"hqt": 89"o kn"cpf " o ckpvkpgf "cv'y ku"r qukkqp"hqt"4"o kpwgu"cu'y g"htteg"uvdktki gu0'Vj g"f cw"ces wkukkqp"u{ ugo "tgeqtf u" nqcf "cpf "f kur mego gpvl" tukpi "gcej "vguv'cv'c"htgs wgpe{"qh'322"J | 0'Vj g"ur gelo gp"ku"y gp"tgo qxgf " htqo "y g"ygpukg"f kur mego gpvl'ugwr ."y g"j qqm/cpf/mqr "uvter "ku"wgf "q"ugewtg"y g"ur gelo gp."cpf " y g"eqpf kkqp"qh"y g"ur gelo gp"ku"g to cn"mcf kpi "kp"y g"uj emgf qy p"vgukpi ."Ki'y cu" hywf "y cv"pq"f co ci g"ceewo wævkqp"j cf "qeewttgf "htt"cp{"qh'y g"ur gelo gpu0'Vj ku"uw i guvu'y cv" wpf gt "v{r kecn"eqpf kkqpu"wukpi "uvcpf ctf "RgppF QV" væpuxgtug"lqhv/r gukp "ku"eqpf "o cvgtken."lqkpv" heknæg"uj qwf "pqv'qeewt0J qy gxgt."r tgo cwæg"lqhv/bkwæg"ku"uvknitgr qtvgf "vgref "ugett0"

Vj g"lqkpv'qr gpkpi lemukpi "hcvki wg"mcf kpi "r tqvqeqn'y cu"tg/gxcnxcvgf "vq"uko wrcvg"c"o qtg" etkkecn' tcpi g" qh' eqpf kkqpu0' Lcpvct { " cpf " Hgdtwct { " ctg" v{r kecm{ " eqnf gt" y cp" P qxgo dgt" cpf " F gego dgt"dcugf "qp"yj g"kp/ukwi'vgo r gtcwtg"f cvc. 'y j kej "eqttgur qpf u'vq"c"i tgcvgt "lqkpv'o qxgo gpv0' Vj g"cxgtci g"f ckn{ "r cxgo gpv'vgo r gtcwtg"hqt"Lcpwct { "cpf "Hgdtwct { "kp"4236"o kpwu"y q"uvcpf ctf " f gxkcvkqpu"y cu"hqwpf "vq"dg"32ÅH "y j kej "ecp"dg"eqpukf gtgf "cp"gzvtgo g"vgo r gtcwtg"gxgpv0'Vj g" yj gqtgvkecn'lqkpv'qr gpkpi 'hqt''yj ku''gzvtgo g''eqnf ''eqpf kkqp''ku''-; 5''o kni'wukpi ''yj g''lqkpv'tgugtxqkt'f guki p'' r ctco gvgtu''kp''Vcdng'F **04**0K/y cu''cnq''cuuwo gf ''yj cv''gxgt { ''yj ktf ''qt''hqwtyj ''lqkpv''cevkxcvgu''gctn{ ''qp''kp'' Rgppu{nxcpkc0'Y kyj ''yj ku''cuuwo r vkqp. ''yj g''r cxgo gpv''ghhgevkxg''urcd''ngpi yj ''eqwrf ''dg''cp { y j gtg''htqo '' 37'hv'vq''wr ''vq'82'hv0'Kfi'yj g''cuuwo gf ''ghhgevkxg''urcd''ngpi yj ''ku'52'hv.''yj g''gzr gevgf ''lqkpv'qr gpkpi ''y qwrf '' dg''- 3: 8''o kn0

Vj ku"cpvlekr cvgf "lqkpv'qr gpkpi "y cu"eqo r ctgf "vq"c"lqkpv'ugcrkpi "uwtxg{ "vq"gpuwtg"y cv'y g" xcnvgu"ctg"tgcrknke0RgppF QV"eqpf wevgf "c"lqkpv'ugcrkpi "uwtxg{ "htqo "Ugr vgo dgt"4243"vq"C wi wuv" 4244. "y j kej "f qewo gpvgf "y g"cxgtci g"lqkpv'qr gpkpi "hqt"9"f khgtgpv'r cxgo gpv'ugevkqpu"y kj "37/hv" vtcpuxgtug"lqkpv'ur cekpi u"qp"Rgppu{nxcpkc"j ki j y c{u"]; \_0'C "uwo o ct{ "qh'y g"uwtxg{ "ku"r tqxkf gf "kp" Vcdng"F **(b**0'K'ecp"dg"uggp"y cv'y g"ggp"203"cpf "2073"kp0'Vj gug'y kf y u"eqttgur qpf "vq"lqkpv'qr gpkpi u" qh"- 358"cpf "- 555"o knu. 'tgur gevkzgn{."cuuwo kpi "c"f guki p"tgugtxqkt 'y kf y "qh'20597"kp0'Vj g"guvko cvgf " - 3: 8"o knu"qh"lqkpv'o qxgo gpv'ku'y kj kp"y g"hgrf "dcugf "qp"y g"uwtxg{"f cv:0

Rt qlgev	Rcxgo gpv" Eqpuvt wevkgp" [gct	V{ r g'qh' Ugcn:pv	Cig'qh' Rcxgogpv' {gctu+	Cig'qh' Ugcn:pv'' *[gctu+	Cxg0' Lx0' Y lf vj " *lp+	Ocz0' Lx0' Ykfvj" *kp+	O lp0' Lx0' Y lf vj " *lp+	O cz0Lx0' Qrgplpi " *lp+	O kp0Lx0' Qrgpkpi " *kp+	O kukpi " Ugeni" * +	Cf j gukąp" 1E qj gukąp" Hckawt g'*hr+	Etcenipi" 1Grcwleix{" *1x+	O kukpi " Ugenepv" *hr+	Vqvcn' Ugcn:pv' F knt gugf " *1s+
C24P	4225	V{ r g' <b>'</b> KX	3:	4	2072	2085	2065	2047	2028	2	36	607	2047	3: 097
C24U	4228	V{rg'KX	37	4	2064	2073	2057	2086	/2024	5	366	2	33	377
C27	4237	V{rg'KK	8	6	205:	2077	204:	208:	/2082	36	483	2	7;	542
C2: C	4224	V{rg'KK	42	3	207;	2093	2069	2055	2082	2	20 5	2	202:	20,3
C32	4236	Ukrkeqpg		:	2076	207;	2065	2043	2028	4	:6	2	: 07	;407
C34C	4238	V{rg'KK	7	7	2072	2073	2069	2036	2082	7	53:	2	44	562
C34D	423:	V{rg'KX	5	5	206:	2077	2065	208:	2028	5	598	2	33	5:9

Vcdrg'F (50RgppF QV'lqkpv'ugcrkpi 'luwt xg{ 't guwnu'lqt 'LRER''y kj '37/hv'lqkpv'ur cekpi '];\_

Vj gug"tgxkugf "lqkpv"qr gpkpi u"y gtg" y gp"kpeqtr qtcvgf "kpvq" y g" vgukpi "tgi ko g"r tgxkqwun{" f guetkdgf "kp" y g"hqmqy kpi "o cppgt0'Vj g"ur geko gp"ku'42ÅH'y j gp"kv'ku"r megf "kpvq" y g"nqcf "htco g0' Vj g"lqkpv'ku"qr gpgf "vq"- 33; "o knu0'Chvgt" y g"hqteg"uvcdkdk gu."c" j cxgtukpg" y cxg" y ky "c"o kpko wo " f kur mego gpv"qh"- 75" o knu"cpf "c" o czko wo "f kur mego gpv"qh"- 3: 8" o knu"ku"cr r ngf "cv"c"htgs wgpe{"qh" 3"J | 0'C"vqvcn"qh": 72"e{engu"ctg"cr r ngf 0'Vj g"ur geko gp"ku" y gp"ugv"dcemtvq"ku"qtki kpcn"r qukskqp"cpf" ku"tgo qxgf "htqo "y g"nqcf "htco g0'Vj g"ur geko gp"eqpf kskqp"ku"cuuguugf "\*r gto gcdktks{"cpf "uvkhipguu+." cpf "y gp" y g"eqo r ngvg"r tqegf wtg" \*hcvki wkpi "cpf "eqpf kskqpu"cuuguuo gpv+"ku"eqpf wevgf "hkxg" o qtg" vko gu. "hqt"c"vqvcn"qh"uz0

#### 50405''Xgj leng'ncf u'\*xgt vlecrif lthgt gpvlcrif ghgevlqpu+

Vq'ulo wrcvg'c'tgcrluvle'hlige { eng'qh'c'IRER'lqkpv.'yj g'ghtgevu'qh'xgj keng'nqcf kpi 'o wuv'cnuq'dg'' eqpulsf gtgf 0'Uj gct"f kur ncego gpv'nqcf kpi "eqpf kkqpu"y gtg"kpeqtr qtcvgf "kpvq"yj g"vguv'ugwr 0'Vj ku" uo cm'uecng"ncdqtcvqt { "ugwr "ku"o gcpv'vq"ulo wrcvg"c"xgj keng"vtcxgmkpi "qxgt"yj g"vtcpuxgtug"lqkpv'' ecwukpi "f khigtgpvlcn'f ghrgevlqpu"dgw ggp"yj g"cr r tqcej "cpf "ngcxg"urcdu0'Vj g"uj gct"f kur ncego gpv'' ncdqtcvqt { "ugwr ."uj qy p"kp"Hki wtg"F **08**."cnq"kpeqtr qtcvgu"c"707/nkr "cewcvqt"kp"f kur ncego gpv'' eqpvtqn0'Ukf g'C"qh'yj g'ur geko gp"ku'cvcej gf 'vq'yj g'dqwqo "cto "cpf "c'ur cegt "ku'r ncegf 'wpf gt'ukf g"D" vq'r tgxgpv'uj gct'uvtguu'qp"yj g'ugcncpv'f wtkpi "kpucmcvkqp"kpvq'yj g'nqcf 'htco g0'Ukf g'D''qh'yj g'ur geko gp" ku'cvcej gf 'vq'yj g'vqr "cto .'y j kej "ku'eqppgevgf 'vq'yj g''nqcf "egmlqh'yj g'cewcvqt0

Vj g'vcti gv'ygu'ygo r gtcwtg''hţt 'gcej 'ur gelo gp'ku'ci ckp'42ÅH0Qpeg'yj g'ur gelo gp'ku'kpuvcmgf " kp''yj g''nqcf 'hco g.'ukf g'D'f kur megu'd{ ''- 1/'32'o kni'kp''c'j cxgtukpg'y cxg''hţt '7222''e{engu''cv'c'tcvg''qh'' 7'J | 0Vj ku'tcpi g''qh'f kur mego gpv'y cu''ej qugp''dcugf ''qp''yj g''o czko wo ''cmyy cdmg''tgmxkxg'f ghrgevkqp" hqt ''f qy gngf ''eqpetgyg''r cxgo gpwi'']96\_0'Vj g''pwo dgt ''qh''nqcf ''crr nkecvkqpu''hqt ''y ku''hcvki wg''yguv''ku'' kpvgpf gf '' vq''uko wrcvg''9'' {gctu''qh''xgj kewrt''nqcf kpi .''uq'' y g''f co ci g''htqo ''xgj kemg''nqcf ''hcvki wg'' ceewo wrcvgf ''wr ''q' yj g''htuv'tgj cd''ecp''dg''s wcpvkhgf 0'Cnj qwi j ''yj g''htuv'tgj cd''uj qwf ''dg''chgt''cv''gcuv'' 37''{gctu''kp''ugtxkeg.''c''f khigtgpvkchi'f ghrgevkqp''qh''- 1/''32''o kni'tgr tgugpvu''cp''gz utgo g''eqpf kkqp''chgt'' lqkpv'r gthtto cpeg'f genkpgu''dgny ''cp''ceegr vcdrg''rgxgr0'Chigt''6 2''e{engu''cv''7'J | .''yj g''u{uvgo ''unqy u'' q''3'J | ''cpf ''42''e{engu''qh''nqcf ''cpf ''f kur mego gpv'f cvc''ctg''eqnngevgf ''cv''c''htg swpe{''qh''322''J | 0'Vj g''' f getgcug'' kp'' mcf kpi ''tcvg'' y cu''tgs wktgf '' q''tgf weg'' y g'' pqkug''kp'' y g'' f cvc0' Vj ku''r tqeguu''tgr gcwi'' y tqwi j qw'yj g''xgj kemg'hcvki wg''guv.'tguwnkpi ''kp''32''i tqwr u'qh'f cv'r gt''ur gelo gp''r gt''gu0Vj g''ugercpv'' y go r gtcwtg''ku''o qpkqtgf '' y tqwi j qwv''y g'' guvy' y kj ''y g'' kphtctgf ''eco gtc0' Vj g''' rgelo gp''ku''y gp'' tgo qxgf ''htqo ''y g'' uj gelt''f kur mego gpv''ugwr.'' y g'' j qqm/cpf/mqr ''utcr ''ku''' wugf ''q'''ugevtg'' y g''' ur gelo gp.'' cpf ''y g''' ur gelo gp'' eqpf kkqp''ku'' gxcnvcvgf 0' Vj ku''r tqegf wtg''ku'' cnq'''eqpf weyf '''kxg'' cff kkqpcn'ko gu ''hyt''c''qvcn'qh'ukz0



Hki wtg'F (B80Uj gct 'f kur ncego gpv'ugwr

### 505''E qpf kskqp'Gxcnvcvkqp

K/ku'etkkecn'\q's wcpvkh{ 'ej cpi gu'kp'lqkpv'r gthqto cpeg''cpf 'f co ci g''ceewo wrcvkqp'kp'tgur qpug'' \q'htgg| g/ y cy ''gzr quwtg''cpf 'hcvki wg''eqpf kkqpu0'Vj g''eqpf kkqp''qh''gcej ''ur gelo gp'ku''gxcnxcvgf ''wukpi '' y q''o gy qf u0'Vj g''htuv'o gy qf ''cuuguugu''lqkpv'tgukurcpeg''q''y cvgt ''kphkntcvkqp."y j lej ''ku''wugf ''q'' s wcpvkh{ ''y g''dqpf ''s wcnk{ ''dgwy ggp''y g''ugcrcpv''cpf ''y g''eqpetgvg''hceg''cpf ''y kj lp''y g''dwm''ugcrcpv'' o cvgtkcn'y tqwi j ''c''r gto gcdkrk{ ''guv0'Vj g''ugeqpf ''o gy qf ''s wcpvkhlgu''y g''f gi tcf cvkqp''qh'y g''ugcrcpv'' o cvgtkcn'd{ ''cuuguukpi ''y g''tgf wevkqp''qh''y g''ukhhpguu''qh''y g''ugcrcpv''cpf ''y g''gpgti { ''uvqtgf ''kp''y g'' ugcrcpv'cu'kv''qr gpu''cpf ''emugu0'Dqy ''o gy qf u''ctg''eqpf wevgf ''dghqtg'htgg| g/y cy ''eqpf kkqpkpi .''chgt'' htgg| g/ y cy ''eqpf kkqpkpi .''cpf ''y gp''chgt ''gcej ''tqwpf''qh''y gto cn'cpf ''xgj kewct'hcvki wg'\guvkpi 0

### 50508"Ugcn:pv'inkhpguu

O qpkqtkpi "y g"ej cpi g"kp"grcuke"o qf wnwl"cpf "uj gct"o qf wnwl"qh'y g"ugcrcpv'kl"wugf "vq" s wcpvkhi{ "f gi tcf cvkqp"qh"y g"ugcrcpv'r gthqto cpeg0'Ugcrcpv'ukhhpguu"ku"cnq"s wcpvkhgf "wukpi "y g" vgpukrg"f kur rcego gpv'rcdqtcvqt { "ugwr 0'Vy gpv{ "e { engu"ctg"cr r ngf "vq"gcej "ur geko gp"kp"c"j cxgtukpg" y cxg"cv'3'J | 'y j krg'y g"ur geko gp"ku"cv'tqqo "vgo r gtcwtg."kp"y g"uco g"o cppgt"cu'y cu'f guetkdgf "hqt" y g" lqkpv' qr gpkpi "hcvki wg" mcf kpi 0' Vj g" ej cpi g" kp" rcvgtcn" cpf " uj gct" uvtguugu" cpf " uvtckpu" ctg" f gvgto kpgf "htqo "y g"ecr wtgf "mcf "cpf "f kur rcego gpv'f cvc"vq"cuuguu"y g"ej cpi g"kp"uvkhpguugu"hqt"

### 50504"Gpgti {

Cpqyj gt"r ctco gygt"y cv"ecp"dg"wugf "vq"s wcpvkh{ "y g"ugcncpv"r gthqto cpeg"ku"y g"ej cpi g"kp" gpgti { "f kuukr cvkqp"f wtkpi "lqkpv"o qxgo gpv0'Cu"c"lqkpv"qr gpu"cpf "enqugu. 'y g"gpgti { "tgs wktgf "vq"o qxg" y g"lqkpv"ku"uvqtgf "kp"y g"ugcncpv"cpf "f kuukr cvgu"y tqwi j qwv"y g"o cvgtkcn0'Vj ku"eqpegr v"j cu"v{r kecm{" dggp"gzr mtgf "kp"y g"ctgc"qh"cur j cnv"dkpf gt"r gthqto cpeg0'Rcuv"tgugctej "j cu"uj qy p"y cv"cu"cur j cnv" dkpf gt"ceewo wncvgu"f co ci g. "y g"f kuukr cvgf "gpgti { "f getgcugu"]97\_0'Vj ku"kf gc"qh"f kuukr cvgf "gpgti { " ecp" dg" gz vtcr qncvgf " vq" lqkpv" ugcncpvu" wugf "kp"r cxgo gpvu"cpf "ecp" dg" wugf " vq" ej ctcevgtk g" y g" r gthqto cpeg"qh"f khigtgpv"lqkpv"f guki pu0'Vq"o gcuvtg"y ku."42"e { engu"ctg"cr r nkgf "vq"gcej "ur geko gp"kp" c"j cxgtukpg"y cxg"cv'3"J | "y j kng"y g"ur geko gp"ku"cv"tqqo "vgo r gtcwtg."kp"y g"uco g"o cppgt"cu"y cu" f guetkdgf "hq"y g"lqkpv"q gpkpi "hcvki wg"nqcf kpi 0

### 50505"Rgto gcdkdw{

Y cvgt "cpf "kpeqo r tguukdrgu"ecp"gcukn{ 'kplkntcvg"c'lqkpv'y j gtg"cf j gukxg"qt"eqj gukxg"f co ci g" ku"r tgugpv.'y j kej "ecp"rgcf 'vq"r tgo cwtg"lqkpv'hcknvtg0C"r gto gcdkkv{ 'vguv'y cu"f gxgrqr gf 'vq"o qpkqt" y g"tcvg"qh'y cvgt "kplkntcvkqp"y tqwi j "y g"lqkpv'qxgt"c"uj qtv'r gtkqf "qh'vko g0'Vj g"cr r ctcwu"wugf "kp" y g"r gto gcdkkv{ "vguv"eqpukuvu"qh"cp"cnvo kpwo "j ctpguu."c"5F/r tkpvgf "hwppgn"dtcuu"ur cegtu"vq" o ckpvckp"y g"lqkpv'tgugtxqkt"cv'c"9: /o kn'qr gpkpi ."cpf "c"tvddgt"i cungv0'Vj g"vguv'ku"eqpf wevgf "d{ " qr gpkpi "y g'tgugtxqkt"qh"gcej "ur geko gp"d{ '9: "o knu"%kg0"y g"o czko wo "qr gpkpi "kp"yj g"y kpvgt"o qpvj u" dcugf "qp"kp/ukwi'vgo r gtcwtg"f cvc"htqo "UT/44+'cpf 'hkrkpi "y g"ecxkv{ "cdqxg"y g"ugcrcpv'y kj 'y cvgt0' Vj g"r gto gcdkkv{ "vguv'ku"wugf "vq"cuuguu"y g"dqpf "s wcrkv{ "dgw ggp" y g"ugcrcpv'o cvgtkcn"cpf "y g" eqpetgvg"uvduvtcvg"\*cf j gukxg"hcknvtg+"cu'y gm"cu"cp{ "vgctkpi "y cv'o ki j v'f gxgrqr "y kj kp"y g"ugcrcpv' o cvgtkcn\*eqj gukxg'hcknvtg+0

C'vguv'ur geko gp'ku'r megf 'kpvq''y g''cnwo kpwo 'j ctpguu'cpf 'ur cegtu''ctg''wgf 'vq''qr gp''y g''lqkpv'' d{ '9: 'o kn0'Rnwo dgtøu'r ww{ 'ku'r megf ''qp''vqr ''qh'y g''ugcmpv'vq''ugcn'y g''gf i gu'vq''r tgxgpv'y cvgt 'htqo '' ngcmkpi ''qw'qh''y g''lqkpv''q''o kki cvg''gf i g'ghtgew0'Vj g''twddgt'' cungv'ku'r megf ''qp''vqr ''qh'y g''r ww{ '' cpf ''qxgt''y g''lqkpv''q''ugcn'y g''qr ''qh'y g''u geko gp0'C 'hwppgn'y ky ''cp''cwcej gf ''i tcf wcvgf ''e{ nbpf gt 'ku'' y gp''ndpgf ''wr ''y ky i'' y g'' cungv dn{ ''y tqwi j ''8'' y gp''ndpgf ''vr ''y ky i''y g'' cungv.''cpf ''cp''cnwo kpwo ''vqr ''r mcvg''ku'' megf ''qxgt''y g''cuugo dn{ ''y tqwi j ''8'' y tgcf gf ''tqf u.''cwcej gf ''cpf ''ki j vgpgf ''y ky ''8'' gz ''pwu0'Vj g''qr ''r mvg''ku''ki j vgpgf ''wpkhqto n{ ''cv'cm'' ukz'' gz ''pwu1''q''gpuwtg''gs wcnhqteg''qp''cmlukf gu0'Chgt''y g'' ctpguu'ku''cuugo dmf .''c'u{ tkpi g''ku''wgf ''q'' kplgev' cr r tqzko cvgn{ ''3 ''hwkf '' qwpeg'' qh''y cvgt ''kpvq'' y g'' hwppgnli tcf wcvgf ''e{ nbpf gt ''a''' kplgev''qr y cvej ''ku''wgf ''q'' y g''g'' cuugo dn{ 0'C'' uvqr y cvej ''ku''wgf ''q'' tqwi j g''y cvgt ''kpvq'' y g'' hwppgnli tcf wcvgf ''e{ nbpf gt'' cuugo dn{ 0'C'' uvqr y cvej ''ku''wgf ''a'' tqwi j g''y cvgt ''kpvq'' y g'' hwppgnli tcf wcvgf ''e{ nbpf gt'' cuugo dn{ 0'C''' uvqr y cvej ''ku''wgf ''q'' y g''lqkpv'ku'f qewo gpvgf 0



Hki wtg'F (B90)Cuugo dngf 'r gto gcdkrks { 'sguv'crrctcwu'y kj 'sguv'ur geko gp



Hki wtg'FB: OF kucuugo dngf "rgto gcdkkk{ "vguv'crrctcwu

### 506'' Gzvgpuldktlv{

S wcpvkh{kpi 'vj g''ej cpi g'kp''r gthqto cpeg'htqo 'vj g''dgi kppkpi 'vq''yj g''gpf ''qh''yj g''ugcrcpv'htkg''ku'' etkkecn'kp''f gvgto kpkpi ''yj g''ko r cev''qh''htgg| g/vj cy ''gzr quwtg''cpf ''hcvki wg''eqpf kkqpu''qp''yj g''ugcrcpv0' Vj g''ej cpi g''kp''gz vgpukdktkv{ ''cv''hcknwtg''dgwy ggp''pgy n{ ''ugcrgf ''lqkpwu''cpf ''ugcrcpvu''chvgt''64''{ gctu''qh'' uko wrcvgf ''kp/ugtxkeg''eqpf kkqpu'y cu''gxcnwcvgf 0

### 566B''Pgy 'Ugcn

Vj tgg'uco r ngu'qh'gcej 'lqkpv'f guki p''ctg'hcdtlecvgf ''cpf ''ctg''wugf ''q''o gcuvtg''y g''gzvgpukdkks{" r tkqt ''vq''htgg| g/y cy ''cpf ''hcvki wg''eqpf kkqplpi 0'Vj g''vguv'vgo r gtcwtg''hqt ''gcej ''ur geko gp''ku'52ÅH" y j kej ''ku'' y g''cxgtci g'' r cxgo gpv''uvthceg'' vgo r gtcwtg''kp'' y g''y kpvgt''o qpy u''dcugf ''qp'' y g''f cvc'' eqngevgf ''hqt''UT/440'Vj g''vgo r gtcwtg''qh'y g''vgcrcpv'ku''o qpkqtgf ''wukpi ''cp''kphtctgf ''eco gtc0'Vj g'' vguv'dgi kpu''d{ ''r reekpi ''y g''ur geko gp''kpvq''y g''vgpukrg''f kur rcego gpv''guv'htco g''cpf ''qr gpkpi ''y g''lqkpv'' vq''60''kp''htqo ''ku''qtki kpcn'r qukkqp''cv'c''tcvg''qh''402''kp''r gt''o kpwg0'Vj ku''ku''cp''ceegrgtcvgf ''tcvg''qh'y g'' ucpf ctf 'CUVO 'F 754; ''dqpf ''guv']98\_\_'cpf ''j cu''dggp''uj qy p''ghigevkxg'kp''r tgxkqwu''uwf kgu']99\_0'Vj g'' ugcrcpv'vgo r gtcwtg.''hqteg.''f kur rcego gpv.''cpf ''y g''o qf g''qh''hcknxtg''ctg''o qpkqtgf ''y tqwi j qw''y g'' vgu0'Hcknxtg''qh''gcej ''ur geko gp''ku''dcugf ''qp''xkuvcn'kpur gevkqp''cpf ''y g'' gcm'ygukrg''hqteg''f wtkpi ''y g'' vgu0'Vj g''vgo r gtcwtg''cv'hcknxtg''cpf ''o qf g''qh''hcknxtg''\*cf j gukxg''qt''eqj gukxg+''ctg''f qewo gpvgf 0'P q'' cf f kkqpcn'\guvkpi ''ku''eqpf vevgf ''qp''y gug''ur geko gpu''qpeg''gzvgpukdkks{''vguvkpi ''ku''eqo r rgvgf 0

### 50604''Eqpf kkqpgf

Gz vgpukdktk{ "vguvkpi "ku"cnıq"eqpf wevgf "qp"vguv"ur geko gpu"vj cv"j cxg"dggp"eqpf kkqpgf 0Chvgt" gcej "ur geko gp"j cu"wpf gti qpg"htgg| g/yj cy "gzr quwtg."yj gto cn"cpf "xgj kewnet"hevki wkpi ."cpf "yj g" eqpf kkqp"qh"vj g"lqkpv"j cu"dggp"gxcnwcvgf ."yj g"hkpen"gz vgpukdktkv{ "qh"gcej "ur geko gp"ku"f gvgto kpgf 0' Vj g"vguv"r tqegf wtg"ku"yj g"uco g"cu"yj cv"hqt"pgy n{"ugengf "ur geko gpu0'Vj g"hkpf kpi u"htqo "yj g"pgy " ugenepvu"etg"eqo r ctgf "vq"yj qug"htqo "yj g"ugenepvu"gzr qugf "vq"htgg| g/yj cy "cpf "hevki wgf "vq"s wepvkh{" yj g"ej cpi g"kp"ugenepv'r gthqto cpeg"chvgt"64"uko wrevgf "{ gctu"kp"ugtxkeg0

### 602'T guwwu

Vj g"hqmqy kpi "ugevkqp"f guetkdgu"yj g"tguwnu"qh"gzr qukpi "gcej "lqkpv"f guki p"vq"htgg g/yj cy " eqpf kkqpu." lqkpv" qr gpkpi lenqukpi "cpf "xgj kewnct" hcvki wg" nqcf kpi ." cpf "yj g" ej cpi g" kp" wnko cvg" gz vgpukdktkv{ "kp"tgur qpug"vq"eqpf kkqpkpi 0

### 608''Ht gg| g/Vj cy 'Gzr quwt g

Vy q'tgr necvgu'qh'gcej 'lqkpv'f guki p'y gtg'uvdlgevgf ''q'ugxgtcn'tqwpf u'qh'htggl g/ y cy ''HV+' eqpf kkqpkpi 0'Vj ku'eqpukuvgf 'qh'cr r n{kpi 'hkg'HV'e{engu0Cp{ 'f co ci g'ceewo wrvgf 'f wtkpi ''y g''H V''e{enkpi ''y cu''cuuguugf ''d{ ''y gp''cr r n{kpi ''42''e{engu'qh''y gto cn'cpf ''xgj kewct''hcvki wg''nqcf kpi ''cv'' tqqo ''vgo r gtcwtg'' q'' f gygto kpg''cp{ ''ej cpi g'' kp'' uvdhipguu0' Vj ku''eqpf kkqp''qh''y g''ugcn'y cu''cnq'' gxcnwcyf ''d{ ''o gcuvtkpi ''r gto gcdktk{ 0'Vj ku''r tqeguu''y cu''tgr gcvgf ''y tgg'' ko gu.''hqt''c'' qvcn'qh''37'' htggl g/ y cy ''e{engu0Rtgnlo kpct{ ''guvkpi 'kpf kecvgf ''y cv'y gtg'y cu'pq''uki pkhecpv'tgf wekqp'kp''ukhipguu'' cpf 'y g''ugcn'y cu'pqv'eqo r tqo kugf ''\*dcugf ''qp''xkuvcn'kpur gekqp''cpf ''r gto gcdktk{ ''vgukpi +'chgt''ukz''' htggl g/ y cy ''e{engu'hqt'' y g''cur j cn''tgugtxqkt''cpf ''cur j cn''hkngf ''u geko gpu0' Vj gtg'' y cu''cnq''pq'' uki pkhecpv'tgf wekqp'kp''ukhipguu''dg{ qpf ''y g''ktuv'htggl g/ y cy ''e{eng'hqt''ukeleqpg'tgugtxqkt''ur geko gpu'' cpf ''y g'ugcn'y cu'pqv'eqo r tqo kugf ''\*dcugf ''qp''xkuvcn'kpur gekqp''cpf ''r gto gcdktk{ ''vgukpi +0Vj gtghtg.'' ky'y cu'f gvgto kpgf ''y cv'gcej ''u geko gp''y kn'dg''uwdlgevgf ''q''ukz''htggl g/ y cy ''e{engu'y j gtg'y g''gcmpv'' ukhipguu'ucdktk{ gf ''r tkqt ''q'hcvki wkpi ''y g''ugcmpv0K/uj qwf ''dg''pqvgf ''y cv'y g''co qwpv'qh'htggl g/ y cy '' gzr quwtg''cpcn{| gf ''hp''y ku'uwf {''y cu'ho kgf ''d{ ''y g''gs wkr o gpv/wgf ''cpf ''y g''ko g''k''qqni'q''eqo r ngv" qpg''e{eng0Kp''hwwtg''y qtm''y g''ghgev'qh'o qtg''gzvgpukxg''htggl g/ y cy ''gzr quwtg''qp''gcej ''lqkpv'f guki p'' uj qwf ''dg''cpcn{| gf ''q''dgwgt''wpf gturcpf ''y g''ko r cev'qp''ugcmpv'f gygtkqtcvkqp0

### 604''Eqpf kkqp'Gxcnvcvkqp

Vj g'hqmqy koi ''ugevkqp''f guetkdgu''y g''tguwnu''qh''y g''o gyj qf u''wugf ''vq''gxcnwcvg''y g''eqpf kkqp'' qh''y g''ugcmpv''qh''ur gelo gpu''chygt ''dgkpi ''gzr qugf ''vq''lqkpv''qr gpkpi lenukpi ''cpf ''xgj lewnct''hcvki wg'' nqcf kpi 0'Gcej ''tqwpf ''qh''hcvki wg''gzr quwtg''ku''tghgttgf ''vq''cu''c''pgy ''f co ci g''gxgpv0'Vj g''r tqr gt vkgu'' f kuewuugf '' kp'' y ku'' ugevkqp'' kpenwf g'' ugcmpv'' ukhipguu.'' gpgti { ''f kuukr cvkqp'' y tqwi j qw'' y g'' ugcmpv'' o cvgtkcn'f wtkpi ''lqkpv'o qxgo gpv.''cpf ''lqkpv'r gto gcdktkv{0

### 60408''Ugcncpv'Uvlthpguu

Chygt "gcej "f co ci g"gxgpv."y g"ur gelo gpu"ctg"gxcnwcygf "cv"tqqo "vgo r gtcwtg"vq"f gvgto kpg" y g"ej cpi g"kp"grcuvke"cpf "uj gct"o qf whO'Vj g"grcuvke"o qf wnwu"ku"f gvgto kpgf "d{"cr r n{ kpi "42"lqkpv" qr gpkpi lenqukpi "e{ergu"vq"y g"ur gelo gp"cv"tqqo "vgo r gtcwtg0'Vj g"urtguugu"eqttgur qpf kpi "vq"y tgg" f khigtgpv"utckp"rgxgnu"y cv"ctg"r cuugf "y tqwi j "f wtkpi "lqkpv"enquvtg"ctg"wugf "vq"ecrewrcvg"y g"ukthpguu" qh"y g"ugcrcpv0'Utguugu"ctg"ecrewrcvgf "d{"f kxkf kpi "y g"o gcuwtgf "hqteg"d{"y g"ecrewrcvgf "o kf/y kf y " etquu/ugevkqpcn" ctgc" qh" y g"ugcrcpv" cv" c" mpqy p" lqkpv" qr gpkpi "wukpi "Gs wcvkqpu"; "y tqwi j "33."

Ko'tgur qpug''q'lqkpv'qr gpkpi .''y g'ugcmpv'hqto u'c'r ctcdqnke''cte''uj cr g''cmpi ''y g''qr .''cpf ''y g'' gzknkpi ''r ctcdqnke''cte''cmpi ''y g''qr ''qh''y g''dcengt''tqf ''gmpi cvgu0'Vj g''y kempguu.''v''qh'y g''ugcmpv'cv'' o kf /f gr yj ''y gp''f getgcugu''cu''y g''lqkpv'eqpkpwgu''vq''qr gp0'Vj ku''r j gpqo gpqp''ku''uj qy p''kp''Hki wtg'' F **B**; 0'Vj g''y kempguu''qh''y g''gz vgpf gf ''ugcmpv''eqttgur qpf u''vq''y g''qtki kpcn''ugcmpv''f gr yj ''o kpwu''y g'' j gki j v'qh'y g''r ctcdqnke''cteu''cv'' y g''qr ''cpf ''dqwqo ''qh'y g''ugcmpv0'Vj g''j gki j v'qh'y g''vqr ''r ctcdqnke'' cte''ecp''dg''hqwpf ''wukpi ''cp''gs wcvkqp''r tgxkqwun{ ''guvcdnkuj gf ''d{ ''Vqpu''hqt''y g''ctgc''qh''c''r ctcdqnke'']5; \_0' Vj g''j gki j v'qh'y g''dqwqo ''r ctcdqnke''cte''o wuv'y gp''dg''f gvgto kpgf ''vq''guvcdnkuj ''y g''y kempguu'qh'y g'' ugcmpv.''y j kej ''ecp''dg''hqwpf ''wukpi ''y g''qmqy kpi ''Gs wcvkqp'', ''cpf 'ku''f guetkdgf ''kp''Hki wtg''F **042**0



Hki wtg'FB; 0Ej cpi g'kp'ugcncpv'uj crg'y kj 'lqkpv'qrgpkpi



### Hki wtg'F0420Ugcrcpv'i gqo gvt { 'dcugf ''qp''c''eqpucpv''xqnvo g

Y z"?' 'gz vgpf gf 'lqkpv'y kf y . 'kp" J '?' 'vqr 'r ctcdqnke"cte'j gki j v. 'kp" v'? 'gz vgpf gf 'ugcncpv'y kenpguu. 'kp"

j "? "dqwqo "r ctcdqrke"cte"j gki j v."kp

Qpeg'ý g'dqwqo 'r ctcdqnle'cte'j gki j v'ku'hqwpf.'ý g'ý kenpguu'qh'ý g'ugcncpv'cv'o kf 'lqkpv'cpf 'etquu/ ugevkqpcn'ctgc''qh'ý g'ugcncpv'cv'ý ku'nqecvkqp''ecp''ý gp''dg''uqnxgf 'y kj 'ý g''hqmqy kpi ''gs wcvkqpu0

'D''		<b>H</b> "/	/ 11 11	`032
`"?"	"	"	"	` <b>®</b> 3

Y j gtg<

C''? ''etquu/ugevkqpcn'ctgc''cv'o kf /f gr yi .''kp<br/>4 N''? ''vqvcn''ngpi yi ''qh'ugcncpv.''kp

Vj g"lqkpv'qr gpkpi u"cv'y j kej "y g"utguugu"cpf "tgur gevkxg"ukkhpguugu"ctg"hqwpf "kpenvf g"- 86"o kn." - 33; "o kn."cpf "- 396"o kn0Hki wtg"F **043**'y tqwi j "Hki wtg"F **045**'u qy "gzco r ngu"qh'y g"ej cpi g"kp"utguu" cv'y gug"r tg/f gvgto kpgf "f kur nego gpvu"chvgt"gcej "f co ci g"gxgpv"hqt"gcej "lqkpv"f guki p0C "rkpgct"rkpg" ku"hki'vq"y g"f cvc"ugv"cpf "y g"ugcnepv"ukkhpguu"ku"f ghkpgf "cu"y g"unqr g"qh'y ku"hpg0Kk"ku"uggp"y cv'y g" unqr g"qh"gcej "f cvc"ugv"i tcf wcm{ "f getgcugu"chvgt "gcej "f co ci g"gxgpv"kpf kecvkpi "y g"o cvgtkch"ku" dtgcmhpi "f qy p"cpf lqt"y gtg"ku"c"muu"kp"cf j gukqp"dgy ggp"y g"ugcnepv"cpf "y g"tgugtxqkt"y cmu0Hqt" y g"cur j cn/hkmgf "cpf "cur j cn/tgugtxqkt"ur gelo gpu."kv"ecp"dg"uggp"y cv'y g"utguu"f tqr u"dgmy "| gtq" r uk"cv'my gt"lqkpv"qr gpkpi u0'Vj ku"ku"ecwugf "d{"etggr "f wg"vq"y g"xkueqgncuke"r tqr gtvkgu"qh'y g"cur j cnv." cur j cn/ hkngf " ur geko gpu" gzr gtkgpeg" ý g" ngcuv" co qwpv" qh" ut guu. " y j krg" ý g" ukteqpg" tgugt xqkt" ur geko gpu" gzr gtkgpeg" ý g" o quv" ut guu" hqt" ý g" uco g" lqkpv" qr gpkpi 0' Vj gt ghqtg." ý g" ut guugu" eqpyt kdwkpi "\q"eqj gukxg"cpf "cf j gukxg"hcknyt g"ctg"ny gt "cu"y gn0'K/uj qwf "dg"pqvgf "ý cv'ý g"ut guugu" ctg"hqt "ur geko gpu" vguvgf "cv'95ªH0'Vj ku"ut guu"ku"c "hwpevkqp"qh"y g" uktheqpg0'Vj gt ghqtg" ý g" ut guugu" utkhipguu 'qh"cur j cn/ku"o wej "o qt g"ugpukkxg"\q'vgo r gt cwt g"y cp'ý g"ukteqpg0'Vj gt ghqtg" ý g"ut guugu" i gpgt cvgf "y j gp" vguvgf "cv'eqnf gt "vgo r gt cwt gu"y kml kpet gcug"cv'c "o wej "j ki j gt "t cvg" hqt "y g" ut guugu" eqo r ct gf "vq" y g"ukteqpg0



Hki wtg'F0430V{ rkecn'ut guu''xu'lqkpv'qrgpkpi 'hqt ''curj cn/hkngf ''urgeko gp



Hki wtg'F0440V{ r kechlut guu'xu'lqkpv'qr gpkpi 'lqt 'curj cn/t gugt xqkt 'ur geko gp



Hki wt g'F 0450V{ r kechlut guu'xu'lqkpv'qr gpkpi 'hqt 'uktkeqpg't gugt xqkt 'ur geko gp0P qvg<'ej cpi g'kp''{/' czku'uecng

Vj gug" ut guugu" ctg" f kxkf gf " d { " y g" o kf /f gr y " ugcncpv" ut ckp0' Vj g" o kf /f gr y " ut ckp" ku" ecnewncvgf "d { "f kxkf kpi ' y g"gnpi cvkqp"cv'c"i kxgp"lqkpv'qr gpkpi "\$Q0"- 86"o kn."- 33; "o kn."cpf "- 396" o kn+'d { "y g"qt ki kpcn'lqkpv'y kf y 0'Vj g"cxgt ci g"gncuvke"o qf wnwu"chgt "gcej "f co ci g"gxgpv'hqt"gcej " lqkpv'f guki p"y kj "y g"tgur gevkxg"uvcpf ctf "gttqt"hqt"y g"y tgg"tgr nkecvgu"ku"uj qy p"kp"Hki wtg"F **046**" y tqwi j "Hki wtg"F **048**0'K/uj qwrf "dg"pqvgf "y cv'y g"{/czku"uecng"hqt"y g"ukrkeqpg"tgugtxqkt"ur geko gpu" ku"f khhgtgpv'htqo "y cv'hqt"y g"cur j cn/tgugtxqkt"cpf "cur j cn/hkngf "ur geko gpu0



Hki wtg'F0460Curj cn/lkngf "gncuke"o qf wnwlchgt "gcej 'f co ci g"gxgpv



Hki wtg'F0470Curjcn/tgugtxqkt "grcuke"oqfwnwu"chgt "gcej "fcocig"gxgpv



Hki wtg'F0480Ukkeqpg't gugt xqkt 'grcuke'o qf wnwu'chgt 'gcej 'f co ci g'gxgpv0Pqvg<'ej cpi g'kp'[/czku' uecrg

Vj g"cxgtci g"grcuke"o qf wnwi'i tcf wcm{ 'f getgcugu'y kj "gcej "f co ci g"gxgpv'hqt "gcej "qh'y g" lqkpv'f guki pu0'Vj ku'ku'dgrkgxgf "q"dg"y g'tguwn'qh'y g"ej cmppi g'kp"eqo r ngvgn{ 'hkmkpi "y g"pcttqy "ew0' KY'ku'o qtg"f khhewn' vq "wpkhqto n{ "hkm' y g"cur j cn/"hkmgf "lqkpv'y kj "ugcncpv'f wg" vq"y g"pcttqy "lqkpv' qr gpkpi "cpf "ncti g"f gr yj "cv'y j kej "y g" ugcncpv'o wuv"hkm' y j gp"pq" dcengt "tqf "ku"r tgugpv0' Vj ku" eqpvtkdwgu" vq"y g"f gxgnqr o gpv'qh'xqkf u''y tqwi j qwv'y g"f gr yj "cpf kqt"wpgxgp"hkmkpi "qh'y g"lqkpv0' Vj g"r tgugpeg"qh'yj gug"xqkf u'tguwnu'kp"c"nqy gt"cr r ctgpv'uvkhipguugu"eqo r ctgf "vq"cur j cn/'tgugtxqkt" lqkpv'f guki pu'yj cv'ctg"eqo r ngvgn{ 'hkmgf 0/Cp"gzco r ng"qh'ko r gthgevkqpu'ecwugf "d{ 'kpeqpukuvgpv'hkmkpi " ku'uj qy p"kp"Hki wtg"F **049**0'Uko krctn{ ."kv'ku'uggp" yj cv'y g"uvkhipguu"qh'y g"ukheqpg"ur geko gpu'ku'o wej " i tgcvgt 'y cp'yj cv'hqt'y g"cur j cn/hkmgf "cpf "cur j cn/'tgugtxqkt"ur geko gpu0/Vj ku'tgr tgugpvu'uvkhipguugu" o gcuwtgf "cv'95°4H'dw'kv'ku'cpvkekr cvgf 'yj cv'y g"uvkhipguu'qh'y g"cur j cn/y km'dg"o wej "i tgcvgt 'y cp'y g" ukheqpg"f wtkpi 'y kpvgt'vgo r gtcwtg"eqpf kkqpu0



Hki wtg'F0490Gzcorng"qhlkorgthgevkqpu'y kj kp"curjcn/ugcncpv!hqt 'hkngf "urgekogp."xqlfu"ektengf" kp"tgf

Hki wtg'F 04: 'lıj qy u'y g''cxgtci g''ej cpi g''kp''grcuvke''o qf wnwu'htqo 'y g''hktuv'f co ci g''gxgpv'hqt" gcej 'lqkpv'f guki p0'Vj ku''r tqxkf gu''kpuki j v'kpvq''y g''nquu''qh''uvkhipguu''hqt"gcej ''f guki p"cnygtpcvkxg''cu'' f co ci g''ceewo wrcvgu''kp''y g''ugcrcpv''cpf ''kp''y g''dqpf ''dgw ggp''y g''ugcrcpv''cpf ''y g''tgugtxqkt0'Vj g'' cur j cnv'hkrngf ''ur geko gpu''uj qy gf ''c''eqpukuvgpv'tgf wevkqp''kp''uvkhipguu''wr ''vq''y g''hqwty ''f co ci g''gxgpv'' \*eqttgur qpf kpi ''vq''4: ''{gctu''kp''ugtxkeg+''d{''58' 0'Vj g''wnko cvg''tgf wevkqp''kp''ugcrcpv'uvkhipguu''chgt'' uko wrcvkpi '64''{gctu'kp''ugtxkeg'y cu'64' 0 Vj g"cur j cn/'tgugtxqkt "ur geko gpu"f kf "pqv'uj qy "c"uki pkhecpv'tgf wexkqp"kp"uxkthpguu"hqt "y g" htuv'36"{gctu"qh"uko wrcvgf "lqkpv'qr gpkpi lenqukpi "cpf "xgj keng"nqcf kpi 0J qy gxgt. "y gtg"y cu"c"wzcf {" tgf wexkqp"kp"uxkthpguu"wr "vq"43' "chigt"uko wrcvkpi "4: "{gctu"kp"ugtxkeg0'Vj ku"tgf wexkqp"kp"uxkthpguu" r rcvgcwgf "y gtgchigt."y kj "cp"wnko cvg"tgf wexkqp"qh'45' 0'Vj g"qxgtcm'tgf wexkqp"kp"uxkthpguu"hqt "y g" cur j cn/'tgugtxqkt"ur geko gpu'y cu'nguu'y cp"yj cv'hqt "y g"cur j cn/hkngf "ur geko gpu'd {"3; ' 0

Vj g'ukłeqpg'tgugtxqkt'ur gelo gpu'gzr gt kgpegf 'c'eqpukuxgpv'tgf wekqp'kp'ukłhipguu'chgt "gcej " f co ci g''gxgpv'd { "cr r tqzko cvgn{"9' 0'Cuuwo kpi "y cv' y g''lqkpv'o qxgo gpv'cpf "vtchhe "gxgnu"ctg" eqpuvcpv'y tqwi j qw' y ku'mcf kpi "r gtkqf . "y ku''gs wcvgu' vq"c'tgf wekqp'kp'ukłhipguu'd { "cr r tqzko cvgn{" 2096' "gxgt { "{gct0'Vj g''qxgtcm'tgf wekqp'kp'ukłhipguu'chgt''uko wncvkpi "64"{gctu'qh'ugtxkeg'y cu'53' . " uko krct "vq' y g''tgf wekqp''hqt "cur j cn/'tgugtxqkt "ur gelo gpu0'Vj g''ukłeqpg''tgugtxqkt "ur gelo gpu'y gtg" cdrg" vq''y kj uvcpf "o wej "j ki j gt "vgpukrg" uvtguugu''f wtkpi "lqkpv''o qxgo gpv' {gv'f gxgnqr gf "y g''ngcuv'' co qwpv'qh'f co ci g"cpf 'j cf 'y g''nqy guv'tgf wekqp''kp''ugcrepv'ukłhipgu0'Vj gug'tguwnu'uwi i guv'y cv'y g" ukłeqpg"tgugtxqkt "lqkpv'f guki p'j cu''y g''dguv'tgukdgpe { "vq''lqkpv''o qxgo gpv' kp''y g''y kpvgt''o qpy u'' eqo r ctgf 'vq''y g''cur j cn/'lqkpv'f guki pu0'Vj gug''hpf kpi u''ctg''eqpukuvgpv'y kj ''y g''nev'y cv'y g''ukłeqpg" tgugtxqkt "ur gelo gpu' ceewo wrcvgf "y g''ngcuv''co qwpv''qh''ewo wrcvkzg''f co ci g"cpf "j cf ''y g''nqy guv'' o gcuwtgf ''r gto gcdkkk{ "\*gzenwf kpi "y g''ur gelo gp''y cv'f gxgnqr gf "hwmf gr y ''cf j gukxg''hckwtg+''chgt" uko wrcvkpi ''64''{gctu''qh'ugtxleg.''cu''y km'dg''f kuewugf ''nvty gt ''dgmy 0



Hki wtg'F04: OCxgtcig"rgtegpv'ejcpig"kp"grcukke"oqf wrwulfqt"curjcn/fkrrgf"õCH.ö"curjcn/ tgugtxqkt"õCT.ö"cpf"ukrkeqpg"tgugtxqkt"õUTö"urgekogpu

Vj g'f khigtgpeg'dgwy ggp''y g'r gthqto cpeg''qh''y g'ugcrcpwi'cpf 'tgugtxqkt'f guki pu'ecp''dg'hwtyj gt" kpxguki cvgf "d{"cuuguukpi "y g''utckp''f gxgrqr o gpv''y kj kp''y g''ugcrcpwi''f wtkpi "rqcf kpi "cu''ugcrcpv''
tgugtxqkt"f guki p"ku"dcugf "qp"y g"cmqy cdrg"utckp"etkgtkc"hqt"gcej "ugcrcpv"v(r g0'Vj g"grqpi cvkqp"cv" y g"vqr "cpf "dqvqo "qh"gcej "lqkpv"f guki p"cngtpcvkxg"ku"f khfgtgpv"f wg"vq"y gkt "wpks wg"i gqo gutkgu0'Vj g" ngpi y "qh"y g"vqr "cpf "dqvqo "r qtvkqpu"qh"y g"ugcrcpv"y j gp"gz vgpf gf "ecp"dg"hqwpf "wukpi "y g"gs wcvkqp" hqt"y g"r ctcdqnke"cte"ngpi y 0'Vj ku"gs wcvkqp"ecp"dg"uvduvkwwgf "y kj "npqy p"r ctco gvgtu"qh"y g"ugcrcpv" i gqo gvt { "vq" f gxgqrr "y g"hqrqy kpi "gs wcvkqpu"%cuuwo kpi "c"dcengt"tqf "ku"r tgugpv+<

$$P_{At}"?207 * 4-38 + 207 + 4" + 4 + 207 + 4" + 4 + 207 + 207 + 2$$

Y j gtg<

NRCv? "vqr "qh'ugcncpv'r ctcdqnke"cte"ngpi yj . "kp

NRCd"? "dqwqo "qh'ugcrcpv'r ctcdqrke"cte"ngpi yj. "kp

Ki'pq"dcengt"tqf "ku'r tgugpv."y gp"NRca"? "NRcv0Vj g"uxtckp"cv'y g'vqr "cpf "dqvqo "qh'y g"ugcrcpv" ecp"yj gp"dg"hqwpf "wukpi "yj gug"gs wcvkqpu"cpf "yj g"i gqo gvt { "qh"gcej "tgugtxqkt"hqt "gcej "lqkpv"qr gpkpi " vq"f gvgto kpg"yj g"kpetgcugf "ngpi yj "cpf"f kxkf kpi "d{ "yj g"qtki kpcn"ngpi yj 0"Vj g"qtki kpcn"ngpi yj "cv"yj g"vqr" qh'y g'ugcrepv'ku'gs wen'y j g''qtki kpen'lqkpv'y kf y 0'Vj g''qtki kpen'ngpi y "ev'y g''dqwqo "qh'y g''ugerepv' ku"gkj gt"j chi'yj g"ektewo hgtgpeg"qh'yj g"dcengt"tqf "\*kh'r tgugpv+"qt"yj g"qtki kpch"lqkpv'y kf yj "kh'pq"dcengt" tqf "ku"r tgugpv0Vj g"uvtckp"cv"o kf/f gr y "ku"uko r n{ "y g"ej cpi g"kp"lqkpv"qr gpkpi "f kxkf gf "d{ "y g"qtki kpcn" lqkpv'y kf y 0'Vj g'uvtckp''cv'y g''vqr. "egpvgt. "cpf "dqwqo "qh'gcej "lqkpv'f guki p''y j gp''qr gpgf ''vq''j crh''qh'' ku'gzr gevgf ''y kpvgt ''lqkpv'o qxgo gpv'\*- 33; ''o kn+'ku'uj qy p'kp''Vcdrg'F 660'KVku'uggp''y cv'y g'uvtckpu''cv' y g'vqr "cpf "dqvqo "qh'y g'cur j cn/hkngf "ur geko gpu"ctg"uki pkhecpvn{ "hcti gt "y cp"y qug'hqt "y g'cur j cn/" cpf "ukkeqpg"tgugtxqkt"ur geko gpu0Vj ku"ku"f wg"vq"yj g"pcttqy "lqkpv"qr gpkpi "cpf "ncti g"ugcncpv"f gr yj ." y j kej "ecwugu" y g'j gki j v'qh' y g'r ctcdqnke "cte" cv' y g" vqr "cpf "dqwqo "qh' y g'ugcncpv' vq" dg'uki pkhkecpvn{" rcti g0'Vj g"uvtckp"cv"o kf/f gr yj "ku"cnuq"uvki j vn{ "rcti gt"f wg"vq"yj g"pcttqy "lqkpv"y kf yj 0'Vj gug"rcti g" utchpu"cv'y g"vqr "cpf "dqwqo "qh'y g"ugcrcpv'f getgcug"enqugt "vq"y g"egpvgt "qh'y g"ugcrcpv0J qy gxgt." y g'o clqtk/{ "qh'y g'ugcrcpv'gzr gt/gpegu'o wej "rcti gt'uvtckpu'y cp'y g'qy gt'lqkpv'f guki p'cn/gtpcv/xgu0' Vj ku"ecp"j grr "vq"gzr mkp"y j { "vj g"cur j cn/hkngf "ur geko gpu"gzr gtkgpeg"mti gt"f co ci g"cv'vj g"uco g" lqkpv'qr gpkpi u"cu"eqo r ctgf "vq"y g"qy gt"w q"f guki pu0Vj g"rgcuv'co qwpv'qh'uvtckp"f gxgrqr gf "kp"y g" ukneqpg"ugcngf "lqkpv"cpf "y ku"f guki p"cnuq"gzj kdkgf "y g"ngcuv"co qwpv"qh"f co ci g"y kj "gcej "gxgpv0" Vj gug'tguwnu'go r j cult g'vj g'ko r cev'vj g'ghgev'qh'ucy kpi 'vj g'tgugtxqkt'j cu'qp'ko r tqxkpi 'vj g

Lqkpv'F guki p	Uxt clp'ċv'Lqlpv'Qr gplpi 'qh'- 33; 'o kn/*lp1lp+				
	Vqr	O lf /f gr vj	Dqvvqo	Cxgt ci g	
Curjcn/Hkngf" *CH+	50,7	206:	50,7	4044	
Curjcnv" Tgugtxqkt"*CT+	2092	2054	2065	206:	
Uknkeqpg Tgugtxqkt'*UT+	206:	2054	2049	2058	

Vcdrg'F 660P qpwpk/qto 'utckp'y kj 'ý tqwi j qw/ý g'ugcrcpv/f gry

C"uko kret"cpcn{uku"y cu"eqpf weyf "q"f gygto kpg"y g"ej cpi g"kp"y g"uj get"o qf www"qh"geej " lqkpv'f guki p"chygt"geej "f co ci g"gygpv0Vj g"uj get"o qf www"ku"f gygto kpgf "d{"crrn{kpi '42"xgj kewret" mcf kpi "e{engu"q"y g"ur geko gp"cvtqqo "go r gtcwtg"%¢959H0Vj g"httegu"t gs wktgf "q"f kur reeg"geej " ur geko gp"xgtvkecm{- 32"cpf "/32"o kni'y gtg"f kxkf gf "d{"y g"ugerpv'etquu/ugevkqpen'etge'cv'o kf/lqkpv' q" f gygto kpg" y g" uj get" uvtguugu0' Vj g" uj get" uvtekpu" y gtg" ecnewrevgf "d{" f kxkf kpi " y g" mpqy p" f kur reego gpwi'qh"- 32"cpf "/32"o kni'd{"y g"y kf y "qh"geej "lqkpv'f guki p0'Vj g"uj get"o qf www"ku'yi gp" hwpf "d{"f kxkf kpi 'y g"uj get"uvtguu'd{ 'y g"y kf y "qh"geej "lqkpv'f guki p0'Vj g"uj get"o qf www"ku'yi gp" o qf www"chygt"geej "f co ci g"gygpv'hqt"geej "lqkpv'f guki p0'K/uj qwrf "dg"pqvgf "y cv"tepi g"qh"y g"{czxlu" ueerg"hqt"y g"ukteqpg"tgugtxqkt"ur geko gpu"ku"neti gt"y cp"y cv"hqt"y g"cur j cn/tgugtxqkt"cpf "cur j cn" hkmgf "ur geko gpu0'Vj g"ej cpi g"kp"uj get"o qf wnwu"dgw ggp"f co ci g"gygpu"y cu"pqv"hqwpf "q"dg" ucvkuvkeem{"uki pkheepv"hqt"cp{"qh"y g"lqkpv"f guki pu0'Vj ku"ku"gzr gevgf ."cu"yi gtg"y cu"pq"xkukdrg" f gi tcf cvkqp"vq"y g"ugerpvVf wtkpi "xgj kerg"hcvki wg"rqcf kpi 0Cff kkqper{".y ku'twi i guwu'y cv'y g"ugerpv" o cygtken'eewugf "d{ "lqkpv'ku"pqv'uki pkbeepv{" ku pv'uki pkbeepv{" ku pv'f guki pu0'Vj ku"wi i guwu'y cv'y g"ugerpv" o cygtken'eewugf "d{ "lqkpv'ku"pqv'uki pkbeepv{" ku pv'uki pkbeepv{" ku pv'f guki pu0'Vj ku"wi i guwu'y cv'y g" ugerpv" o cygtken'eewugf "d{ "lqkpv'ku"pqv'uki pkbeepv{" ku pv'uki pkbeepv{" ku pv'f guki pu0'Vj ku"wi i guwu'y cv'y g" ugerpv" o cygtken'eewugf "d{ "lqkpv'qr gpkpi lemulvpi 0



Hki wtg'F04; OCurj cn/Hkngf 'uj gct moslulus chyt "gcej 'f co ci g"gxgpv



Hki wtg'F (520Curj cn/t gugt xqkt 'luj gct 'o qf wnwu'chgt 'gcej 'f co ci g'gxgpv



Hki wt g'F (530'Unkeqpg't gugt xqkt "uj gct "o qf wnwu"chygt "gcej 'f co ci g"gxgpv0P qvg<'ej cpi g"kp"[/czku" uecrg

Vj g'lphqto cvkqp'i cvj gtgf 'htqo ''y ku'eqpf kkkqp''gxcnxcvkqp''ecp''dg''wugf ''q''cuuguu''y g'eqo r ngz'' o qf wnxu''ku''c''o gcuvtg''qh''y g''o cvgtkcn'tgur qpug''q''f {pco ke'' nqcf kpi .''y j kej ''ku''c''eqo dkpcvkqp''qh''y g''uvqtci g''o qf wnxu''\*KQO''y g''gruvke''o qf wnxu+''cpf ''y g''nquu'' o qf wnxu'\*KQO''y g''gruvke''o qf wnxu+''cpf ''y g''nquu'' o qf wnxu'\*KQO''y g''gruvke''o qf wnxu+''cpf ''y g''o cvgtkcn'' ku''o qtg''r ncdrg''cpf ''dgvgt''cdrg''vq''ceeqo o qf cvg''lqkpv'qr gpkpi kenqukpi 0'Vj g''nquu'' o qf wnxu'ku''hqvpf '' d{'o wnkr n{kpi ''y g''uvqtci g''o qf wnxu''{g''ceeqo o qf cvg''lqkpv'qr gpkpi kenqukpi 0'Vj g''nquu''o qf wnxu'ku''hqvpf '' d{''o wnkr n{kpi ''y g''uvqtci g''o qf wnxu''d{ ''y g''cpi gpv'qh'y g''r j cug''cpi mg''\* +''qh'y g''o cvgtkcn'y j kej ''ku'' y g''ko g'f grc{''qh'y g''o cvgtkcn'tgur qpug''q'f ghqto cvkqp0'Hki wtg''F **054**''tij qy u'cp''gzco r mg''qh'j g'' cj g''y g'' cr nkgf ''j cxgtukpg''e{engu ''y g'' gcmu'cpf ''xcmg{u'htqo ''e{engu'4.''5.''3: .''cpf ''3; ''ctg''wugf ''q''f gygto kpg''' g''cxgtci g''r j cug''cpi mg''hu''y g'' cv'gxcnxcvkqp''r gtkqf 0''E{engu'3''cpf ''42''ctg''pqv'wugf ''dgecwug''y gtg''ku''' ko r nkek''pqkug''htqo ''y g''u qvo ''f wtkpi ''y g''uvqrr kpi ''r gtkqf u0



Hki wtg'F0540V{ rkech'i tcrj 'f grkekpi 'rj cug'cpi ng'hqt 'lqkpv'eqpf kkqp'gxcnwckqp

Vj g"cxgtci g"r j cug"cpi ng"hqt"gcej "ur geko gp"ku"hqŵpf "hqt"gcej "eqpf kkqp"gxcnwcvkqp"vguv." y j kej "ku"yj gp"eqpxgtvgf "htqo "ugeqpf u"vq"tcf kcpu0"Vj g"r j cug"cpi ng"ku"yj gp"o wnkr nkgf "d{ "yj g"uvqtci g" o qf wnwu"ecnewncvgf."cu"f guetkdgf "cdqxg."vq"qdvckp"yj g"nquu"o qf wnwu0"Vj g"o ci pkwvf g"qh"eqo r ngz" o qf wnwu"ku"yj gp"hqwpf "wukpi "yj g"hqmqy kpi "gs wcvkqp0

*G* "?"ç <del>(G</del>-" *G*<sup>4</sup>" `036

Y j gtg<

I, "? "eqo r ngz "o qf wnwu. "r uk

I ø'? 'uvqtci g'o qf wnwu. 'r uk

I ö"? "nquu"o qf wnwu. "r uk

Hki vstg'F 055'ý tqwi j 'Hki vstg'F 057'ú qy 'ý g'ej cpi g'kp'nquu'o qf wnwu'hqt 'gcej 'lqkpv'f guki p'kp'' tgur qpug'\q'lqkpv'qr gpkpi lemukpi 0K/ku'uggp'ý cv'ý g''nquu'o qf wnwu'hqt 'ý g''cur j cnv'hkngf ''ur geko gpu' ku'o vej ''nqy gt'ý cp'ý cv'hqt 'ý g''cur j cnv'tgugtxqkt ''cpf ''ukteqpg'tgugtxqkt ''ur geko gpu0'Vj g''nquu'' o qf wnwu'hqt 'ý g''ukteqpg'tgugtxqkt ''ur geko gpu'ku''o vej ''rcti gt 'ý cp''dqyj ''cur j cnv'lqkpv'f guki pu.'' ko r n{ kpi ''ý cv'y g''ukteqpg''o cvgtkcn'ku''nguu''r ncdng''cpf ''o qtg''xkueqwu''y cp''y g''cur j cn0'Vj gug'tguwnu'' uwi i guv'y cv'uktleqpg'tgugtxqkt'lqkpv'f guki pu'y qwrf 'dg'o qtg'tgukuvcpv'vq'lqkpv'o qxgo gpv.'hqmqy gf " d{"y g'cur j cnv'tgugtxqkt'cpf 'cur j cnv'hkmgf 'lqkpv'f guki pu0'Vj gug'hkpf kpi u'ctg''eqpukuvgpv'y kj 'y g" r tgxkqwu'tguwnu'y j kej 'uj qy gf 'y cv'y g''uktleqpg'tgugtxqkt'uco r mgu'gzr gtkgpeg'y g''ncti guv'uvtguu'' f wtkpi 'lqkpv'qr gpkpi lemukpi 'y j krg'y g''cur j cnv'hkmgf ''ur geko gpu''gzr gtkgpeg''y g''ggucv'co qwpv'qh'' uvtguu''hqt'y g''uco g''lqkpv'o qxgo gpv0



Hki wt g'F (550Nquu'o qf wnwi'liqt 'curj cn/lkngf 'lqkpu'chgt 'gcej 'f co ci g'gxgpv0P qvg<f kligt gpv'{/' czku'uecng'\j cp'curj cn't gugt xqkt 'cpf 'ukrkeqpg't gugt xqkt 0



Hki wtg'F (560)Nquulo qf wnwullqt "curj cn/t gugt xqkt "lqkpw"chygt "gcej "f co ci g"gxgpv



Hki wtg'F (570Nquu'o qf wwu'lqt 'ukkeqpg't gugt xqkt 'lqkpu'chgt "gcej 'f co ci g"gxgpv

Vj g"cxgtci g"r gtegpv"ej cpi g"kp"muu"o qf wwu"eqttgur qpf kpi "vq"lqkpv"qr gpkpi lemukpi "hqt" gcej "qh"y g"lqkpv"f guki pu"ku"uj qy p"kp"Hki wtg"F 0580Vj g"ej cpi g"kp"nquu"o qf wnwu"hqt "y g"cur j cn/hkngf" ur geko gpu"chygt "y ku"vgpf u"vq"xct { "y ky "vko g."dwv"t guwnu"kp"cp"qxgtcm"t gf wevkqp"qh"58' "chygt"64" {gctu"qh'ugtxkeg0'Vjg"tgfwevkqp"kp"rquu"oqfwnwu"hqt"yjg"curjcnv"tgugtxqkt"urgekogpu"hqrqyu"c" uko krct "tgpf "cu"yj g"grcutke"o qf wnwu. "kp"y j kej "yj gtg"ku"nkwrg"tgf werkqp"chrgt "uko wrctkpi "36" { gctu"qh" lqkpv"o qxgo gpv"\*c"tgf wevkqp"qh"5' +"dw"chygt" y ku."y g"nquu"o qf wnwu"eqpukuygpvn{"f genkpgu0'Vj g" wnko cvg"tgf wevkqp"kp"nquu"o qf wnwu"hqt "y g"cur j cnv"tgugtxqkt "ur geko gpu"y cu"43' "chigt"uko wrcvkpi " 64"{ gctu'qh'lqkpv'o qxgo gpv0Vj g'ukrkeqpg'tgugtxqkt''ur geko gpu'gzj kdkv'c''eqpukrvgpv'tgf wevkqp''kp''quu'' o qf wnwu"chygt "gcej "f co ci g"gxgpv."tguwnkpi "kp"c"vqvcn'tgf wevkqp"qh'55' "chygt "64" { gctu"qh'ugtxkeg0' Cuuwo kpi "y cv"y g"lqkpv"o qxgo gpv"cpf "vtchhke" ngxgnu"ctg" eqpuvcpv" y tqwi j qw" y ku" vko g." y ku" eqttgur qpf u'vq'c'tgf wevkqp'kp''quu'o qf wnwu'qh'209: ' "gxgt { "{gct0'Gcej "qh'yj g'lqkpv'f guki pu'j cf "cp" wnko cvg"tgf wevkqp"kp"quu"o qf wnu"qh"crrtqzko cvgn{"52' ."j qy gxgt."y g"o ci pkwfg"qh"y g"quu" o qf wnwu'hqt 'y g'ukrkeqpg't gugt xqkt 'ur geko gpu'y cu'urkm'uki pkrkecpvn( 'ncti gt 'y cp'y cv'qh'gky gt 'cur j cn/' lqkpv'f guki p0'Vj ku'uki pkhkgu'y cv'y g''cur j cnv'lqkpv'f guki pu''ctg''nguu'r ncdng''y cp''y g''ukneqpg'tgugtxqkt'' f guki p"yi tqwi j qwi'yi gkt"ugtxkeg"nxgu0'Vj ku"ku"eqpukuvgpv'y kj "hcev'yi cv'yi g"cur j cn/'lqkpv'f guki pu" ceetwgf "o qtg"cf j gukxg"cpf "eqj gukxg"f co ci g"cpf "j cf "c"ncti gt"kpetgcug"kp"r gto gcdkkk{ "eqo r ctgf " vq'y g'ukrkeqpg't gugt xqkt 'f guki p0Vj gug'hkpf kpi u'uwi i guv'y cv'ukrkeqpg't gugt xqkt 'lqkpv'f guki p'ku'o qtg' tguknlgpv" yj cp" yj g" cur j cnv" lqkpv" f guki p" uco g" co qwpv" qh" hcvki wg" gzr quwtg0' Ci ckp." yj g" r qqt" r gthqto cpeg"qh"yj g"cur j cn/hkngf "ur geko gpu"o c{ "dg"f wg"vq"yj g"f khikewnv{ "kp"cf gs wcvgn{ "ugcnkpi "yj g" lqkpvu."tguwnkpi "kp"c"r qqtgt"s workv{ "ugon"hqt" y ku"f guki p"qr vkqp"htqo "kpk.kon"eqpuvt wevkqp0



Hki wt g'F 0580Cxgt ci g'r gt egpv't gf wevlap 'lp 'nquu'o qf wnwu'l qt "curj cn/llongf." curj cn/'t gugt xqlt." cpf" ukrleqpg't gugt xqlt "ur gelo gpu

Hki wtg" F **(59''**yi tqwi j " Hki wtg" F **(5; ''**uj qy u" yi g" cxgtci g" eqo r ngz" o qf wtk" hqt" yi g" lqkpv" qr gpkpi lenqukpi "\*vgpukg+"cpf "xgj kerg"\*uj gct+"nqcf kpi "eqpf kkqp"gxcnvcvkqpu"hqt"gcej "lqkpv"f guki p0" Vj g"gttqt"dctu"hqt"yj g"xgj keng"nqcf kpi "eqpf kkqp"gxcnxcvkqp"ctg"pqv"xkukdng"f wg"vq"yj g"uo cm" xctkcdkkk/{ "kp"yj g"f cvcugv0'Uko krctn{ "vq"yj g"grcuvke"cpf "uj gct"o qf wnwu"tguwnu."yj gtg"ku"c"i tcf wcn" f gerkpg"hqt"gcej "qh"y g"eqo r ngz"o qf wrk"htqo "lqkpv"qr gpkpi lenqukpi ."y j kng"y g"eqo r ngz"uj gct" o qf wnwu"hqt "y g"xgj keng"nqcf kpi "tguwnu"xct {0'Ky"ku"cnuq "uggp "y cv"y g"o ci pkwf g"qh"y g"eqo r ngz " o qf wnwu'ku'i tgcvgt'hqt'y g'lqkpv'qr gpkpi lenqukpi ''ncf ''eqpf kkqp''y cp'hqt''y g'xgj keng''ncf ''gxcnvcvkqp." y j kej "ku"gzr gevgf "dgecwug" y g'hategu pggf gf "va" ar gp" y g"lakpv" ctg" ct i gt "y cp" y aug pggf gf "va" cr r n{" yj g'uj gct ''ncf kpi 0Vj g''eqo r ngz ''o qf wnwu'kp''t gur qpug''vq''lqkpv''qr gpkpi lenqukpi 'ku''pqvkegcdn( ''uo cngt'' hqt"y g"cur j cn/hkngf "ur geko gpu"eqo r ctgf "vq"y g"cur j cn/tgugtxqkt "ur geko gpu0'Vj ku"ci ckp"ecp"dg" cwtkdwgf "vq"y g"ny gt"ukhhpguu"hqt "y g"cur j cn/hkngf "ur geko gpu"f wg"vq"y g"kpcdktw{ "vq"eqo r ngvgn{" ugen'y g'pettqy "lqkpv0Kk'ku'uggp'y ev."qxgtem y g'ukrkeqpg'tgugtxqkt 'ur geko gp'j eu'y g'reti guv'eqo r ngz" o qf wnwu"cpf "eqo r ngz "uj gct "o qf wnwu."hqnqy gf "d{"yj g"cur j cnv"t gugtxqkt "ur geko gpu"cpf "yj gp"yj g" cur j cn/hkngf "ur geko gpu0"Vj gug"hkpf kpi u"kpf kecvg" y cv" y g"eqo r qukvg"uvkhpguu"\*grcuvke"- "xkueqwu+"qh" yj g"ukrkeqpg"lqkpv"ku"i tgcvgt" yj cp" yj g"cur j cn/"o cvgtkon" y j kej "ku"eqpukuvgpv" y kj "tguwnu" f kuewuugf" rtgxkqwun{0



AF

Hki wt g'F (590)Eqo r ngz "o qf wrk'hqt 'lqkpv'qr gpkpi lenqukpi "%gpukrg+"cpf "xgj keng"%ij gct +'hqcf 'hqt" cur j cn/łkngf "ur geko gpu



AR

Hki wt g'F (5: 0 Eqo r ngz "o qf wrk/hqt 'lqkpv'qr gpkpi lenqukpi "\*vgpukrg+"cpf "xgj keng"\*uj gct +'hqcf 'hqt" curj cn/'t gugt xqkt "ur geko gpu



Hki wt g'F (5; 0Eqo r ngz "o qf wrk'fqt 'lqkpv'qr gpkpi lenqukpi "\*vgpukng+"cpf "xgj keng"\*uj gct +'nqcf 'fqt" ukrkeqpg't gugt xqkt 'ur geko gpu0P qvg <'f kHgt gpv'{/czku'uecng''y cp''curj cnv''hnngf "cpf ''curj cnv'' t gugt xqkt 0

Vj g"cxgtci g"ej cpi g"kp" y g"eqo r ngz" o qf wnwu hqt" gcej "lqkpv'f guki p"ku'uj qy p'kp" Hki wtg F 6620' Vj g"cur j cn/ hkngf "ur geko gpu" gzr gtkgpeg" c"ncti g"tgf wevkqp" kp" eqo r ngz" o qf wnwu" \*57' +" chvgt" uko wncykpi "4: "{gctu"qh"lqkpy"o qxgo gpv."eqttgur qpf kpi "yq"crrtqzko cygn{"c"3065' "tgf weykqp"gcej " {gct0'Chyst"yi ku."yi g"tgf wevkqp"kp"yi g"eqo r ngz"o qf wnwu"ku"nguu"uki pkhecpv."dwi'uvkm'eqpukuvgpv' y tqwi j qwi'y g'tguv'qh'ku'ugtxkeg'hkhg0'Vj g'whko cvg'tgf wevkqp'kp''y g'eqo r ngz 'o qf whwu'hqt''y g''cur j chv' hkngf "ur gelo gpu"y cu"63' 0'Vj g"cur j cn/tgugtxqkt "ur gelo gpu"gzr gtkgpeg"nkwg"ej cpi g"kp"eqo r ngz" o qf wnwu"wr "vq"y g"htuv"36" {gctu"qh"ugtxkeg"\*qpn{"4' +."dwv"y g"eqo r ngz"o qf wnwu"eqpukuvgpvn{" f getgcugu'y ky "hcvki wg"gzr quwtg"y gtgchwgt0"Vj g"wnko cvg"tgf wevkqp"kp"y g"eqo r ngz"o qf wnwu'hqt"y g" curj cn/'tgugtxqkt"ur geko gpu"y cu"45' "chygt"64"uko wrcygf "{gctu"qh']lqkpv"o qxgo gpv0'Vj g"uknleqpg" tgugtxqkt "ur geko gpu"j cf "c"eqpukuygpv"tgf wevkqp "kp"eqo r ngz "o qf wnwu"yj tqwi j qwv"yj g"hcvki wg"hkhg"cpf " j cf "c"uko krct "wruko cvg"t gf wevkqp"qh"55' 0"Vj gug"hkpf kpi u"uwi i guv' vj cv" vj g"cur j crv"hkrngf "ur geko gpu" j cxg"yj g"o quv"uki pkhecpv"ej cpi g"kp"yj gkt"tgur qpug"vq"lqkpv"qr gpkpi lenqukpi ."gur gekcm{"y kyj kp"yj g" htuv'36" {gctu"qh"wug0'Vj g"curj cnv"tgugtxqkt "urgeko gpu"j cxg"c"pgi nki kdng"ej cpi g"kp" vj gkt "f {pco ke" ngcf kpi "tgur qpug"wr "vq"y g"htuv'36" { gctu"qh'wug"dwi'y gp"j cxg"c"uko krct"tgf wevkqp"kp"y g"eqo r ngz" o qf wnwu'chwyty ctf u0'Vj gug'hkpf kpi u'ko r n( ''y cv'ycej ''qh''y g''ur geko gpu'dygeqo g''nguu'uvkhh''cu''y g{ "ctg" hcvki wgf."nkngn{"ecwugf "d{"yj g"dtgcnf qy p"qh"yj g"ugcncpv"cpf lqt "yj g"dqpf "dgw ggp"yj g"ugcncpv"cpf " y g"eqpetgyg"hceg0'Kpygtguvkpi n{."y g"ukrkeqpg"tgugtxqkt"ur geko gpu" j cxg" c"uko krct"tgf wevkqp" kp" f {pco ke"tgur qpug"dw"ceewo wrcvg"o kpko cn"xkukdrg"f co ci g"cpf "j cxg"c"pgi rki kdrg"ej cpi g"kp" r gto gcdkkk/ "qp"cxgtci g0Vj ku'o c { "uwi i guv'y cv'y g"ukrkeqpg"ugcrcpv'ku'f gxgrqr kpi "kpvgtpcn'uvt wewtcn" f co ci g. "dw/k/y cu'pqv'\q"y g"gzygpv'y cv'cf j gukxg"qt "eqj gukxg"hcknwtgu'f gxgnqr gf 0



Hki wtg'F0620Cxgtcig"rgtegpv'tgfwevkqp"kp"eqorgz"oqfwnwu'fwtkpi"[qkpv'qrgpkpilenqukpi"[qt" curjcn/Hungf."curjcn/tgugtxqkt."cpf"ukkkeqpg"tgugtxqkt"urgekogpu

#### 60404''Gpgti {

Vj g"co qwpv"qh"f kuukr cvgf "gpgti { "ku"eqttgrcvgf "vq"y g"ctgc"y ky kp"y g"j { uvgtguku"mqr "y cv" f gxgmr u'y j gp"hqteg"ku'r mwgf "ci ckpuv"f kur nego gpv"]9: \_0Cu"f co ci g"ceewo wrcvgu"cmpi "y g"lqkpv" ugcrcpv." y ku"ctgc"f getgcugu. "kpf kecvkpi " y cv" y g"gpgti { "f kuukr cvgf " y tqwi j qw" y g"ugcrcpv" cmq" f getgcugu"cpf "y g"ugcrcpv"ku"dgeqo kpi "nguu"r ncdrg0Cf f kkqpcm{ ."y g"umr g"qh"y ku"mqr "eqttgur qpf u" vq" y g"uvlthpguu"qh" y g"o cvgtkch"Cu" y ku"umr g"f getgcugu. "y ku"uki pkthgu" y cv" y g"uvlthpguu"qh" y g" o cvgtkch"ku"f getgcukpi "f vg"vq"f co ci g"y ky kp"y g"ugcrcpv"cpf "y g"muu"qh"dqpf "dgw ggp"y g"ugcrcpv" cpf "y g"tgugtxqkt"y cm0C"tgf wevkqp"kp"unqtgf "gpgti { "cpf "uvkthpguu"kpf kecgu"y cv"y g"ugtguku"mqr "ctgc"cpf " umr g" hqt" gcej " lqkpv" f guki p" ecp" r tqxkf g" kpuki j v" kpvq" y g" muu" kp" r gthqto cpeg" y ky " f co ci g" ceewo wrxkqp0

Hki wtg" F 663" uj qy u" cp" gzco r ng" qh" v{r kecn' j {uvgtguku" mqr u" y cv" f gxgmr " htqo " lqkpv" qr gpkpi lenqukpi "f wtkpi "eqpf kkqp"gxcnvcvkqp"nqcf kpi 0'Vj g"vqr "r qt vkqp"qh"vj g"nqr "kpf kecvgu"vj g" ugenepv'tgur qpug"eu"yj g"lqkpv'qr gpu."epf "yj g"dqwqo "r qtvkqp"qh"yj g"mqr "tgr tgugpvu"yj g"ugenepv" tgur qpug"cu"y g"lqkpv'enqugu0'Vj g"ctgc"qh'y g"nqqr "ku"hqwpf "wukpi "y g"eqpxgz "j wm'qh'y g"f cvcugv." y j kej "ku'kpf kecvgf "d{ "ý g"drcemhkpg0Vj g"urqr g"qh'ý g"rqqr "ku"hkvgf "htqo "ý g"r qtvkqp"qh'ý g"f cvcugv" y cv'ku'eqngevgf "cu'y g'lqkpv'enqugu."y j kej "ku'kpf kecvgf "d{ "y g"{gmqy "nkpg0'Vj ku'unqr g'ku'nko kvgf "vq" y g'o quv'nkpgct 'r qt kqp''qh'y g''qqr. 'y j kej 'ku'v(r kecm{ 'dgw ggp''- 87'vq''- 397''o knu0'Vj g''eqghhlekgpv'' qh'f gygto kpcykqp"\*T<sup>4</sup>+"dgw ggp"y g"hkwgf "nkpg"cpf "y g"o gcuwtgf "f cyc"ku"cnuq "kpenyf gf 0Vj g"f cuj gf " nkpg"kpf kecvgu"y g"gzvgpukqp"qh"y ku"hkvgf "unqr g0Vj g"hqteg"tgs vktgf "vq"e{eng"y g"lqkpv"dgw ggp"y g" o koko wo "\*- 75"o kn+"cpf "o czko wo "\*- 3: 8"o kn+"f kur ncego gpvu. "cu"y gm"cu"y g"vguv"vgo r gtcwtg. "ctg" j cxg"dggp"r tqxkf gf "kpenwf gf "kp" yj g"i tcr j ke0'Hki wtg"F 063c"tgr tgugpvu" yj g"ugcrcpv" tgur qpug" vq" y gto cn'mcf kpi "chygt"dgkpi "uwdlgevgf "vq"qpg"f co ci g"gxgpv."cpf "Hki wtg"F **063**d"tgr tgugpvu"y g" tgur qpug"chygt"y g"ulz y "f co ci g"gxgpv0K/ecp"dg"uggp"y cv'y g"ctgc"y ky kp"y g"j {uvgtguku"mqr "cpf" y g'unqr g'qh'y g'nqr 'f getgcug'uki pkhecpvn{ "chygt'dgkpi 'uwdlgevgf 'vq'f co ci g0Vj ku'kpf kecvgu'y cv'y g" ugenepv'ku'dgeqo kpi "nguu'r nkedng"epf "vj ev'nguu"gpgti { "ku'f kuukr evgf "vj tqwi j "vj g'ugenepv'f wtkpi "lqkpv" o qxgo gpv."ko r n{kpi "c"f gi tcf cvkqp"qh"yj g"ugcrcpv'o cvgtkcn'cpf lqt "dqpf "eqpf kkqpu0



Hki wt g'F 0630V{ r kechlqkpv'qr gpkpi lenqukpi 'j { uvgt guku'hqqr 'f wt kpi 'c 'eqpf kkqp 'gxcmcvkqp'hqt 'cp'' cur j cn/Hngf ''ur geko gp''chgt ''c +'Ht uv'f co ci g''gxgpv'cpf ''d +'ulz y 'f co ci g''gxgpv

Hki wtg'F **664'**cpf 'Hki wtg'F **665'**tij qy ''j g''ej cpi g''kp''j g''cxgtci g'j {uvgtguku''ctgc''cpf ''urqr g'hqt'' gcej ''lqkpv'f guki p''chgt''gcej ''f co ci g''gxgpv0'Y j kg''y ku''vgukpi ''y cu''dgkpi ''eqpf wevgf .''y gtg''y cu''c'' r gtkqf ''y j gtg''y g''rdqtcvqt { ''co dkgpv'eqpf kkqpu''y gtg''y cto gt''y cp''pqto cn0'Ur geko gpu''vguvgf ''wpf gt'' y gug''y cto gt''eqpf kkqpu''ctg''kpf kecvgf ''d { ''y g''j cvej gf ''dctu''kp''y g''i tcr j keu ''y j krg''ur geko gpu''vguvgf '' wpf gt'' v{r kecn''eqpf kkqpu''ctg''uj qy p''kp''c''uqnkf ''eqnqt0'P qpgy grguu.''y g''f khfgtgpeg''kp''rdqtcvqt { '' vgo r gtcwtgu'y cu''pqv'hqwpf ''q'ko r cev'y g''tguwnu''qh''y g''eqpf kkqp''gxcnvcvkqp''yguvkpi 0

Vj gtg"ku"c"i tcf wcn"tgf wevkqp"kp"yj g"j {uvgtguku"mqr "ctgc"hqt"gcej "lqkpv"f guki p"cu"f co ci g" ceewo wrcvgu0'Vj g'kpkkcn'gpgti { 'f kuukr cvkqp'hqt'yj g''cur j cn/hkngf ''ur geko gpu''y cu''uki pkhecpvn{ 'rcti gt'' y cp"y cv"qh'y g"cur j cn/tgugtxqkt"cpf "ukrkeqpg"tgugtxqkt"ur geko gpu."o gcpkpi "y ku"lqkpv"f guki p"ecp" f kuukr cvg''y g''o quv'gpgti { 'f wtkpi 'lqkpv'o qxgo gpv0Vj g''cur j cn/hkngf ''ur geko gpu'j cf ''c''ncti g'f getgcug'' kp"gpgti { "f kuukr cvkqp"\*57' +"wr "vq"y g"hqwty "f co ci g"gxgpv."eqttgur qpf kpi "vq"4: "{ gctu"kp"ugtxkeg0" Cuuwo kpi "y cv"y g" tchhe cpf "xgj kerg" nqcf kpi "tgo ckpu" eqpukuvgpv" y tqwi j qww y ku" vko g." y ku" eqttgur qpf u'vq''c''tgf wevkqp''kp''gpgti { ''f kuukr cvkqp''qh'3047' ''gcej ''{gct0'Vj g''tgf wevkqp''kp''f kuukr cvgf '' gpgti { "r novgowu"chvgt "vj ku."i kxkpi "cp"qxgtcm"tgf wevkqp"qh"5: ' "chvgt"uko wnovkpi "64" { gctu"qh"hovki wg0" Vjg" cur j cnv" tgugtxqlt" ur geko gpu" j cf " y g" ugeqpf " ncti guv" kpkkcn" gpgti {" f kuukr cvkqp." y j kej " eqpukuygpvn{"f getgcugf"cu"f co ci g"ceewo wrcvgf 0'Vj g"gpgti {"f kuukr cvkqp"hqt" y gug" ur geko gpu" tgf wegf "d{ "crrtqzko cvgn{ '9' "chvgt "gcej "f co ci g"gxgpv"hqt "y g"hktuv 57"uko wrcvgf "{ gctu"qh"hcvki wg" \*qt"2093' "r gt"{gct+0Vj g"wnko cvg"tgf wevkqp"kp"gpgti {"f kuukr cvkqp"y cu'49' "chvgt"64"uko wrcvgf "{gctu" qh"lqkpv"o qxgo gpv0'Vj g"ukrkeqpg"tgugtxqkt"ur geko gpu"j cf "yj g"rqy guv"kpkkcn"gpgti { "f kukr cvkqp0" Vj gug"ur geko gpu"cnuq"j cf "c"eqpukuvgpv"tgf wevkqp"kp"gpgti { "f kuukr cvkqp"cu"vj g{ "y gtg"hcvki wgf."y ky " cp"wnko cvg"tgf wevkqp"qh"59' OChvgt "uko wrcvkpi "64" { gctu"qh"lqkpv"qr gpkpi lenqukpi ."vj g"cur j cn/hkngf" ur geko gpu"ukm" gzj kdkgf " y g" o quv" gpgti { "f kukr cvkqp." hqmqy gf "d{ "y g" cur j cnv" tgugt xqkt" cpf " ukrkeqpg"tgugtxqkt"ur geko gpu0Vj ku"ku"eqpukuvgpv"y kj "vj g"r tgxkqwu"hkpf kpi u"uj qy kpi "vj cv"vj g"cur j cnv" hkngf "ur geko gpu" gzj kdk/' y g" ny guv' ukhipguu" cpf "r ncukekk{" ej ctcevgtkukeu" y j krg" y g" ukheqpg" tgugtxqkt 'ur geko gpu'gz j kdkv' y g'j ki j guv'uvkhipguu'cpf 'r rcuvkekv{0

Uko krct "tgpf u'y gtg"uggp"kp"y g'tgf wevkqp"qh"y g"j {uvgtguku"urqr g"hqt"gcej "lqkpv"f guki p0Vj g" cur j cn/"hkngf "ur geko gpu"j cf "c"uki pkhlecpv"tgf wevkqp"\*58' +"kp"j {uvgtguku"urqr g"wr "vq"vj g"hqwty " f co ci g"gxgpv."qt"4: "{gctu"qh"lqkpv'o qxgo gpv"hcvki wg0Vj g"ej cpi g"kp"urqr g"y gp"r revgewgf "chvgt"y ku" y kj "cp"wnko cvg"tgf wevkqp"qh"62' "d{"y g"gpf "qh"y g"uko wrevgf "64"{gctu"qh"ugtxleg0Vj g"cur j cn." tgugtxqkt "cpf "ukrleqpg"tgugtxqkt "ur geko gpu"uj qy gf "eqpularvgpv"tgf wevkqpu"kp"j {uvgtguku"urqr g"cu"y g{ y gtg"hcvki wgf. "y kj "wnko cvg"tgf wevkqpu"qh"4: ' "cpf "57' ."tgur gevkxgn{0Vj gug"tguwnu"eqpukrvgpv{ lpf kecvg"y cv"y g"tgf wevkqp"kp"f kuukr cvgf "gpgti {"ku"i tgcvguv"iqt"cur j cn/"hkngf "ur geko gpu."hqmy gf " d{"ukrleqpg"tgugtxqkt "cpf "y gp"cur j cn/"tgugtxqkt "ur geko gpu0"Vj gug"hpf kpi u"cnq"uwi i guv"y cv"y g" ukrleqpg"ugcrcpv"ku"ceetwkpi "kpvgtpcn"ut wewtcn"f co ci g"cpf" ku"nqukpi "y g"ckrkk{"vq"f kuukr cvg"gpgti {" y tqwi j "y g"dwrm'o cvgtkcn"dw"y g"kpvgtpcn"f co ci g"tguwn/"kp"cp"cf j gukxg"qt"eqj gukxg"hcknxtg0"Vj ku" ku"eqpulurgpv'y kj "y g"hkpf kpi u"uj qy p"r tgxkqwm{"y j kj "kpf kecvgf"y cv"cur j cn/"hkngf "cpf" co i g"y cp"vj g"ukrleqpg" tgugtxqkt "lqkpv"f guki pu"ygpf "vq"ceewo wrcvg"o qtg"cf j gukxg"cpf "eqj gukxg"f co ci g"vj cp"vj g"ukrleqpg" tgugtxqkt "f guki p0



Hki wt g'F 0640'J {uvgt guku'nqqr "ct gc "chgt "gcej 'f co ci g"gxgpv0\*ncdqt cvqt { 'vgo r gt cwt g"? '94/95ÅH" hqt "uqhf "dctu='hcdqt cvqt { 'vgo r gt cwt g"? '99/9; ÅH'hqt "dctu"y kj 'j cvej kpi +



Hki wtg'F0650'J {uvgt guku'hqqr''unqrg''chgt ''gcej 'f co ci g''gxgpv0\*ncdqt cvqt { ''vgo rgt cwstg'? '94/95ÅH' qt''uqnff ''dct u='ncdqt cvqt { ''vgo rgt cwstg'? '99/9; ÅH''hqt ''dct u''y kj 'j cvej kpi +

#### 60405"Rgto gcdktw{

Vj g" cdktk{ " hqt" c" lqkpv" vq" tgukuv" y cvgt" kphkntcvkqp" ku" gzr gevgf " vq" ej cpi g" cu" f co ci g" ceewo wrcvgu"crqpi "y g"ugcrcpv0'Chvgt"gcej "f co ci g"gxgpv."y g"ewo wrcvkxg"rgpi y "qh"cf j gukxg"cpf " eqj gukxg"f co ci g"ku'o gcuvtgf "wukpi "c"twrgt."cpf "c"r gto gcdktkv{ "vguv"ku"eqpf wevgf "qp"y g"ur geko gp0' Vj g"f co ci g"f qewo gpvgf "kpenvf gu"r ctvkcnf gr y "cpf "hwmf gr y "cf j gukxg"cpf "eqj gukxg"icknvt gu0

Vjg'i tcrju'kp'Hki wtg'F 666'ý tqwij'Hki wtg'F 668'újqy 'ýg'cxgtcig'r gto gcdkkk/{"cpf 'f co cig" ceewo wrcykąp hąt "gcej "ląkpyf guki p'y kj "y gkt tgur geykzg uvcpf ctf "gttątu0Kyy cu'hąwpf 'yj cyf co ci g" vgpf gf '\q'ceewo wncvg'f wt kpi 'lqkpv'qr gpkpi lenqukpi 'hcvki wg't cvj gt 'vj cp'vj g'xgj keng'hqcf kpi " hc wi wg0'Cu"uggp" kp" Hki wtg" F 666." y g" cur j cn/" hkngf "ur geko gpu" ces wktgf "pq" f co ci g" chygt" 36" uko wrevgf "{getu" qh" hevki wg" gzr quwtg0' J qy gxgt." er r tqzko evgn{"207: "kp" qh''r etvken' f gr yj "\*RF +" eqj gukxg'hcknwtg'f gxgnqr gf 'chwgt 'uko wrcwpi '43''{ gctu'qh'lqkpv'qr gpkpi lenqukpi 'cpf 'xgj keng'nqcf kpi 0' Vj g"co qwpv'qh"eqj gukxg"f co ci g"tgo ckpgf "eqpukuygpv'wpvkn'chygt"uko wrcvkpi '57"{gctu"qh"hcvki wg."kp" y j kej "2039"kp"qh"r ct vkcn/f gr yj "cf j gukxg"hcknwtg"cpf "3076"kp"qh"r ct vkcn/f gr yj "eq j gukxg"hcknwtg"j cf " ceewo wrcvgf 0Vj g"co qwpv'qh"cf j gukxg"cpf "eqj gukxg"f co ci g"i tcf wcm{ "kpetgcugf "y kj "gcej "f co ci g" gxgpv."\qvcrkpi "20,4"kp"qh'r ctvkcn'f gr yj "cf j gukxg"hcknwtg"cpf "4055"kp"qh'r ctvkcn'f gr yj "eqj gukxg"hcknwtg" chygt "64"uko wrcygf "{ gctu "qh'hcyki wg0Vj gug"t guwnu "ctg" eqpukuygpv'y kj "y g"hkpf kpi u "qh'y g"gzygpukdkrkk{" vguv."f kuewuugf "rcvgt."cu"yi g"o clqtkv{ "qh"ur geko gpu"y kyi "cpf "y kyi qw"eqpf kkqpkpi "hckrgf "kp"dqyi " cf j gukqp"cpf "eq j gukqp0'Vj g"o gcuwtgf "r gto gcdkrkv{ "qh'yj g"cur j cn/'hkngf "ur geko gpu'tgo ckpgf "yj g" uco g"wr "vq"y g"hqwty "f co ci g"gxgpv"\*4: "uko wrcvgf "{gctu"qh"lqkpv"qr gpkpi lemukpi "cpf "xgj kerg" nqcf kpi + "kpf kecvkpi 'y cv'y g'lqkpv'y cu'uvkm'cdng''q'tgukuv'y cvgt kphkntcvkqp0'Vj g'r gto gcdkkv{ "qh'y g" lqkpv'f kf "pqv'ej cpi g"wpvkn'uki pkhecpv'eqj gukxg"licknytg"j cf "qeewttgf 0'Vj gug"hkpf kpi u'uwi i guv'vj cv" cur j cn/'hkngf "lqkpvu"ctg"cdng"vq"tgukuv'y cvgt "kphkntcvkqp"wpvkn"c"etkkecn"co qwpv"qh"eqj gukxg"hcknxtg" f gxgrqr u0'Cf f kkqpcm{."yj gug"hkpf kpi u"uwi i guv"yj cv"cur j cnv"hkrgf "lqkpu" ygpf "yq"f gxgrqr "o qtg" eqj gukxg"hcknwtg"yj cp"cfj gukxg"hcknwtg."y j kej "o ki j v"dg"cwtkdwgf "vq"yj g"f khhkewn{ "kp"hwn{ "hkmkpi " vj g"pettqy "lqkpv."tguwnkpi "kp"xqkf uli cr u"y ky kp"vj g"ugenepv0

Vj g"f co ci g"ceewo wrcwcp"cpf "ej cpi g"kp"r gto gcdkrkw{ "hqt"cur j cnv"t gugt xqkt "ur geko gpu"ku" uj qy p"kp"Hki wtg"F 6670'K/ku'uggp"vj cv'vj g"r tko ct { "hcknwtg"o qf g"vj cv'f gxgnqr u'chvgt "uko wrcvkpi "64" {gctu"qh"hcvki wkpi "ku"r ctvkcn/f gr y "cf j gukxg"hcknwtg0'Vj gtg"ku"pq"f co ci g"ceewo wrcvkqp"chygt"43" uko wrcvgf "{gctu"qh"hcvki wkpi ."dw"chvgty ctf "vj gtg"ku"c"uvgcf {"kpetgcug"kp"r ctvkcn/f gr vj "cf j gukxg" hcknwtg0'Cffkkqpcm{."hqt"qpg"ur geko gp."2035"kp"qh"r ctvkcn/f gr yj "eqj gukxg"hcknwtg"f gxgnqr gf "chvgt" 43"uko wrzygf "{ gctu"qh"hcyki wkpi ."dw/y ku"hcknytg"f kf "pqv"r tqi tguu"y gtgchygt0Vj g"ewo wrzykzg"f co ci g" o gcuwtgf "chwgt"4: "{gctu"qh"uko wrcwgf "howki wg"y cu"20 5"kp."y j kej "y gp"kpetgcugf "vq"4093"kp"chwgt" uko wreskpi "cpqyj gt'9" {gctu0Vj g"ewo wreskxg" f co ci g"o gcustgf "y cu'605: "kp" chsgt "uko wreskpi "64" {gctu" qh'lqkpv'qr gpkpi lenqukpi "cpf "xgj keng"hcvki wg0'Vj gug"hkpf kpi u"ctg"eqpukuvgpv'y kj "vj g"gz vgpukdktk{" tguwnu"hat "pgy n{ "ugcngf "cpf "eqpf kkapgf "cur j cn/"tgugtxakt "ur geko gpu. "cu"gcej "ah'y gug'ur geko gpu" hckngf "kp"cf j gukqp0V j g"r gto gcdkrkx{ "qh"y g"cur j cn/t gugtxqkt "ur geko gpu't go ckpgf "wpej cpi gf "wpvkn" 64" {gctu'qh'hcvki wkpi 'y gtg'uko wrcvgf. "chvgt'y j kej 'vj g'r gto gcdkrkv{ "kpetgcugf 'vq'2024'hrlq| lo kp0'Vj ku" kpetgcug"kp"r gto gcdkrkx{ "eqttgur qpf u'vq"cp"kpetgcug"kp"r ctvkcn/f gr yj "cf j gukxg"hcknxtg"htqo "5047"kp" vq"605: "kp0'Vj ku"o c{"uwi i guv"yj cv"cu"o qtg"f co ci g"ceewo wncvgf."y cvgt"y cu"cdng"vq"kphkntcvg"yj g" i cr u"f gxgrqr gf "dgw ggp" y g"cur j cn/'ugcrcpv''cpf "y g"tgugtxqkt" y cm0'J qy gxgt." y g"eqpf kkqpgf " ur geko gpu'y gtg'ukm'cdng'y ki uvcpf "lqkpv'qr gpkpi u'o qtg'y cp'y tgg'ko gu'y g'qtki kpcn'lqkpv'y kf y ." cu'f guetkdgf 'kp''y g'hqmqy kpi 'ugevkqp. 'kpf kecvkpi 'i qqf 'r gthqto cpeg0

Hki wtg"F 668''uj qy u"yj g"f co ci g"ceewo wrcwlqp"cpf "ej cpi g"kp"r gto gcdkrkw{ "hqt"ukrkeqpg" tgugtxqkt"ur geko gpu0'KV'ku"uggp"vj cv'vj g"co qwpv'qh"f co ci g"ceewo wrcvgf "kp"vj g"ur geko gpu"ku" uki pkhecpw{ "ny gt"y cp"y cv"hqt"y g"cur j cn/"hkngf "cpf "cur j cn/"t gugtxqkt "ur geko gpu."cny qwi j "qpg" ur gelo gp"f lf "gzj kdk/hwmf gr yj "\*HF +"cf j gukxg"hcknwtg0'Vj ku"hwmf gr yj "cf j gukxg"hcknwtg"cr r gctu"vq" j cxg"dggp"ecwugf "d{ "r qqt"ugcnkpi "kp"c"mecnk gf "ctgc"cmpi "vj g"lqkpv."uj qy p"kp"Hki wtg"F 6690'Vj ku" ctgc'y cu'pqv'uwhhelgpvn{ 'ugcrgf 'f wg'\q'y g'pqp/uci 'ej ctcevgtkuvleu'qh'y g'ukrleqpg'ugcrcpv.'rgcxkpi 'c'' i cr "vj tqwi j "vj g"f gr vj "qh"vj g"ugcrepv"qpeg"vj g"ukrkeqpg"j cf "ugv0"Vj g"cxgtci g"evo wrevkxg"o geuwtgf f co ci g'y cu''qpn{ "2047"kp"chygt"uko wrevkpi "64" { gctu''qh''lqkpv''qr gpkpi lenqukpi "cpf "xgj keng"nqcf kpi 0' Vj g"tguwnu"qh"yj g"gzvgpukdkkv{ "vguvkpi "hqt"ukkleqpg"tgugtxqkt"ur geko gpu"kpf kecvgf "yj cv"vy q"qh"yj g" y tgg'howi wgf 'ur geko gpu'gzj kdkgf 'cf j gukxg'hoknytg0Vj gug'hkpf kpi u'uwi i guv'y ov'ukheqpg'tgugtxqkt" ur geko gpu"ctg"dgwgt"cdrg"vq"y kj uvcpf "eqj gukxg"uvtguu"dwv"o c{"dg"o qtg"uvuegr vkdrg"vq"cfj gukxg" uvtguu"y j gp"eqo r ctgf "vq"vj g"cur j cnv"tgugtxqkt"cpf "cur j cnv"hkngf "ur geko gpu0"Vj g"ukt g"qh"vj g"ctgc" y j gtg"y g"ugcrepv"cpf "y g"eqpetgyg"ctg"dqpf gf "ku"uvduvcpvkcm{ "rguu"hqt "y g"ur geko gpu"ugcrgf "y ky " ukłegpg"cu"ego r ctgf "vg" i g"gi gtu0V j g"uj crg hcevąt "vugf "hqt" i g"ukłegpg" tgugt x gkt" ku 3 "ug" i g"f gr i " qh''y g''ugcncpv'ku''tgf wegf "eqo r ctgf "vq"y g''qy gt "lqkpw0'Vj g''dqpf "ctgc"qh'y g''cur j cnv'tgugtxqkt "ku" 307z "rcti gt "y cp"y g'ukrkeqpg"cpf "cur j cn/hkngf "lqkpu"cdqw"6z "rcti gt0Vj gtghqtg."y g'tgukucpeg"yq" f gdqpf kpi "ku"nguu"hqt "y g"ukneqpg"ugcngf "lqkpv"f guki p"o cmkpi "kv"o qtg"uwuegr vkdng"vq"cp"cf j gukxg" hcknxtg0Vj g"r gto gcdktkv{ "hqt "y g"uktleqpg"tgugtxqkt "ur geko gpu"f kf "pqv"ej cpi g"gzegr v"hqt "y g"qpg" ur gelo gp''y cv'f gxgnur gf 'hwm'f gr y ''cf j gulxg'hcknwtg0Vj g'hwm'f gr y ''cf j gulxg'hcknwtg'kpkkcvgf ''chugt'' uko wreskoji "57" { getu" qh"l qkov" qr gpkoji lengukoji "cpf "xgj keng" ngcf koji 0"Vj ku" ur geko gp" y cu" wpcdrg" vq" tgvckp''y cvgt''chvgt''qpn{''2047''kp''qhi'hwm'f gr yj ''cf j gukxg'hcknwtg''j cf ''kpkkcvgf 0'Vj g''r gto gcdkrkv{ ''qhi'yj ku'' ur gelo gp"y cu"pqv"kpenwf gf "kp"yj g"i tcr j "dgmy "chygt"yj g"hqwtyj "f co ci g"gxgpv0'Vj ku"kpf kecvgu"yj cv" gxgp'uo cm'co qwpul'qh'hwmf gr y 'hcknwtg'ecp'uki pkhecpvn{ 'ko r cev'y g'cdkrkv{ '\q'tgukuv'kphkrutcvkqp''qh'' y cvgt. "y j kej "ecp"ngcf "vq"r cxgo gpv"f kuvtguugu"uwej "cu"hcwnkpi "qt"ur cmkpi 0'J qy gxgt. "eqpukt gtkpi " y g"hwmf gr y "hcknwtg"f kf "pqv"kpkskcvg"wpvkn"chvgt "uko wrcvkpi "57" { gctu"qh"hcvki wg"nqcf kpi ."cpf "y g" kpuki pkhecpy'co qwpy'qh'r ctykcn'f gr y 'f co ci g. "ky'ecp"dg"uvcygf 'y cy'y g'ukrkeqpg't gugt xqkt 'ur gelo gpu" y gtg"dgwgt"cdng"vq"tgukuv"f co ci g"ceewo wrcwqp"htqo "lqkpv"qr gpkpi lenqukpi "cpf "xgj keng"nqcf kpi " y cp'y g''cur j cn/tgugtxqkt''cpf ''cur j cn/tkngf ''ur geko gpu0



Hki wtg'F0660Curj cn/Hangf 'r gto gcdktks{ 'cpf 'f co ci g'ceewo wrcskqp



Hhi wtg'F0670Curj cn/tgugtxqht "rgto gcdhhh{ "cpf "fcocig" ceewo wrchqp



SR

Hki wt g'F 6680Uktkeqpg't gugt xqkt 'r gt o gcdktk{ 'cpf 'f co ci g'ceewo wrckqp0P qvg <'y g'r gt o gcdktk{ '' chgt 'F co ci g'Gxgpv'6'f qgu'pqv'kpennf g'y g'ur geko gp''y j kej 'f gxgnqr gf 'hwn1f gr y 'cf j gukxg'hcknut g



Hki wtg'F6690Gzcorng'qhkorgt ligevkqpu'y kj kp'ukkeqpg'ugcncpv.'i cr'ektengf 'kp't gf

## 605''Gzvgpuldladav{

Vj g"hqmqy kpi "ugevkqp"f guetkdgu"cpf "eqo r ctgu"yj g"tguwnu"qh"yj g"gz vgpukdkkv{ "vguvkpi "hqt" ur geko gpu'yj cv'y gtg"pgy n{ "ugcngf "cpf "chvgt"eqpf kkqpkpi 0öEqpf kkqpkpi ö'tghgtu'vq'yj g"cr r necvkqp" qh"ukz "htgg/yj cy "e{engu"hqmqy gf "d{ "ukz "cr r necvkqpu"qh"yj g"lqkpv'qr gpkpi lenqukpi "cpf "xgj keng" hcvki vkpi "tgi ko g" vq"uko wncvg" 64" {gctu" kp" ugtxkeg0' Vj g" vcti gv' vgo r gtcwrtg"hqt"r gthqto kpi "yj g" gz vgpukdkkv{ "vguvkpi "y cu"52ÅH'vq"tgr necvg"yj g"eqnf "vgo r gtcwrtgu"yj cv'y qwrf "dg"r tgugpv'y j gp"yj g" lqkpwl"y qwrf "dg"y kf gt "kp"yj g"hkgrf 0'Vj g"hcevqtu"eqpukf gtgf "kpenwf gf "cf j gukxg"cpf "eqj gukxg"uvtguu." o czko wo "lqkpv"qr gpkpi "cpf "o kf/f gr yj "uvtckp" cv'hcknvtg"cpf "y g"hcknvtg"o qf g0'Vj g" tguwnu"ctg" uwo o ctk gf "kp"Vcdng'F 070C "v{r kecnimcf "xu"f kur mego gpv'i tcr j "hqt"gcej "ugcmpv'v{r g"ku"uj qy p"kp" Hki wtg"F 00'Hcknvtg"ku"f ghkpgf "cu"yj g"ko g"y j gp"yj g"r gcmihqteg"ku"tgeqtf gf ."y j kej "ku"u{pqp{o qwu" y kj "yj g"ko g"yj cv"cf j gukxgleqj gukxg"hcknvtg"kpkkcvgu0



Hki wtg'F6: 0V{ rkech'gzvgpukdkrks{ 'qh'pgy n{ 'ugcngf 'ur geko gpu

K'ecp'dg'uggp''kp''Vcdng'F **(7**''y cv'y g'nqcf'tgs wktgf''vq'qr gp''y g''lqkpv'vq'hcknwtg'y cu'i tgcvgt'hqt" y g'cur j cn/'cu''eqo r ctgf ''vq''y g''ukrkeqpg.''dgecwug''y g''cur j cn/'cv'y g''guv'vgo r gtcwutg''ku''uki pkrkecpva(" uvkrhgt''y cp''y g''ukrkeqpg''cpf ''y g''co qwpv'qh''ukrkeqpg''ugcncpv'kp''y g''lqkpv'ku''uwduvcpvkcn'rguu''y cp''hqt" y g''cur j cn/''ur geko gpu0'Vj g''nqcf ''y cu''j ki j gt''hqt''y g''cur j cn/''hkngf ''lqkpv'eqo r ctgf ''vq''y g''cur j cn/'' tgugtxqkt''dgecwug''y g''f gr y ''qh''y g''cur j cn/'kp''y g''lqkpv'y cu''i tgcvgt0'Vj ku''y cu''f qewo gpvgf ''pqv'' dgecwug''y gtg''ku''cp{''tgngxcpeg'kp''y g''hqteg''q''qr gp''y g''lqkpv''cpf ''hgrf ''r gthqto cpeg''dw''o qtg''uq''hqt'' kphqto kpi ''hwwtg'tgugctej gtu''y kuj kpi ''q''r gthqto ''uko krct''uwf kgu0

Urgeko gp'HF	Eqpf kkqpkpi	O czło wo 'Nącf " *nl+	O czło wo 'Ląłpy' Qr gpłpi '*łp+	Hcknwtg" Oqfg	Vgorgtcwwtg" cv'Hcknwtg" *ÅH+
CT34	Pq	386	309;	Cfjgukxg	560,
CT5	Pq	394	3076	Cfjgukxg	5406
CT8	Pq	358	403;	Cfjgukxg	4;0
СНЗ6	Рq	528	202:	Cfjgukxg"(" Eqjgukxg	53Œ
CH37	Pq	578	2029	Cfjgukxg	4:08
СНЗ8	Рq	538	2@7	Cfjgukxg"(" Eqjgukxg	4; 03
UT43	Pq	:2	2078	Cfjgukxg	4;0
UT45	Pq	93	206;	Cfjgukxg	5505
UT47	Рq	;4	209;	Cfjgukxg"(" Eqjgukxg	5409
CT:	[ gu	30859	3086	Cfjgukxg"(" Eqjgukxg	580B
СТ33	[ gu	355	305:	Cfjgukxg"(" Eqjgukxg	5307
CT35	[ gu	;9	20 2	Cfjgukxg"(" Eqjgukxg	5404
СНЗ2	[ gu	599	2028	Cfjgukxg"(" Eqjgukxg	4;07
CH9	[ gu	49:	2028	Cfjgukxg"(" Eqjgukxg	530
CH;	[ gu	549	20,46	Cfjgukxg"(" Eqjgukxg	5:0
UT44	[ gu	55	2059	Cfjgukxg	5208
UT46	[ gu	63	2064	Cfjgukxg	4;0
UT48	[ gu	72	2064	Cfjgukxg	5208

Vcdrg'F070Uwo o ct { "qh't guwnu'ft qo "gz vgpukdkrky{ "vgukpi

## Ląkpv''ąr gpkpi "cv'fc knwt g

C'uwo o ct { "qh'y g''cxgtci g'cpf ''ucpf ctf ''f gxkcvkqp"qh'y g''lqkpv'qr gpkpi ''cv'hcknxtg''cmpi 'y ky '' y g''lqkpv'y kf y ''cv'hcknxtg''ku''r tqxkf gf ''kp''Vcdng''F **B**O'Vj g''lqkpv'y kf y ''cv'hcknxtg''y cu''f gyto kpgf ''d{ '' cf f kpi ''y g''kpkkcn'y kf y ''qh'y g''lqkpv'qr gpkpi ''cv'hcknxtgO'Vj g''f khigtgpeg"kp''lqkpv'qr gpkpi ''cv'hcknxtg''nqt'' kp''hqt''cur j cn/'hkngf +''q''y g''lqkpv'qr gpkpi ''cv'hcknxtgO'Vj g''f khigtgpeg"kp''lqkpv'qr gpkpi ''cv'hcknxtg''hqt'' gcej ''qh'y g''lqkpv'f guki pu'ku''uj qy p''i tcr j kcm{ ''kp''Hki wtg'F **0**y ky 'y g''cxgtci g''cpf ''ucpf ctf ''f gxkcvkqp'' dqy ''r tqxkf gf O'Cu'ecp''dg''uggp. ''y g''cur j cn/'tgugtxqkt''ur geko gpu'j cf 'y g''nti guv'lqkpv'qr gpkpi ''r tlqt'' ''ncknxtg.''hmmy gf ''d{ ''y g''ukheqpg'tgugtxqkt''cpf ''y gp''y g''cur j cn/'hkngf O'Vj g''pgy n{ ''ucenff ''cur j cn'' tgugtxqkt''ur geko gpu''qr gpgf ''3089''kp''dghqtg'hckhpi . ''y g''pgy n{ ''ucenff ''ukheqpg''tgugtxqkt''ur geko gpu'' qr gpgf ''2083''kp''cpf '' y g''pgy n{ ''hkngf ''ur j cnv'hkngf ''ur geko gpu'' qn gpgf ''2045'' kp0'Vj g''lqkpv'' qr gpkpi kmulpi 'y tqwi j qw'y g''{gct''hqt''y g''UT/44''Uo ctv'Rcxgo gpv'y cu''gucdnkuj gf ''cu'' ctv'qh'y ku'' tgugtcej ''ghhtv'\*ugg''Cr r gpf kz ''E+''cpf ''ku'' tqxkf gf ''kp''Hki wtg''F **072'**dgmy 0'Cu''ecp''dg''uggp ''kp'' hki wtg.''y g''ej cpi g''kp''lqkpv'qr gpkpi ''y tqwi j qw'y g''{gct''xctkgu'dgw ggp''92''q'62''o kn0'Dcugf ''qp'' y gug''gzr gtko gpvcntguwnu ''y gug''qr gpkpi u''y qwf ''dg''uwhkelgpv4 ''ncti g''q'hch'ty' g''cur j cn/'hkngf ''qpw'' Kf''uj qwf ''dg''pqyf ''y cv''y gug''ej cpi gu''kp''lqkpv''qr gpkpi ''ct''g''uwr''y g''tguwn''qh''f ckf ''ej cpi gu''kp'' vo r gtcwtg''cpf ''f q''pqv'kpenxf g''y g''cf f kkqpcn'qr gpkpi ''y cv'qeewtu''kp''y g''hgmf ''htqo ''mpi /'yto''

#### ft{kpi "uj tkpmci g0

Vj g"lqkpv'y kf y u'qh'y g'ur geko gpu'cv'hcknwtg'\*Vcdng'F **(8**+"ecp"dg"eqo r ctgf 'y kj 'y g'lqkpv' y kf y u'qdugtxgf 'hqt'r cxgo gpvu'kp'Rgppu{nxcpkc'\q'f gygto kpg'y g'r qygpvkcnhqt'hcknytg'kp'y g'hgrf 0' Kecp'dg'uggp'htqo 'y g'j kuqi tco 'kp''Vcdng'F 65'qh'Ugevkqp'50404''cdqxg'y cv'y g'lqkpv'y kf y 'o gcuwtgf'' kp"yj g"hkgrf "y cu"wr "vq"2076"kp"r tkqt"vq"tgugerkpi 0"Vj g"lqkpv"y kf yj u"y gtg"enuq"o geuwtgf "hqt"yj g"Uo etv" Rcxgo gpv'qp''UT/44"chvgt"c'nkvvg"qxgt'3: "{gctu'kp"ugtxkeg0Vjg'lqkpvu'y kfyju'y gtg'dgw ggp'2072"vq" 2085'kp'y kj 'cp'cxgtci g'qh'207: 'kp'y j gp'o gcuwtgf 'kp'y g'hcm'y kj 'c'r cxgo gpv'vgo r gtcwtg'ctqwpf " 94ºH0Cm'qh'y gug'lqkpu'y km'dg'cdqw'6'o knu'y kf gt'kp'y g'y kpvgt0Vcdng'F **(B'**uj qy u'qpn{ 'y g''cur j cn/' cpf "ukrkeqpg"tgugtxqkt "ur geko gpu"hckrgf "cv"lqkpv"qr gpkpi u"hcti gt "y cp" y ku "y j krg" y g"cur j cn/hkrgf " lqkpv'hckrgf "cv'qr gpkpi u'uki pkhecpvn( "pcttqy gt0'Kk'uj qwrf "dg"pqvgf "vj cv'vj gug"lqkpv'y kf yj u''ctg" gzeguuksen v kf g'dcugf ''qp'' y g''qt ki kpcn'ucy ''ewv'y kf y ''qh'20597''kp0'Vj ku'o quv'nknen ''qeewtu''y j gp'' ugcncpu'dgi kp'\q'hckn''cmqy kpi 'kpeqo r tguukdngu'kpvq''y g'lqkpu'f wtkpi ''y g'eqnf gt''o qpy u0Vj gug'' ugcncpv/hcknwtgu/ecp/'qeewt /'gctn{ ''qp'kp''yj g'r cxgo gpv'rkhg'kh/cm/lqkpvu'f q''pqv'cevkxcvg'r tkqt'\q'ugcrkpi ." cu'y ku'tguwnu'kp'lqkpu'pqv'cevkxcvgf 'dgkpi 'wpf gtugcngf 'cpf 'cevkxcvgf 'lqkpu'dgkpi ''qxgt/ugcngf 0'Vj g'' wpf gtugcrgf "lqkpu"ctg"r tqpg"\q"ugcrcpv"hcknxtg"qpeg"cml'qkpu"cevkxcvg0Rtgo cwtg"ugcrcpv"hcknxtg"ecp" cnuq "qeewt "cu"c"t guwn/'qh"r qqt "eqpuvt wevkqp"r tcevkegu"f wt kpi "ugcrkpi 0Vj gug"kpeqo r t guukdrgu'kp"yj g" r qqtn{ 'ugcrgf 'lqkpv'r tgxgpv'erquwtg'f wtkpi 'vj g'uwo o gt 'o qpvj u'cu'vj g'r cxgo gpv'vgo r gtcwtgu' kpetgcug0Vj ku'uwuvckpgf 'uvtguu'y km'f kuukr cvg''y tqwi j ''etggr . ''y gtgd{ ''ghbgevkxgn{ ''kpetgcukpi ''y g''lqkpv'' y kf yj "cv'y j kej "yj g'| gtq/uxtguu'uxcyg"qeewtu0Vj g"e{enke"{gctn{ "qeewttgpeg"qh'yj ku'r tqeguu'y kn'tguwny" kp"rcti gt"lqkpv'y kf y u'y cp"y qwrf "dg"r tgf kevgf "wukpi "ewttgpv"lqkpv'y kf y "r tgf kevkqp"gs wcvkqpu0Vj ku" gzr nckpu'y j { ''y g'r tgf kevgf 'kpetgcug'kp'lqkpv'qr gpkpi 'f wtkpi ''y g''y kpvgt''y qwrf ''dg''cdqwi'20B''kp''hqt''c'' o czko wo "lqkpv'y kf y "qh'207" kp 'hqt "c'r cxgo gpv'kp "Rgppu{ nxcpkc. "dwi'y g'lqkpv'y kf y u'pqvgf "kp" y g" hlgnf "tgxlgy gf "f wtlpi "uwo o gt "o qpvj u'y gtg"eqo o qpn{ "dgw ggp"2073"cpf "207: "lp"\*ugg"Vcdng'F 05+0

		Lqkpv'Qrgpkpi 'cv'Hcknwtg'%kp+		Lqlpv'Y lf vj 'ċv'
Ur geko gp	Eqpf kkqpkpi	Cxgt ci g'* <b>i</b> p+	Uvcpfctf Fgxkcvkqp'*kp+	Hc kwt g'*‡p+
СН	Pq	2045	2043	206:
СТ	Pq	3089	2089	4026
UT	Pq	2083	2085	20;
СН	[ gu	2057	2063	2082
СТ	[ gu	3086	2042	3073
UT	[ gu	2062	2024	209:

Vcdrg'F(80L	ąkpy'ej ct ce	evgt kuvke u''c v'hc k	nut g'hat "gz v	gpukdkrkv{ 'vguv



Hki wtg'F06; 0Lqkpv'qrgpkpi 'cv'hcknutg



Hki wtg'F0720Hkgrf "gunko cvgf "xu"rtgf kevgf "cxgt ci g"o qpvj n("ej cpi g"kp"lqkpv'y kf vj "cv'vj g"vqr"qh vj g"urcd"kp"vj g"eqtpgtu

Vj g"gz vgpukdkkk{ "vguv'y cu"cnıq "wugf "vq"gxcnxcvg" y g"f gi tcf cvkqp"qh" y g"ugcncpv'htqo "htgg| g/ y cy "e {engu"cpf "hcvki vkpi 0'Cu"uj qy p"kp"Hki vtg"F 0" y g"r gtegpv'ej cpi g"kp"lqkpv'qr gpkpi "cv'hcknxtg" dgw ggp"ugcncpu" y kj "cpf " y kj qw"eqpf kkqpkpi "ku"75' . "5: ' . "cpf "56' "hqt" y g"cur j cn/"hkngf." cur j cn/"tgugtxqkt"cpf "ukdeqpg"tgugtxqkt"ur geko gpu."tgur gevkxgn{0'Vj g"lqkpv'y kf y u"cv'hcknxtg" y gtg" 2082" kp." 3073" kp." cpf " 209: "kp" hqt" y g"cur j cn/" hkngf." cur j cn/"tgugtxqkt" cpf "ukdeqpg" tgugtxqkt ur geko gpu."tgur gevkxgn{0'Vj ku"kpf kecvgu'yj cv'yj g"tgf wevkqp"kp"r gthqto cpeg"f vg"vq" y g"uko wcvgf "64" {gctu"qh"hcvki wg"cpf " y g"8"htgg| g/ y cy "e {engu" y qwf "pqv'dg"uwhkekgpva{"ncti g"hqt" y g"cur j cn/"cpf" ukkleqpg'tgugtxqkt'ur geko gpu''q'hckn'gxgp''y kj ''y g'hcti gt''lqkpv'y kf y u''qdugtxgf ''kp''y g'hgrf 0



Hli wt g'F 0730Rgt egpvf kligt gpeg 'kp' [qkpv'qr gpkpi "cvlic kwt g"dgvy ggp"pgy nf "ugcngf "cpf" eqpf kkqpgf "ur geko gpu0

### Ut ckp"cv"/hcknwtg

Y j kg"gxcnwckpi "ý g"lqkpv'qr gpkpi "cv'hcknutg"cmqy u"eqo r ctkuqpu"vq"dg"o cf g"dgw ggp"ý g" tguwnu"qh"ý g"gzr gtko gpxcn"uwd { "cpf "ý g"lqkpv'qr gpkpi u"qdugtxgf "kp"ý g"hkgrf."tgugtxqkt "f guki p" y kf ý u"ctg"guxchhuj gf "dcugf "qp"ý g"cmqy cdng"uutckp"ur gekhe "q"gcej "ugcmpv"v{r g0'Vj gtghtg."ý g" uutckp"cv"hcknutg."qt"wnko cvg"uutckp."ku"cnq"cuuguugf 0'Y j gp"f guki pkpi "ý g"tgugtxqkt."ý g"y kf ý "cv" y j kj "ý g"tgugtxqkt"ku"ucy gf "ku"f gvgto kpgf "d{"o wnkr n{kpi "ý g"cmqy cdng"uutckp"hit"ý cv"r ctvkewet" ugcmpv'o cvgtkch'd{ "ý g"ecnewncyf" o czko wo "lqkpv'qr gpkpi 0'Vj gtghtg."ý g"cmqy cdng"uutckp"hit"ý g"mdqtcvqt {" ur geko gpu0'Vj g"o kf/f gr ý "wnko cvg"uutckp"ku"ecnewncyf "d{"f kxkf kpi "ý g"lqkpv'qr gpkpi cv"hcknutg"d{" y g y kf ý "qh'ý g"ucy "ew'qh'ý g"tgugtxqkt0CCu"r tgxkqwun{"uvcyf."ý g"cmqy cdng"uutckp"hit"cp"cur j cm" ugcmpv'ku'v{r kecm{"2047"cpf "207"hit"ukheqpg0'Vj gug"xcnwgu"uj qwf "dg"uwduvcpvkcm{"nguu"ý cp"ý g" wnko cvg"uutckp"cu'y g"wnko cvg"uutckp"kwtg"cpf "cmqy cdng"uutckp"ecp"qeewt "tgr gcwgf n{" y j tqw j qw" y g" nhig" qh" y g" ugcmpv0' Vj g" wnko cvg" uutckp"cv" o kf/f gr y "qh" y g" ugcmpv'ku"uj qp " i tcr j kecm{"2047"cpf "207"hit"ukheqpg0'Vj gug"xcnwgu"uj qwf "dg"uwduvcpvkcm{"nguu"y cp" y g" wnko cvg"uutckp"cu" y g"wnko cvg"uutckp"ecp" cv" o kf/f gr y "qh" y g" ugcmpv'ku"uj qp p" i tcr j kecm{"kp"Hki wtg" F **0**'K%u"uj qp p" y cv" y g"cur j cm" tgugtxqkt"lqkpvj" gr gtkgpegu"c"uki pkhecpv" co qwpv" qh"uutckp" dqy " y j gp" ky" ku" htguj n{" ugcngf" cpf" chigt" eqpf kkqpkpi "\*60" cp" 502" kp lkp." {gctu"qh"lqkpv"qr gpkpi kenukpi "cpf "xgt kecn"f kur mego gpv"eckugf "d{ "xgj keng"nqcf u."yj g"cur j cnv" tgugt xqkt "lqkpv"y cu"gz vgpf gf "qxgt "yj tgg" ko gu"yj g"kpkken"y kf yj "dghqtg" heknet g0'Vj g"cur j cnv" hkngf " lqkpv"ecp"y kj uvcpf "qpn{ "c"htcevkqp"qh"yj ku"lqkpv'o qxgo gpv"r tkqt "vq"heknet g0'Vj gug"f guki pu"hekngf "cv" uvt ckpu"qh"20, "cpf "306"kp lkp"hqt "yj g"ur geko gpu"y kj "cpf "y kj qwv"eqpf kkqpkpi ."tgur gevkxgn{ 0'Vj g" uvt ckp"cv"heknet g"hqt "ukheqpg"ur geko gpu"hemu"dgw ggp"yj g"cur j env"ugerepv"engtpevkxgu. "yj cv"dgkpi "308" cpf "308"kp lkp"hqt"ur geko gpu"y kj "cpf "y kj qwv"eqpf kkqpkpi ."tgur gevkxgn{ 0'Vj g" up" gthqto cpeg"qh"yj g"ukheqpg"ugerepv"htqo "yj g"64"{gctu"qh"ci kpi "y cu"uki pkhecpvn{ "nguu"yj cp" yj cv" hqt"yj g"cur j env"ugerepv0

K/uj qwf 'dg'pqvgf ''y cv'ci kpi 'f wg'\q'qzkf cvkqp"cpf ''y gcyj gtkpi 'ku'pqv'eqpukf gtgf 0\Qzkf cvkqp" ecwugu"c"ej cpi g"kp"y g"ej go kecn'eqo r qukkqp"qh"y g"cur j cn/"y cv'eqpvtkdwgu"vq"cp"kpetgcug"kp" uvkhpguu'cpf 'c'f getgcug'kp'tgukrkgpeg']9; \_0'Vj ku'kpetgcug'kp''uvkhpguu'tcpurcvgu'kpvq'j ki j gt'uvtguu'hqt" gs wkxcrgpv'uvtckpu. 'y j kej 'tgf wegu'y g'wnko cvg'uvtckp'cv'hcknvtg0'Ukrkeqpg'ugcrcpvu'ctg'tgukrvcpv'vq''y g" ghgevu''qh''qzkf cvkqp"dw''ecp"f gi tcf g" urqy n{"y gtgd{"tgf wekpi "y g"'uvkhpguu''f wg" vq" wntcxkqrgv'' tcf kcvkqp'']3; \_0

Vj g'wnko cvg'uvtckp''cv'hcknvtg''ku'f kevcvgf 'd{ ''ý g''uvtckp''y ký kp''ý g''ugcrcpv'\*eqj gukxg''uvtguugu+" cpf ''uvtguu'dgvy ggp''ý g''ugcrcpv''cpf ''ý g''eqpetgvg'tgugtxqkt''y cm'\*cfj gukxg''uvtguugu+"cv'hcknvtg''cpf ''ý g'' uvtgpi ý ''qh''ý gug''dqpf u0'Vj g''uvtguu'ku''c'hwpevkqp''qh''ý g''tgugtxqkt''f guki p. ''ugcrcpv''uvkhpguu. ''cpf ''lqkpv'' qr gpkpi 0'Dqyj ''ý g''cfj gukxg''cpf ''eqj gukxg''uvtguugu''cv'hcknvtg''ctg''f kuewuugf ''dgrqy 0



Hki wtg'F07400 kf/fgrvj 'lutckp'cv'hckwtg

### Hcknwtg"oqfg

Vj g"hcknutg"o qf g"ecp"dg"uugf "vq"kf gpvkh{ "vj g"uutguu"v{r g"\*cf j gukxg"qt "eqj gukxg+'f kevcvkpi "hcknutg0" Vj g"hcknxtg"o qf g"y cu"f qewo gpvgf "cv' y g"eqpenxukqp"qh"gcej "gz vgpukdkrkx{ "vguv'vq"f gvgto kpg"kh' y g" hcknutg"kpkkcvgf "y kj kp"vj g"ugcmpv"\*eqj gukxg+."dgw ggp"vj g"ugcmpv"cpf "vj g"eqpetgvg"\*cfj gukqp+"qt" dqy 0Cu'y cu'cpvkekr cvgf. 'y g'kpetgcug'kp'lqkpv'y kf y 'cpf 'wug'qh'c'dcengt'tqf 'hqt'y g'lqkpu'y kj 'y g' tgugtxqktu'f getgcugf ''y g''ygukg''utckpu''cpf ''eqttgur qpf kpi ''utguugu''y kj kp''y g''ugcrcpv'y j gp''y g''qkpv'' y cu''qr gpgf 0'Vj ku''uj khygf ''y g'hcknwtg''o qf g'htqo ''r tko ctkn{ "cfj gukqp''\q''dqyj ''cfj gukqp''cpf ''eqj gukqp0' Vj g"ur geko gpu"y ky "c"ucy gf "tgugtxqkt"lickrgf "kp"cf j gukqp"89' "qh"y g"vko g"eqo r ctgf "vq"qpn{"39' " qh'y g''vo g''hqt ''y g''cur j cnv'hkngf ''lqkpu'\*ugg''Vcdng''F **07**+0'Vj g''cur j cnv'tgugtxqkt ''lqkpv''qpn( "gzj kdkgf " cf j gukxg"hcknxtgu"r tkqt"vq"hcvki vkpi "dwi'y gp"gz j kdkgf "dqyj "cf j gukxg"cpf "eq j gukxg"hcknxtgu"chgt" eqpf kkqpkpi 0'Vj g'ukkeqpg'tgugtxqkt ''lqkpvu'hckrgf ''kp''cf j gukqp''kp''cm'ur geko gpu''gzegr v'hqt ''qpg''lqkpv' y kj qw/'eqpf kkqpkpi "y cv'hckrgf "kp"dqy "eqj gukxg"cpf "cfj gukqp0'KV'y cu''pqvgf "r tgxkqwun{ "y cv'hqt" uqo g"ukrkeqpg"tgugtxqkt"ur geko gpu" y g"ugcncpv"fkf "pqv"hwm{"uwttqwpf" y g"dcengt"tqf" f wtkpi" kpuvcmcvkqp"cv"yjg"xgt{"gpf"qh"yjg"urgekogpu0'J qygxgt."yjku"rjgpqogpqp"fkf"pqv"crrgct"vq" kphwgpeg"yj g"hcknwtgu"hqt"yj g"gzvgpukdkkkv{ "vguvkpi ."cu"cm"yj g"cf j gukxg"cpf "eqj gukxg"hcknwtgu"kpkkcvgf " vqy ctf "vj g"egpvtcn'r qtvkqp"qh''vj g"ur geko gp"cy c{ "htqo "vj g"gpf u0'Vj g"ukdeqpg"ugcrcpv'tgugtxqkt" f guki p'y ky ''y g''33 ''uj cr g'hevqt'f qgu'tguwn/kp"c''uwduvepvken'uo emgt ''dqpf ''etge''dgw ggp''y g''ugerepv'' cpf "eqpetgyg"eqo r ctgf "vq"yj g"qyj gt"lqkpv"f guki pu"\*307z"cpf "6z"o qtg"ctgc"eqo r ctgf "vq"yj g"curj cnv" tgugtxqkt"cpf "cur j cn/hkngf "lqkpvu."tgur gevkxgn{ +0Vj ku"vtcpurcvgu"vq"j ki j gt"f gdqpf kpi "uvtguugu0

C'uwduvcpvkcn'co qwpv'qh'eqj gukxg'hcknytgu'y gtg"gzj kdkgf "d{ 'vj g"cur j cn/'hkngf ''ur gelo gpu0' Cp"gzco r ng"qh'yj g'v{r kecn'eqj gukxg"hcknytgu'qdugtxgf 'ku'uj qy p'kp''Hki vtg'F **075**0'Vj ku'ecp"dg'r ctvn{ " cwtkdwgf ''q'yj g'f kthkewn{ ''kp''hwn{ ''hknkpi ''y g"pcttqy ''lqkpv'y j lej ''ngf ''q'xqkf uli cr u''kp''y g''ugcmpv'' yj cv'cev'cu'uvtguu'eqpegpytcvkqpu0'Cu''y g''lqkpv'y cu''qr gpgf .''yj gug'i cr u'i tgy ''y kf gt.''y j lej ''cmy gf '' y g''uvtguu''y kj kp''y g''ugcmpv''vq''f kukr cvg0'Vj g''cxgtci g''o gcuvtgf ''xqkf ''ctgc''hqt''y g''eqpf kkqpgf '' cur j cn/'hkngf ''ur gelo gpu'y cu'5047'kp<sup>4</sup>'y kj ''c''uvcpf ctf ''f gxkcvkqp"qh'20421'kp<sup>4</sup>0'Vj ku''o gcpu''y cv'45' '' qh'y g''cur j cn/'hkngf ''uwthceg''ctgc''eqpukngf ''qh''xqkf uli cr u''d{ ''y g"gpf ''qh'yj g''gz vgpukdkkk{ ''guv0'Vj gug'' ugxgtg"eqj gukxg''icknytgu''ctg''wpks wg''q''y g''cur j cn/'hkngf ''ur gelo gpu.''y j lej ''ku''gzr gevgf ''f wg''q''y g'' ej cmgpi g'kp''ugcnkpi ''y g''pcttqy ''lqkpv'y kf y 0'Vj g''uvckpu''qt''y g''cur j cn/'hkngf ''ur gelo gpu''y cp''y g'' ej cngpi g'kp''ugcnfpi ''y g''pcttqy ''lqkpv'y kf y 0'Vj g''uvckpu''qt''y g''cur j cn/'hkngf ''ur gelo gpu''y cp''y g'' cur j cn/'ugcngf ''cpf ''ukrkeqpg''ugcngf ''lqkpvUD{ ''f guki pkpi ''c''y kf gt ''kpkkcnf'lqkpv'y kf y .''y gug''eqj gukxg'' htt'y g''uco g''co qwpv'qhl'lqkpv'o qxgo gpv.''y j lej ''ecwugu''eqj gukxg''nchwtg''q''kpkkcvg''uqqpgt ''y cp''y g'' cur j cn/'ugcngf ''cpf ''ukrkeqpg''ugcngf ''lqkpvUD{ ''f guki pkpi ''c''y kf gt ''kpkkcnf'lqkpv'y kf y .''y gug''eqj gukxg'' hcknytgu''eqwf ''dg''o kki cvgf ''pqv'qpn{ ''d{ ''tgf welpi ''y g''ucckp'y kj kp''y g''ugcmpv' dw''cnnq'd{ ''tgf welpi '' y g''rkngrkj qqf ''qh''c''r qqtn{ ''lkngf ''lqkpvU'Q''hxty gt''kpxguvki cvg''y g'' gthqto cpeg.''y g'' cf j gukxg''ucpf'' eqj gukxg''uvtguu''cvhcknytg'y cu''cpcn{ |'gf ''cpf ''y g''tguvnu''ctg'' tgugpygf ''dgny 0



Hki wtg'F0750V{ rkecn'eqj gukxg'hckwtg'hqt 'curj cn/hkngf 'urgeko gp

## Ut guu'c v'hc knwt g

Vj g"cf j gukxg"utguu"cv"hcknutg"y cu"f gvgto kpgf "d{ "f kxkf kpi "vj g"r gcm"mcf "cv"hcknutg"d{ "vj g" etquu/ugevkqpcn'ctgc"qh'vj g"ugcmpv'cv'vj g"kpvgthceg"qh'vj g"eqpetgvg"tgugtxqkt "y cm0"Vj g"etquu/ugevkqpcn" ctgc"cv"gcej "kpvgthceg"hqt "vj g"cur j cnv"tgugtxqkt."cur j cnv"hkmgf ."cpf "ukrkeqpg"tgugtxqkt "f guki pu"y gtg" 8022"kp<sup>4</sup>."36047"kp<sup>4</sup>."cpf "5097"kp<sup>4</sup>."tgur gevkxgn{0'J qy gxgt."hqt"qpg"qh'vj g"cur j cnv"hkmgf "lqkpu"kv'y cu" uggp"vj cv'vj g"uwthceg"ctgc"qh'vj g"ugcmpv'y cu"o wej "guu"vj cp"vj g"vcti gv'xcnvg"\*35047"kp<sup>4</sup>"eqo r ctgf " q"vj g"36047"kp<sup>4</sup>"f guki p+0"Vj ku"ku"uj qy p"kp"Hki vtg"F 0760"Vj ku"tgf wegf "uwthceg"ctgc"y cu"hkmgf "ecwugf " d{ "y g"kpcdkkk{ "vq"cf gs wcvgn{ "hkm'y g"pcttqy "lqkpv0"Vj ku"f khigtgpeg"kp"f guki pgf "xu"cewcn"ugcmpv" uwthceg" ctgc" eqpvtkdwgf " vq" y g" xctkcdkkk{ " y kj kp" y g" f cvc" hqt" y g" cur j cnv"hkmgf "lqkpv0"Vj ku" qdugtxcvkqp"tgkgtcvgu"y gt"qkpv'y cv'vj g"cur j cnv"hkmgf "lqkpvu"ctg"f khikewn/'vq"hkm'eqpukngpvn{ ."y j kej " ecp"ngcf 'vq"xct{kpi "ugcmpv'r gthqto cpeg"cpf "r quukdn{ "r tgo cwtg"hcknytg0



Hki wtg'F0760Gzcorng'qh'c'rqqtnf 'hnngf 'lqkpv

Vj g"cfj gukxg"uvtguu"cv"hcknwtg"ku"uj qy p"kp"Hki wtg"F0770'Cfj gukxg"uvtguu"cv"hcknwtg."etquu/ j cvej kpi "kpf kecvgu"hcknwtg"o qfg0'Vj g"curj cnv"tgugtxqkt"gzr gtkgpegf "vj g"ncti guv"cfj gukxg"uvtguu"cv" hcknytg. 'hqmqy gf "emugn{"d{"yj g"cur j cn/hkmgf "cpf 'ukrkeqpg'tgugtxqkt 'ur geko gpu0'Kyku"cnq'uggp"yj cv' yj g"cf j gukxg"uvtguu"cv'hcknytg"hqt 'yj g"cur j cn/'hkmgf "ur geko gpu"ku"cr r tqzko cvgn{"yj g"uco g"hqt"dqy yj g"pgy n{"ugcngf 'ur geko gpu"cpf 'ur geko gpu'yj cv'j cf "dggp"uvdlgevgf 'vq"eqpf kkqpkpi 0'Vj ku"ko r nkgu" yj cv'yj g"cur j cn/'hkmgf "ur geko gpu'yj cv'j cxg"dggp"eqpf kkqpgf "wpf gti q"yj g"uco g"uvtguu"cv'hcknytg"cu" yj g"pgy n{"ugcngf 'ur geko gpu 'dw'cv'c 'my gt 'uvtckp'xcnyg0'Vj ku'ku'eqpukrygpv'y kj 'yj g"r tgxkqwu'tguvnu" uj qy kpi ''yj g"nquu'kp"gpgti { 'f kuukr cvkqp"ku'i tgcvguv'hqt 'yj g"cur j cn/'hkmgf ''ur geko gpu ''o cmkpi ''kv'nguu" r ncdmg"cpf ''o qtg'uwuegr vkdmg''q"f co ci g0

Cu'r tgxkqwun{ "uvcvgf. "y g"uvtguu"cv'heknwtg"ku"c"hwpevkqp"qh'y g"hqteg"pqto enk gf "d{ "y g"dqpf gf " ctgc"cu'y gn'cu'y g'uwhipguu'cpf "dqpf "uvtgpi y "qh'y g'o cygtkcn0Vj gtghqtg."ky'y qwf "dg"cpwekr cygf " y cv'y g"cf j gukxg"uxtguu"cv"hcknxtg"uj qwrf "dg"y g"uco g"hqt"dqy "y g"cur j cn/'tgugtxqkt"cpf "hkngf" ur geko gpu'ukpeg''y g'ukhipguu'cpf 'uvtgpi y ''qh''y g''cur j cnv'ugcncpv'ku''y g''uco g0J qy gxgt. ''y g''cur j cnv'' hkngf 'ur gelo gpu'gzj kdkgf 'ny gt'cf j gukxg'ut guugu'cv'hcknut g0'Vj ku'ecp'dg''cut kdwgf 'vq''y g'hcev'y cv' dqy "cf j gukxg"cpf "eq j gukxg"hcknwtg"qeewttgf "uko wncpgqwun( "kp" y g"cur j cn/"hkngf "ur geko gpu0'K/" uj qwrf "cnuq"dg"pqvgf "vj cv"hwm{ "hkmkpi "c"2047/kp"y kf g"lqkpv"y kj "cur j cnv"ku"uki pkhkecpvn{ "o qtg" ej cmppi koi ''y cp'hknkoi ''c'20597/ko''y kf g'tgugtxqkt0Uo cm'xqkf uli cr u'ko''y g''ugcrcpv'ecp''ngcf ''q''uxtguu'' eqpegpytcylqpu'y cv'y qwf "tguwn/kp"ny gt "hqtegu"cv'hcknytg0Vj g"j ki j gt "uvkhpguu"qh'y g"cur j cn/cv'y g" my gt "yguv" ygo r gtcwtgu" y gwf "tguwn" kp"j ki j gt "cf j gukxg" utguugu" kp" y g"cur j cn/tgugtxgkt "cv' y g"uco g" lqkpv'qrgpkpi "cu"eqorctgf "vq"yjg"ukrkeqpg"tgugtxqkt"urgekogpu0'Vjg"ujcrg"hcevqt"\*ykfyjffgryj+"ku" cnuq" uki pkhkecpvn{" j ki j gt" \*rguu" o cvgtkcn' ku" tgs wktgf +" hqt" y g" ukrkeqpg" ugcrepv." tguwnkpi " kp" c" uwduvcpvkcm{ "uo cmgt"dqpf "ctgc"\*8022"kp<sup>4</sup>"xu0'5097"kp<sup>4</sup>+0'Vj ku"kpetgcugu"yj g"uvtguu"kp"yj g"ukrkeqpg" tgugtxqkt"cu"eqo r ctgf "y kj "y g"cur j cn/tgugtxqkt"cv"gs wkxcngpv"lqkpv"qr gpkpi u0Kpetgcukpi "y g"f gr y " qh"y g"ukrkeqpg"ugcncpv"vq"y cv"qh"y g"cur j cnv"y qwrf "tgf weg"y g"uvt guu"eqpukf gtcdn{ 0'Vj g"cur j cnv" tgugtxqkt"cpf "ukrkeqpg"tgugtxqkt"ur geko gpu"gzj kdkgf "c"tgf werkqp"kp"urtguu"cv"licknytg"chrgt"dgkpi " gzr qugf "vq"64" { gctu"qh"hcvki wg"cpf "htgg| g/yj cy "e { engu0'Cu"uj qy p"r tgxkqwun{."gcej "ur geko gp" gzj kdksgf "c"tgf weskqp"kp"uskhipguu"cu"c"tguwus"qh'y g"eqpf kskqpkpi 0"Vj g"lqkpv"qr gpkpi "cv"hckustg"y cu" f getgcugf "cpf "y g"mcf "tgs wtgf "vq"cej kgxg"y g"lqkpv"qr gpkpi "y cu"my gt0'Dqy "eqpvtkdwg"vq"y g" tgf wevkqp'kp'uvtguu'cv'hcknwtg'y j gp''y g'ur geko gpu'ctg''eqpf kkqpgf 'r tkqt''y g''gzvgpukdkrkv{ 'vguvkpi 0



Hki wtg'F0770Cf j gukxg'ut guu'cv'hckwtg. "et quu/j cvej kpi 'kpf kecvgu'hckwtg'o qf g

Vj g"eqj guksg"utguu"cv"hckntg"y cu"ecnetrevef "d{"f kxkf kpi "ý g"r gcni"ncf "d{"ý g"etquu/ ugetkqpcn'ctgc"qh'ý g"ugcmpv'eqttgur qpf kpi "\q"ý g"qr gpkpi "cv"hckntg0Vj g"ý kenpguu"qh'ý g"egpyt"qh" c"lqkpv'ugcmpv'f getgcugu"cu"ý g"lqkpv'qr gpu."y j kej "cnq"ecwugu"ý g"etquu/ugetkqpcn'ctgc"qh'ý g"durmi" ugcmpv'\q"f getgcug."cu"f guetkdgf "r tgxkqwun{0'Vj g"etquu/ugetkqpcn'ctgc"eqttgur qpf kpi "\q"ý g"lqkpv' qr gpkpi "cv'hckntg"y cu"f gygto kpgf 'hqt"gcej 'ur geko gp"cpf 'wugf '\q"f gygto kpg'ý g"eqj guksg"utguugu"cv'hckntg"hqt"pgy n{"ugcngf "cpf "eqpf kkqpgf "ur geko gpu"ctg"uj qy p"kp" Hki wtg"F **0780**K/ku'uggp'ý cv'ý g"ukkeqpg"tgugtxqkt"ur geko gpu"gzr gtkgpegf 'ý g"ncti guv'eqj guksg"utguu" cv'hckntg0[ gv."cu"uj qy p"kp"Vcdng'F **07**."qpn{"ý g"ukkeqpg"ugcngf "ur geko gp"ý cv"gzj kdkgf "ý g"ncti guv" eqj guksg"utguu"cpf "lqkpv'qr gpkpi "\*209; "kp+"cv'hckntg"gzj kdkgf "c"eqj guksg"hckntg0Vj g"cur j cn/hkngf "ur geko gpu"gz j kdkgf "c"eqj guksg"utguu"dw" wprkng"ý g"cur j cn/hkngf "ur geko gpu."pqpg"qh'ý g"cur j cn/tgugtxqkt"ur geko gpu"gz kdkgf "c"eqj guksg"utguu"dw" wprkng"ý g"cur j cn/hkngf "ur geko gpu."pqpg"qh'ý g"kpcdktk{"\ur geko gpu"gz kdk"ur geko gpu"gzj kdkgf "c"eqj guksg"utguu"dw" wprkng"ý g"cur j cn/hkngf "ur geko gpu."pqpg"qh'ý g"kpcdktk{"\ur geko gpu"gz kdkngf "c"eqj guksg"utguu"dw" wprkng"ý g"cur j cn/hkngf "ur geko gpu."pqpg"qh'ý g"kpcdktk{"\ur geko gpu"gz kdkngf "c"eqj guksg"utguu"dw" wprkng"j g"cur j cn/hkngf "ur geko gpu."pqpg"qh'ý g"kpcdktk{"\ur geko gpu"gz kdkngf "c"eqj guksg"utguu"dw" wprkng"j g"cur j cn/hkngf "ur geko gpu."pqpg"qh'ý g"kpcdktk{"\ur geko gpu"gz kdkgf "c"eqj guksg"utguu"dw" wprkng"j g"cur j cn/hkngf "ur geko gpu."pqpg"qh'ý g"kpcdktk{"\ur geko gpu"gz kdksgf "c"eqj guksg" hkngf "lqkpv0



Hki wtg'F0780Eqj gukxg'ut guu'cv'fckwtg."et quu/j cvej kpi 'kpf kecvgu'fckwtg'o qf g

F wg" vq" ý g" r tgugpeg" qh' c" dcengt" tqf "hqt" ý g" cur j cn/' tgugtxqkt" cpf "ukkeqpg" tgugtxqkt" ur geko gpu "kv'y cu"gzr gevgf "ý cv'ý g"utckpu'y cv'f gxgmr gf "f wtkpi "lqkpv'qr gpkpi "y qwf "dg"i tgcwgu/' cv'ý g"vqr "qh'ý g"ugcmpv<sup>&</sup>ugg"Vcdng'F **66**-0Vj gug'ncti g"utckpu'cv'ý g"uwtheeg"qh'ý g"ugcmpv'ngef "vq'ý g" f gxgmr o gpv'qh'eqj guksg'hcknytgu0Cu'ý g"eqj guksg'hcknytgu'r tqr ci cvg"cv'ý g"uwtheeg"qh'ý g"ugcmpv'ngef "vq'ý g" g "utguu" kp"ý g"dwmiugcmpv'o cvgtkeniku'f kukr cvgf "cv'ý g"uwtheeg."dw'kv'ku'dghgxgf "ý cv'ý gg"ku'cp" kpetgcug"kp"uytguu'ý cv'f gxgmr u"cv'ý g"kpytheeg"dgy ggp"ý g"ugcmpv'cpf "ý g"eqpetgvg0Vj ku"j ki j gt" uvtguu"cv'ý g"eqpetgvg"kpytheeg"ngcf u"vq"ý g"f gxgmr o gpv'qh'cf j guksg"hcknytg."y j kej "r tqr ci cvgu" f qy p" ý g"ngpi ý "qh" ý g"lqkpv" ecwukpi "ý g"ugcmpv' vq" r ggn' cy c{ "ltqo " ý g"eqpetgvg" y cm0'Vj ku" r j gpqo gpqp"y cu'uggp"hqt 'o cp{ 'qh'ý g"cur j cn/'hmgf "cpf" cur j cn/'tgugtxqkt" ur geko gpu. "y j gg'nktuvg" eqj guksg'hcknytgu'f gxgmr gf. "ý gp"cf j guksg"hcknytg" hqt"ugxgtcn'qh'ý g"ugcmpv' y j kej "r tqr ci cvg" hkngf "cpf" cur j cn'tgugtxqkt "ur geko gpu" y cv'ý g"cf j guksg"hcknytg" hkkvgf" cmpi "y g"uwtheeg"qh'ý g" ugcmpv'y j kej "y cu"gzr gevgf "dcugf" qp" ý g"ecmewreft" utckpu"kp"Vcdng"F **6**00J qy gxgt."hqt"y g'ukrdeqpg" tgugtxqkt"ur geko gpu."pq"eqj guksg"hcknytgu"kpskvgf" cv'pq"uytguu"y cu"cdng" vq" f knukr cvg"r tkqt'vq 'hcknytg."cpf" cf j guksg"hcknytg" vcdng"F **6**00J qy gxgt."hqt" y g'ukrdeqpg" tgugtxqkt"ur geko gpu."pq"eqj guksg"hcknytgu"kpskvgf" cv'ptq" uytguu'y cu"cdng" vq" eqj gukxg"uvtguu"cv"hcknwtg"hqt"vj g"ukrkeqpg"tgugtxqkt"ur geko gpu0"KV ku"gzr gevgf "vj cv'vj ku"ku"f vg"vq"cp" kpuwhhelgpv"ugcncpv"f gr vj "hqt"vj g"ukrkeqpg"tgugtxqkt"lqkpvu0"KG vj g"f gr vj "qh"vj g"ugcncpv"y gtg"ncti gt." vj g"cf j gukxg"uvtguu"y qwrf "f kuukr cvg"qxgt"c"ncti gt"uvthceg"ctgc."ngcf kpi "vq"dgvgt"cf j gukxg"uvtgpi vj hqt"vj g"uco g"lqkpv"qr gpkpi 0

## 702'Uwo o ct{

Vj ku'uwf { "y cu''eqpf wevgf "vq''s wcpvkh{ "vj g"ghtgevkxgpguu''qh''uvcpf ctf "RgppF QV''vtcpuxgtug" lqkpv'tgugtxqkt "f guki pu''hqt''IRE Ru0'Vj g"f guki pu''eqpukf gtgf "hqt "y ku''uwf { "kpenvf gf "cur j cn/'hkngf." cur j cn/'tgugtxqkt."cpf "uktkeqpg"tgugtxqkt "vtcpuxgtug''lqkpvu0'Vj g"r gthqto cpeg"qh'vj gug'f guki pu''y cu cuuguugf " y kj " tgur gev' vq'' htgg| g/y cy " f vtcdktkv{ ." tguktkgpe { "\*lqkpv" qr gpkpi " cpf " enqukpi " y kj " vgo r gtcvxtg" ej cpi gu''cpf "xgtvkecn'f kur ncego gpvu''htqo "xgj keng" nqcf u+."cpf "gz vgpukdktkv{ 0'Uo cm' eqpetgvg''ur geko gpu'y gtg'hcdtkecvgf."ucy gf ."cpf "ugcngf "vq'tgr tgugpv'c''r qtvkqp"qh''c'tcpuxgtug''qkpv0

Gcej "lqkpv" f guki p" y cu" uvdlgevgf " vq" lqkpv" qr gpkpi lemukpi "hcvki wg" uko wrcvkpi " gzr gevgf " hwe wcvkqpu" kp" r cxgo gpv" vgo r gtcwtg" y tqwi j qw" y g" y kpvgt" kp" Rkwudwti j ." RCO' Vj g" ukdeqpg" tgugtxqkt"ur gelo gpu"gzj kdkgf "y g"i tgcvguv'uvkhipguu."hqmqy gf "d{"y g"cur j cn/'tgugtxqkt"cpf "cur j cn/" hkngf "ur gelo gpu0'Vj g"f khigtgpeg" kp"uvkhipguu'hqt "y g"cur j cn/"lqkpv"f guki pu"ku"cwtkdwgf "q" y g"vpks wg" i gqo gttkgu"cpf "pqpwpkhqto "uvtckp"f kutkdwkqpu" y tqwi j qw" y g"f gr y "qh" y g"ugcrcpv"f wtkpi "lqkpv" qr gpkpi lemukpi 0'Vj g"o qf wnwu"qh'y g"cur j cn/"hkngf ."cur j cn/"tgugtxqkt."cpf "ukdeqpg" tgugtxqkt "f guki pu" tgf wegf "d{"64' ."45' ."cpf "53' ."tgur gevkxgn{"chngt"uko wrcvkpi "64"{gctu"qh'xgj kerg"nqcf u"cpf "lqkpv" qr gpkpi lemukpi 0

Xgj keng" nqcf kpi "hcvki wg" vguvkpi " y cu" eqpf wevgf " qp" gcej " qh" y g" lqkpv'f guki pu" cu" y gnO O kpko cnff co ci g'ceewo wncvgf 'hqt 'cp{ 'qh'yj g'lqkpv'f guki pu'f wt kpi 'tko wncvgf 'xgj keng'hqcf kpi O' Vj gtg'y cu'pq"kf gpvkhcdng"vtgpf 'kp'yj g"ej cpi g"kp"uj gct"o qf wnwu'hqt"gcej "qh'yj g"lqkpv'f guki puO'Vj ku" uwi i guvu" y cv" y g" uj gct" r gthqto cpeg" qh" y g" lqkpv" ku" pqv" uki pkhkecpvn{" ko r cevgf" d{" f co ci g" ceewo wncvkqp"vq'y g"ugcncpv'o cvgtkcn"cpf "uj gct"nqcf kpi "hcvki wg"f qgu"pqv'vgpf "vq"kpf weg"f co ci g"qp" cp{"qh'yj g"lqkpv'f guki puO

Vj g"ej cpi g"kp"f {pco ke"tgur qpug"y kj "hcvki wg"gzr quwtg"y cu"cuuguugf "ý tqwi j "ý g"nquu"cpf" eqo r ngz"o qf wnwu"eqttgur qpf kpi "vq"lqkpv"o qxgo gpv0Vj g"wnko cvg"tgf wevkqp"kp"y g"r ncvke"o qf wnwu hqt"y g"cur j cn/hkngf."cur j cn/tgugtxqkt."cpf "ukrkeqpg"tgugtxqkt"ur gelo gpu"chvgt "hcvki wkpi "y cu"58' ." 43' ."cpf "55' ."tgur gevkxgn{0Vj g"tgf wevkqp"kp"yj g"eqo r ngz"o qf wnwu"y cu"63' ."45' ."cpf "63' "hqt" y g"cur j cn/hkngf."cur j cn/tgugtxqkt."cpf "ukrkeqpg"tgugtxqkt"ur gelo gpu."tgur gevkxgn{"chvgt "hcvki wkpi 0' Vj g" o ci pkwrf g" qh" y g" nquu" cpf " eqo r ngz" o qf wnwu" hqt" y g" ukrkeqpg" tgugtxqkt "ur gelo gpu" tur i guv'y cv"y g"ukrkeqpg" uki pkhkecpvn{"ncti gt"y cp"yj qug"qhi'y g"cur j cn/lqkpvff guki pu0Vj gug"hkpf kpi u"uwi i guv'y cv'y g"ukrkeqpg" o cvgtkcn"ku"uvkhbgt"cpf "dwi'r ncdng"cu"eqo r ctgf "vq"y g"cur j cn/o cvgtkcn0Vj gtg"y cu"pq"kf gpvkhcdng" vtgpf "kp"y g"eqo r ngz "uj gct"o qf wnwu

Y j gp"uvdlgevgf "vq"lqkpv'qr gpkpi lemukpi "hcvki vg."vj g"cur j cn/"hkngf "cpf "cur j cn/"tgugtxqkt" f guki pu" vgpf gf "vq"f gxgmr "r ctvkcn/f gr yj "cf j gukxg"cpf "eqj gukxg"hcknvtgu0'Vj g"ukkeqpg"tgugtxqkt" f guki p"f gxgmr gf "r ctvkcn/f gr yj "cf j gukxg."hvm/f gr yj "cf j gukxg"hcknvtg."cpf "r ctvkcn/f gr yj "eqj gukxg" hcknvtgu0J qy gxgt. "vj g"evo wncvkxg"ngpi yj "kp"f co ci g"y cu"i tgcvgt "hqt" vj g"cur j cn/"hkngf "cpf "cur j cn/" tgugtxqkt" f guki pu" eqo r ctgf " vq" y g" ukheqpg" tgugtxqkt0' Vj g" ej cpi g" kp" r gto gcdktw{ " y cu" pqv" uki pkhecpv'hqt 'vj g"cur j cn/"hkngf "ur gelo gpu."y j kg" yj g"cur j cn/"tgugtxqkt"ur gelo gpu"gzj kdkgf "c"urki j v" lpetgcug"kp"r gto gcdktw{ "dgy ggp" yj g"hknj "cpf "ukzyi "f co ci g"gxgpv0'O quv'qh'yj g"ukheqpg"tgugtxqkt" ur gelo gpu"gzj kdkgf "pq"ej cpi g"kp"r gto gcdktw{ ."gzegr v'hqt"qpg"ur gelo gp"yj cv"f gxgmr gf "hvm/f gr yj " cf j gukxg"hcknvtg"cpf "y cu"wpcdm" vq"tgvckp" y cvgt0'Vj ku"hvm/f gr yj "cf j gukxg"hcknvtg" y cu"ecwugf "d{" r qqt"ugchpi "kp"c"mecnk gf "ctgc"cmpi "yj g"lqkpv0'Vj ku"ctgc" y cu"pqv"uvhhkekgpvn{"ugcngf "f wg'\q" y g pqp/uci 'ej ctcevgtkuvkeu''qh''y g''ukrkeqpg''ugcrcpv.''rgcxkpi ''c''i cr ''y tqwi j ''y g''f gr y ''qh''y g''ugcrcpv''qpeg'' y g''ukrkeqpg''j cf ''ugv0'Vj gug''hkpf kpi u''uwi i guv''y cv''y g''ukrkeqpg''tgugtxqkt ''ur geko gpu''ctg''y g''ngcuv'' uwuegr vklng''q''f co ci g''ceewo wrcvkqp''cpf ''ctg''y g''o quv'tgukrkgpv''vq''lqkpv'o qxgo gpv'hcvki wg0

Vj g"ej cpi g"kp"gpgti { "f kukr cvkqp"ý tqwi j "gcej "ugcrcpv'y cu"cnıq "wugf "\q"cuuguu"ý g"ej cpi g" kp"r gthqto cpeg"qh"y g"lqkpv0Vj ku"y cu"f qpg"d{ "s wcpvkh{kpi "y g"tgf wevkqp"kp"y g"j { uvgtguku"nqr "ctgc" cpf "urqr g"hqt"y g"hqteg"xu"f kur neego gpv"r nqw"hqt"gcej "f guki p0Vj g"wnko cvg"tgf wevkqp"chvgt "hcvki wkpi " kp"j { uvgtguku"nqr "ctgc"hqt"y g"cur j cn/hkngf ."cur j cn/tgugtxqkt."cpf "ukrkeqpg"tgugtxqkt "f guki pu"y gtg" 5: ' ."49' ."cpf "59' ."tgur gevkxgn{0'Uko krctn{."y g"wnko cvg"tgf wevkqp"kp"j { uvgtguku"nqr "urqr g"hqt" y gug"lqkpv"f guki pu'y gtg"62' ."4: ' ."cpf "57' ."tgur gevkxgn{0'Vj ku"wi i guvu"y cv"cnj qwi j "y g"ukrkeqpg" tgugtxqkt"lqkpv"f guki p"dgeqo gu"nguu"uvkhi"cpf "nugu"yj g"cdkrkv{ "\q"f kukr cvg"gpgti { "y tqwi j "y g"dwm" o cvgtkcn'y tqwi j qwlku"hcvki vg"htg."y ku"f co ci g"ku"pqv'uvhhekgpv"gpqwi j "\q"ceewo wncvg"uki pkhecpv" cf j gukxg"treknvtg0Vj ku"ku"eqpukrvgpv'y kj "y g"hkpf kpi u"uj qy p"r tgxkqwun{"y j kej "kpf kecvgf" y cv"cur j cn/"hkngf "cpf "cur j cn/"tgugtxqkt"lqkpv"f guki p0

Vi g"f khigtgpeg"kp"ugcrcpv"gzvgpukdkrkv{ "y cu"s vcpvkhigf "d{ "eqo r ctkpi "ur geko gpu"vj cv'j cf " dggp"gzr qugf "vq"htgg| g/y cy "cpf "hcvki wg"e { engu"vq"pgy n{ "ugcngf "lqkpvu0'Vj g"pgy n{ "ugcngf "cur j cn/" tgugtxqkt"ur geko gpu"qr gpgf "4026"kp"dghqtg"hckkpi ."vj g"pgy n{"ugcngf "ukrkeqpg"tgugtxqkt"ur geko gpu" qr gpgf "20; "kp"cpf "y g"pgy n{ "hkngf "cur j cn/"hkngf "ur geko gpu"qpn{ "qr gpgf "206: "kp0'Vj g"lqkpv" qr gpkpi lemukpi 'y tqwi j qwi y g''{ gct 'hqt 'y g''UT/44 "Uo ctv'Rcxgo gpv'y cu'f gygto kpgf 'kp''cp''gctrkgt" r qtvkqp"qh'y ku'r tqlgev'\*ugg'Cr r gpf kz "E+"cpf 'y cu'hqwpf "\q"dg"dgw ggp'20262"\q"20292"kp0Dcugf "qp" y gug"gzr gtko gpvcn't guwnu. 'y gug"qr gpkpi u'y qwrf "dg"uwhke kgpvn( "rcti g"\q"hckn'y g"cur j cn/hkngf "lqkpv0" Vj g"uxtckp"cv"hcknwtg"hqt"htguj n("ugcngf "cpf "eqpf kkqpgf"ur geko gpu"y cu"cnuq"gxcnwcvgf "hqt"gcej "lqkpv" f guki p. "yj qug"dgkpi "60, "cpf "502"kp lkp"hqt"cur j cn/t gugt xqkt "ur geko gpu. "20, "cpf "306"kp lkp"hqt"cur j cn/ hknef "ur geko gpu."cpf "308"cpf "306"kp lkp"hqt"uktkeqpg"t gugt xqkt "ur geko gpu."t gur gevkxgn{0Vj g"gihgev"qp" y g'tgf wevkqp'kp''y g''qr gpkpi "cv'hcknwtg'hqt''y g''ukrkeqpg''ugcrcpv'chvgt''64''{gctu''uko wrcvgf ''ugtxkeg'hkrg'' y cu'uki pkhkecpvn{ "nguu''yi cp''yi cv'hqt''yi g''cur j cnv'ugcncpv0'Vj g''pgy n{ "ugcngf "cpf "eqpf kkqpgf "cur j cnv'' hkngf "ur geko gpu" gzj kdkgf "dqyj "cfj gukxg" cpf "eqj gukxg" hcknwtg" o qf gu0' Vj g" cur j cnv" tgugtxqkt " ur gelo gpu''qpn{ "gzj kdkgf "cfj gukxg"hcknxtg"hqt "pgy n{ "ugcngf "ur gelo gpu''dwi'gzj kdkgf "dqyj "cfj gukxg" cpf "eqj gukxg"hcknxtgu"hqt "y g"eqpf kkqpu"ur gelo gpu0Vj g"pgy n{ "ugcrgf "ukrkeqpg"t gugt xqkt "ur gelo gpu" gzj kdksgf "cfj gukxg"cpf "eqj gukxg"hcknwtg."dw/chsgt"eqpf kkqpkpi "yj g{ "r tko ctkn{ "hckrgf "kp"cfj gukqp0





# Impactful Resilient Infrastructure Science and Engineering Consortium

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Ö^]ælq(^}ơ{(-ÂÔặặAkan)åÂÔ}çã[}{ ^}ca#AÔ}\*ã;^^¦ã; ĨIGÁÔ^}^å`{ÂPaa| HĨ€€ÁUqPabaaÂÙd^^c Úãocà`¦\*@ÃÚCDÁ⊤ÍGÎF

V⊗Ag + { { (and) } A | 3) craAg Actor Ag (& ( ^) cl, an Anaza ( anc Ag Actor Ag Actor Ag A + 1 Å ) { [ ^ Par Anandoz Ag ( A + 3 ) a) craAg a Ag A + 3 ab cold ( Actor - Ananha) - Ag ( Ananha) - Ag ( Ananha) - A W g \* 1 + ar 4 ( A + Alazo + 1 + G + Ana Ana - A ( and p Anacd ) B \* - ag { ] [ ( c ) ≥ Ag + car cq ) Ê