



ÚÚÓÞÁŒÔÔÒÙÙ

ÒÖQ/ÒÖÁÓŸ Ú@ajajÁÚÈÁØ[•o^¦Ê Óæ |[¦ÁÔ[||^* ^Á; -ÁT ^å 3&3; ^ÊÁN} ãc^å ÁÛcæc^•

ÜÒXƠÒY ÒÖÁÓŸ OE*àæ)*|æÁÞ[ˇ}æ*}[}ÁØ\ˇč^`¢ÉÁ W}ãç^¦∙ãc.Áå CCEd;ã ÊÁØlæ)&^Á Tæ) * ^ |ÁÒ} ¦ã * ^ÁP^¦} æ) å^: £Á $\text{W}_{j} \tilde{\mathfrak{a}}_{j}^{\wedge} \mid \bullet \; \tilde{\mathfrak{a}} \tilde{\mathfrak{c}} \; \dot{A}_{j} \; \not = \; \dot{A}_{j} \tilde{\mathfrak{a}}_{j} \; \mid \; \tilde{\mathfrak{a}} \; \dot{A}_{j} \tilde{\mathfrak{a}}_{j} \tilde{\mathfrak{c}}_{j} \; \mid \; \tilde{\mathfrak{a}}_{j} \tilde{\mathfrak{c}}_{j} \tilde{\mathfrak{c}}_{j} \; \mid \; \tilde{\mathfrak{a}}_{j} \tilde{\mathfrak{c}}_{j} \tilde{\mathfrak{c}}_{j} \; \mid \; \tilde{\mathfrak{a}}_{j} \tilde{\mathfrak{c}}_{j} \tilde{\mathfrak{c}}_{j} \; \mid \; \tilde{\mathfrak{c}$ W}ãe^åÁÙcæe^•

EÔU ÜÜ ÒÙ ÚU ÞÖ Ò ÞÔ Ò Õ^|•^Á/[;;^•ËJçã\å[Á *^|• ^d O 1 ãœÀå

ÜÒÔÒOXÒÖÁGÍÁŒ**•dÁG€GH ŒÔÔÒÚVÒÖÆFÌÆÖ^&^{à^¦ÆŒGHÁ ÚWÓŠOÙPÒÖÁFFÁRæ) *æ'^ÁG€G

ÓQVŒVQUÞ

Šã ÁÙÊÁÜ[••[ÁOEŠÉÁÓæáj|æ;*^[}ÁÒTÉÁ Y^ã, • c^ã, ÁŒ ÊÜ[•æ) [ÁÔÁæ) åÁ V[;;^•ËUçã\å[ÁÕÁÇG€GIDÁÞ[ç^|Ásæc^}cã[}æþÁ*æãaÁ ājå^¢Á^ç^憕ÁsæÁs[*}ãnãç^ÁsæàājāĉË^|ææ^åÁ å^&|ā]^ÁsjÁ*ænanÁsèd[{ænan8anĉÁså*¦ā]*Áså*æqEcæne\Á .æl\āl*È Ø||} dÁCE*á**ÁÞ^*;||•&ÁE*É| KFGÌ HHÏ Î ÉÀ å[akkf€ÌHÌJÐ)ætaÈG€GHÈFGÌHHÏÎ

ÔUÚŸÜ**Ő**PV

îÁG€GIÁŠãÊÄÜ[••[ÊÄÓæál|æ*^[}ÊÁY^ð]•¢^ð]£Á Ü[•æn)[Áæn)åÁv[;;^•ËUçã\å[ÈÁv@āÁænÁæn)Á[]^}Ë æ&&^••Áschda&|^Ásaādāa*d°aÁ*}å^¦Ás@∙Ás^¦{•Á;√Á $c@A\hat{O}^{\dagger} = A\hat{O}^{\dagger} = A\hat$ $\stackrel{\bigcirc \circ}{(\circ)} \stackrel{\triangle \circ}{(\circ)} \stackrel{\triangle \circ}{(\bullet)} \stackrel{\triangle$ ājÁn;c@\Á(;;`{•Án;Án,^;{ãnc^åÉA;;[çãn^åÁn@A [ˈlata]aa|Ásecco@; lop DÁse)a Áso@ Á&[]^|at@A[,}^|op DÁ æ\^Á&\^åãr\åÁæ) åÁx@æxÁc@ Á\¦ātājækÁ *à|aBææāi}}Á ã Ác@áÁsi*;} ædÁás Ásaãc^å ÉÁs Ása&&; låæà & Ó ác@Á æ&&^] c^åÁæ&æå^{ &&Á¦¦æ&c&&^ÉÁÞ[Á •^ÉÁ åãrdãa ˇcā[}Á[¦Á^]¦[å ˇ&cā[}ÁsrÁ]^!{ãcc^åÁ , @a&@Ás[^•Á,[αÁ&[{]|^Á,ão@Ás@∙•^Áε^¦{•È

Ù@~~añSã ^{FÉ}PÉOE; å¦^æañSPÁU[••[ÁHÉÓ { æÁT PÉÓæán]æ;*^[}ÁPÉ OE;å¦^æÁT ÈÁY^āj•o^ājĺÊÁÔæo^¦ājæÁÜ[•æ)[⊬Áæ)å Õ^|• ^ Á/[¦¦ ^• ËUçã\å[FÊE

FÁ Ù^}•[¦ā[[d[¦ÆŠ^æb]ā]*ÆŠææb[¦ææd[|^ÊËÖ^]ædd(^}df,ÆÓā[^}*ā]^^¦ā]*ÆM}āç^¦•āčAj,ÆÚānoà*¦*@ÆÄ ^{HÁ} Ö^]ædq^}on[•ÁÖ]ãå^{ã[[*^ÊÁN}ã;^!•ãĉÁp-ÁÚãto à`¦*@ÉÁÚãto à`¦*@ÉÁÚOEÉAN,ão åんÚcæe^•ÊÁÁÖ^]ædq^}on[•Á ÍÁ Ö^]ædq ^}ơ﴿, ÁÚ•^&@ædc^ÊÛ&@[[¼í, ÁT^åä&ã; ^ÊM; ã;^!•ãc Á; ÁÚãcoà`!*@ÊÚãcoà`!*@ÊÚOŒÊM; ãc^åÁÚcæe^•

 $Qd[\mathring{a} \& Ga) \dot{A} \otimes Ga) \dot{A} \otimes$ ¦^&¦`ã(^}oÁ[-Áææc^}dã[}ædÁ}^c,[¦\•Ác]ã&æd|^Á{^åãæec^åÁc@([**@Ác@A]¦^-;|}ædÁ &[| c^¢ÁQÚØÔDĚÁÜ^å &^åÁ*æ@éæě q[{ ææãkãc ÁQŽÀĚĚÁ* | ^æe^|Á`•^Á[~Áææc^} cā[} æþÁ!^•[` | &^•Á 厦āj*Á¸æq\āj*DÁãrÁ&[{{[}}Á¸ão@Áæťāj*DÁ&[}dãaˇcāj*Áq[Áæ)Áāj&u^æe^åÁ¦ãr\Á[-Á ~a||•Áa);åÁ|^å*&^åÁ` a|acÂ[-Á|ã^EÁOEÁ&[{{[}}Áæ•^^••{^}•{^}oÁ[-Á*æãÁæčq[{ææ&ãcÂ āļc[|c^•Á^¢æ{ā}ā,*ÁÚØÔÁæ&ãçæā}}Á~•ā;*Á}^aā,*Á}-a#\åA•]^&d[•&[]^ÁÇÞŒÜÙDÁ å ' ¦ā * Áå * æļti zæ \ ÁÇÖ V DÁ] æ bæ å å { • ÊÁ• * &@Áæ Á, æl\ā * Á, @ð\^Á] ^ ¦ - ¦ { ā * ÁæÁ&| * } ã ãã ^ Á cæ\ ÈÁP[`^ç^|ÊÁ} ^ão@|ÁÚØÔÁæ&cãçãcÁ} [|Ácæ\ Á] ^|-{ | { a} &^Áã, Áã [|æaã} } Á{ ^æ* |^•Á æčq[{ææã8æ6cÂæ88&c;|æe^|^ÈÁØ[¦Á^¢æ{]|^ÊÁ*¦^æe^|ÁÚØÔÁæ86@6;ææ¶}}Á&[č|åÁà^Á4];e^\;]¦^e^åÁ æ Á, [¦•^Á*æãóÁæč of{æãò&ãcÁ, @}Áæ&&[{]æ}ðååÁà^Á][[¦^¦ÁÖVÁ]^¦-f¦{æ}&^ÉÀàčoÁ ¸@}Áæ&&[{]æjðhåÁà^Áà^œ^¦ÁÖVÁ]^¦-{¦{æj&^ÉAãóÁ&[ˇ|åÁà^Á•^^}Áæ•Á•`&&^••~`|Á &[{]^}•aeaā[}ÈÁV@•ÉÁc@\!^ÁaēÁaeá}^^aáÁq£Áa[&[;][;aec^Áà^@aea[a[;ae)4]^;-[;{ae}&^Áae]åÁ ÚØÔÁ{ ^æ•`¦^{ ^}œ•Á-{¦ÁæÁ{ [¦^Á&[{]¦^@}}•ãç^Á^çæ|; ææã[}Á[-Á*æãnÁæĕd[{ ææã&ãôÈÁ V[Áæåå¦^••Ác@áÁ}^^åÉÁ, ^Áj¦[][•^ÁæÁ}[ç^|Áææc^}cã[}æÁ*æáÁā;å^¢Áæ•Áæ;Áæ;æá;æá;æá;æá æ]] | [æ&@Ác@æÁ&[{ à j} ^• Á&@æ) * ^• Áj ÁÚØÔÁæ&cãçãc ; ãc@Á&@æ) * ^• Áj ÁÖVÁ] ^ | - [| { æ) &^ Á d Á č að cã Á á d { acada c fá acada c fá @ \^ÁæÁ \^å & ad } Á ð Á ð Á á Á á ð á ð á ð l Á ð Á \^4 \ & c å Á æ Á æ) Á§ &¦^æ•^åÁ;^^åÁ; ¦Áææ?^} æ[} æ]Á; ææÁ; ææíÁs; } d[|Á@ZÀÈÉÁæ;*^¦Á§ å^¢DÈ

T^c@|å•KÁV@Aājå^¢Á¸æ•Áçæpāāæe^åÁājÁFÏHÁ]æbcā&ājæ)•ÁÇÎÍÁ^Ð;DÁ¸@(Á&[{]|^c^åÁ ÖV•Á, ão@Áç [Á|^ç^|•Á[-Áåã-æX`|cÂ, @#^ÁÚ/2ÔÁæ&oãçæaā]}Á, æ•Á¦^&[¦å^åÁ, ão@ÁÞOÜÙÈÁ V@Ác, [ÁÖV•Á&[}•ãrc^åÁ[Á^8ããa]*Á^c^¦^Á[c@¦Á|^cc^¦Á[Áo@Áæ4]@æà^cÁ,@ã^Á,æ4\ā]*Á [ç^\Ánão@\Áse)Ánç^}Á[\Á}^c^}Án`\~æ&^È

Ü^∙ĭ|o•hÁO5eÁÖVÁåã⊷38xĭ|cîÁãj&l^æo^•ÉÁ{[l^Á]æb@38ajæ}o•Á•@{,^åÁc@∙Áæ}c38ajæe^åÁ ãa,&¦^æ•^Áāa,Ác@·Áææc^}cãa,}ædÁ&l;}d[|Á[-Á*æãaÁçãzÈEÃ|^••Áæčd;{æãã&ãcDÁæ•Á;^œ⇒`¦^åÁ à^Ác@^Á}[ç^|Áð;å^¢Á&[{]æb^åÁq[ÁÚØÔÁæ&c@çæ@a[}EÁØ~¦c@-|{[¦^ÉÁ,@}}Á&[{]æ4ð;*Á æ&k¦••Áājåãçãã ap•ÉÁ|[、^¦Á&[*}ããç^Á~}&aãj}Á、æ•Á¦^|ææ^åÁq[Á@at@\¦Áææc^}cãi]}æþÁ*æãóÁ ājå^¢ĒŠa`oÁ,[oÁÚØÔÁæ&cāçææā[}A[¦ÁÖVA],^¦-{¦{æ},&^È

Ô[}&|`•ã|}KÁV@Á]¦[][•^åÁājå^¢Áà^œ^¦Á``æ)cãa?åÁc@Áåã-~¦^}&^•ÁājÁææc^}cã[}æþÁ &[}d[|Á[-Á*ænnáÀà^c, ^^}Áœe\•Áæ)åÁā;åãçãa*æ;Áà^Á]¦[çãaā;*ÁæÁ*}ããàåÁ{ ^æ*¦^Á c@eeóÁā,8√,°å^∙Áà[c@Áà¦æā]Áæ8aã;æaā[}Áæ)åÁ]^¦-{¦{æ},8∧ÈÁV@āÁ}^, Áæ}]¦[æ&6@Á []^}•Á^¢&ãã;*Á][••ãà ãããã•Á d;Áæ•^••Á] æbaãã;æb;dē]^&ãã&Áå^-ã&ã•Áæ}åÁ&[{]æb^Á ¦^@eàajaãæeaj}}Áj`œ{[{ ^•Á¦[{Áˈæanó/seĕq[{æeã&ãcÁsje^¦ç^}cāj}•È

SÒŸY UÜÖÙ

æt āj * ĒŠ,^æt Ēj, +æt^å.Ár] ^&c[• &[] ^ĒÄ[&[{[0ā]} ĒŠ&[{{``}}āĉ Á;[àājāĉ ĒŠ&[*}āāā] ĒŠalæāj.Á ā[ætā]*ÉĀ[[d[¦Á&[]d[|ÉÁ\$]c^\|-^\^}&^

ŠãÁroÁsqÉ

FÁQ d[å * & a { }

Vj g" cdkrk{" vq" o qxg" ctqwpf" kp" vj g" eqo o wpk{" ku" guugpvkcn' hqt" kpf gr gpf gpv' rkxkpi " *Rcwc" cpf " Uj wo y c{/Eqqm" 3; ;; =" Tquuq" gv' cr0" 4235=" Uj gr r ctf" gv' cr0" 4235=" Tcpvcnqmmq" gv' cr0" 4238+0' Uweeguuhwi' eqo o wpks{" o qdkrks{" tgs wktgu" i ck/' cwqo cvkeks{" *Xcp" Uy gctkpi gp" cpf" Uwf gpurnk" 4236="Entm"gv'cr0"4236d="Dtwnkq"gv'cr0"423: +"y j kej "tglgtu" vq" vj g" cwqo cvke" eqpvtqri' qh" y cmkpi " y kj " o kpko cri' tgetwko gpv' qhi' cwgpvkqpcri' pgwy qtmu" r tko ctks{" tgulsf kpi " kp" vj g" r tglrqpvcri' eqt yz" *RHE+" *Xcp" Uy gctkpi gp" cpf "Uwsf gpurnk" 4236="Entm" 4237+0' I ckv' cwqo cvkeks{" f gerkpgu"y kj "ci g"*1 uej y kpf "gv'cr0" 4232="O qpvgtq/Qf cunq"gv'cr0" 4233=" Xcp" Uy gctkpi gp" cpf "Uwsf gpurnk" 4236="Entm" 4237+"cpf" o c{"eqpvtkdwg" vq" cp" kpetgcugf" tkumi'qhi' hcmu" *1 uej y kpf "gv'cr0" 4232="O qpvgtq/Qf cunq"gv'cr0" 4233+0' Vj gtghqtg."ki'ku'' ko r qtvcpv' vq" j cxg" c" uvcpf ctf kj gf" y c{" vq" swcpvkh{" i cki' cwqo cvkeks{" vq" j grr" gxcnvcvg" hcm' tkumu" cpf" r tqo qvg" o qdkrks{"kp"qrf gt'cf wnu0

I ck/" cwqo cyleky{" ecp" dg" gxcnycygf" d{" dgj cxkqtcri' qt" pgwtqrj {ukqnqi kecn' cuuguuo gpvu0' Vjg" dgj cxkqtcn' cuuguuo gpv" wugu" f wcn' vcum" y cmłoji " *F V." lógo" y cmłoji " cpf " r gthąto kpi " c" eqi pk.kxg" vcum" ukowncpgqwun(+"cpf"eqorctgu"vjg"rgthqtocpeg"kp"FV"tgncvkxg"vq" ukpi ng/vcum" *UV." k0g0" gknj gt" y cmnkpi " qt" r gthqto kpi " c" eqi pknkxg" vcum#" *Rown' gv' cn0" 4227+0' J ki j " cwqo cvkekv{" ku" tghngevgf " d{" uko knot" y cmkpi " *g0 0" i ckv" ur ggf " qt" vcum' eqo r rgvkqp" vko g+" cpf " eqi pkxkxg" r gthqto cpeg" kp"F V"cpf "UV"*Rcwrl'gv"cr0"4227="Dtcwpgt"gv"cr0"4243="Nqpi j wtuv'gv"cr0" 4244+0' Y j gp" y cmkpi "ku" cwqo cvke." kv" ku" cuuwo gf "vq" tgs wktg" o kpko cn' cwgpvkqpcn" tguqwtegu." tguwnkpi "kp" pq"korcev"qp" yig"rctvkekrcpv,xu" r gthqto cpeg" qp" yj g" eqi pkkxg" vcum' *Enctm" 4237+0' Vj g" pgwtqrj {ukqnqi kecn' crrtqcej " o qtg" fktgevn(" o gcuwtgu" yj g" cwgpvkqpcn' tguqwtegu" tgs wktgf " vq" eqo r ngvg" vj g" vcun0' Vj g" cwgpvkqpcn' tguqwtegu" ctg" wuwcm("s wcp\khkgf"d{"yj g"eqt\kecn'ce\kxc\kqp"qh"yj g"RHE"*J qn\| gt"gv"cn0" 4233=" Erctm" 4237=" J gtqrf " gv" cr0" 4239=" O gpcpv" gv" cr0" 4242+" wukpi " pqp/kpxcukxg" dtckp" ko ci kpi " vgej pqnqi kgu" uwej " cu" hwpevkqpcn" pgct/ kphtctgf "ur gevtqueqr { "*hP KT U+0

FV" retefki o u" kpvgi tevgf" y knj " hP KTU/deugf" RHE" o geuwtgo gpvu" rtqxlfg"c" wughwrl cxgpwg"vq"cuuguu"ickv"cwqocvlekv{0'Jqygxgt."kv"ku" ej crigpi kpi "vq" kpvgtr tgv" RHE" o gcuwtgo gpvu" cpf "vcuni r gthqto cpeg" kpf gr gpf gpvn(" f vtkpi " cwqo cvkekv(" cuuguuo gpvu0' Ur gekhlecm(." c" uo cm' ej cpi g"kp"RHE"cevkxcvkqp"htqo "UV"vq"FV"j cu"qrrqukpi "kpvgtrtgvcvkqpu" f gr gpf kpi " qp" vcum' r gthqto cpeg0' P co gn(." c" uo cm" kpetgcug" kp" RHE" cevkxcvkqp" crqpi ukfg" i qqf" vcum' rgthqto cpeg" o c{" kpf kecvg" j ki j " cwqo cvkeks{" *Dgwtungpu" gv" cr0" 4236=" Erctm" 4237=" O ktgro cp" gv" cr0" 4239+0' Kp" eqpvtcuv." y j gp"c"uo cml'kpet gcug"kp"RHE "cevkxcvkqp"ku"eqwr ngf" y k.j "rqqt" wumi'rgthqtocpeg."kv"eqwrf" kpf kecvg" kpghhkekgpe{"kp"tgetwk kpi" pgwtcn" tguqwtegu" qt" yj g" vcum" ku" dg{qpf "ecr cekv{" *J qn/ gt" gv" cn0" 4233=" Dgwtungpu"gv"cn0"4236+:"cu"uwi i gurgf "d{"vj g"ETWPEJ "o qf grl"*Tgwgt/" Nqtgp| "cpf" Ecrrgm" 422: +0" Ulo krctn(."c" rctig" kpetgcug" kp" RHE "cevkxcvkqp" htqo "UV" vq" FV" {kgrf u" f khhgtgpv" kpvgtr tgvcvkqpu" eqpvkpi gpv" qp" vcuni rgthqtocpeg0" C" nctigt" kpetgcug" kp" RHE" cevkxcvkqp" rcktgf" y kj " o ckpvckpgf" vcum" r gthqto cpeg" eqwrf" ko r n(" uweeguuhwn" eqo r gpucvkqp" *Enetni'gv'cn0"4236d="J qn\| gt"gv'cn0"4237="O ktgm cp"gv'cn0"4239+"htqo " $\hbox{RHE" hqt" qyj gt" dtckp" tgi kqpu" y j qug" uvtwewtgu" cpf " kpvgi tkkgu" j cxg"}$ f genkpgf " y kij " ci kpi ." cu" uwi i guvgf " d{" ugxgtcn" yi gqtkgu" uwej " cu" yi g" J CTQNF" cpf" UVCE" o qf gnu" *Ecdg| c." 4224=" Tgwgt/Nqtgp| " cpf" Ecrrgm"422: = "Rctm"cpf" Tgwgt/Nqtgp|."422; = "Ockngv"cpf" Tclcj."4235 = "Cockngv"cpf" Tclcj."4235 = "Cockngv"cpHgwtqy "gv" cn0" 4243+0' Eqpxgtugn(." y j gp" c" ncti g" kpetgcug" kp" RHE" cevkxcvkqp" ku" r cktgf " y kyj " r qqt" vcum' r gthqto cpeg." kv" eqwrf " tgrtgugpv" wpuweeguuhwrleqo r gpucvkqp"\"Enctn'lgv'cn0"4236c="Hrcugt "gv'cn0"4238=

Quqhwpf k(c" gy" cri)" 4238=" O ktgro cp" gy" cri)" 4239+" qt" f gf khtgtgpvkcvkqp." kQ0" pqp/vcum'ur gekhle" qxgtcevkxcvkqp" *Ecdg| c." 4224=" Ecdg| c" cpf" F gppku."4234="Hguklpk"gy"cri)"423: ="Hgwtqy "gy"cri)"4243+6"Vj gtghqtg." yj gtg" ku" c" pggf" vq" eqpukf gt" RHE" cevkxcvkqp" cpf" vcum' r gthqto cpeg" uko wncpgqwun("vq"ej ctcevgtk/ g'i ck/"cwqo cvkek/ "o qtg"ceewtcvgn(0

I kxgp" yj g" kpvgttgrcvkqp" qh" RHE" cevkxcvkqp" cpf " dgj cxkqtcn' r gthqto cpeg." cpcn(| kpi " yj go " vqi gyj gt" o c{" r tqxkf g" c" o qtg" eqortgj gpuk
xg" o gcuwtg" qh
" cp" kpf kxkf wcm²u" i ckx" cwxqo cvkekx{" yj cp" gzco kpkpi "gknjgt" crqpg0' Vq" cfftguu" vj ku" pggf." y g" rtqrqug" c" pqxgrl' cwgpwlqpcn"i ckv"kpf gz"vj cv"eqo dkpgu"RHE"cevkxkv{"cpf"FV"r gthqto cpeg" vq" s wcpvkh{" i ckv" cwvqo cvkekv{0' Ur gekhlecm{." c" rcti g" kpf gz" tgr tgugpvu" c" itgcvgt" pggf "hqt" cwgpvkqpcn" eqpvtqn" fwtkpi "ycmkpi" y jgp" cwqocvkekv{" ku"eqortkugf 0'Vjg"qdlgevkxg"qh"vjg"uwnf{"ycu"vq"vguv'vjg"cdknkx{"qh"vjg" kpfgz" vq" f kthgtgpvkcvg" vjg" ejcpig" kp" cwvqo cvkekv{" *3+" dgvyggp" vcumu" y kyj kp" vj g" uco g" r ctvkekr cpvu" cpf " *4+" dgwy ggp" r ctvkekr cpvu0' Hqt " qdlgevkxg" 3." vq" eqo r ctg" dgwy ggp" vcumu." y g" eqo r wygf " vj g" cwgpvkqpcn' i ckv" kpf gz" kp" qrf gt" r ctvkekr cpvu" * $\overline{}$ 87" { gctu" qh" ci g." p" ?" 395+" y j q" eqorngvgf" yq"fkhhkewn {"ngxgnu"qh"FV0"Yg"gzrgevgf" c"jkijgt" cwgpvkqpcn" i ck/" kpf gz." kpf keckkpi " y qtug" cwqo ckkek/{." cv" i tgcvgt" rgxgru" qh" vcum' f kthkewn (0" Hqt" qdlgevkxg" 4." vq" eqorctg" dgwyggp" rct vkekrcp vu." yg" vgungf" kh" cp" kpf kxkf wcnøu" eqi pkskxg" cdkrkskgu." o gcuvstgf "d{" O kpk/O gpvcn" Uvcvg" Gzco "ueqtgu." y gtg" tgncvgf "vq" cwvqo cvkekv{0' Y g" cpvkekr cvgf "vj cv' dgvvgt" eqi pkskxg" cdkrkx{" y qwrf " dg" eqttgrcvgf " y ksj " c" rqy gt" cwgpvkqpcrl' i cks/' kpfgz"*l0g0"dgwgt"cwqocvkekv{+"cpf"vjcv'cuuqekcvkqpu"yqwrf"dg"uvtqpigt" hqt" yj g" cwgpvkqpcn" i ckv" kpf gz" eqo r ctgf " vq" gksj gt" dgj cxkqtcn" qt" pgwtqrj {ukqmi kecn'o gcuwtgu'cmpg0

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O kpk/O gpvcn' Ucvg'' Gzco '' *O O UG+'' c'' eqo o qpn('' wugf'' uetggpkpi '' kputwo gpv'' hqt'' eqi pkskxg'' ko r ckto gpvu'' *Hqnrvgkp'' gv'' cnî'' 3; 97+0' Vj g'' Rtqi tco '' vq'' Koʻrtqxg'' O qdktsv('' kp'' Ci kpi '' uwwf {'' cfo kpkrvgtgf'' yj g'' O qfkhlyf'' O kpk/O gpvcn'' Ucvg'' *5O U+'' Gzco kpcvkqp'' *Vgpi '' cpf'' Ej wk'' 3; 9+'' yj kej '' ku'' cp'' gzr cpf gf '' xgtukqp'' qh'' yj g'' O O UG'' cpf '' kpenwf gu'' cm'' kgo u'' qh'' O O UG'' *Xcp'' Rcwgp'' gv'' cnî'' 423; +0' Hqt'' eqpukuvgpe{'' cetquu'' uwwf kgu.'' O O UG'' ueqtgu'' y gtg'' f gtkxgf'' htqo '' yj g'' 5O U'' kp'' yj ku'' uwwf {'' d {'' gzvtcevkpi ''qpn(''kgo u''gs wkxcrgpvt'q''yj g''O O UG0

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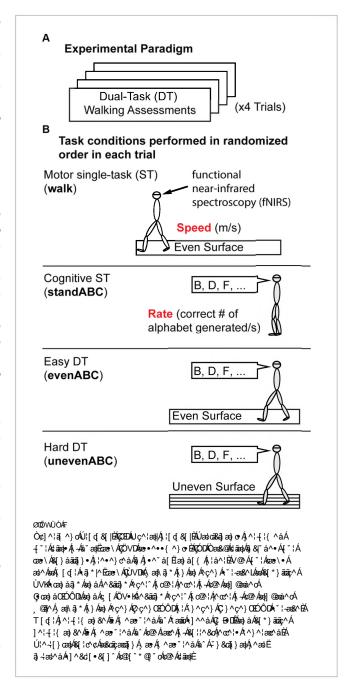
Rct vkekr cpvu" r gthqto gf "ukpi rg" qt "f wcn' vcumu" qp "cp" qxcn' vtcem' y kyj " c" 37/o gvgt" uvtcki j v' y cmy c{" qp" gcej " ukf g0' Qpg" ukf g" j cf " c" uvcpf ctf " uwthceg" *gxgp+." cpf" yj g" qyj gt" ukf g" j cf" y qqf" r tkuo u" wpf gtpgcyj " ectr gw" *wpgxgp=" Vj kgu" gv' cn0" 4227=" J qr r gu" gv' cn0" 4242+0' Cm' rctvlekrcpvu" rgthqto gf "hqwt" gzrgtko gpvcn" vtkcnu." cpf "gcej "vtkcni" $\label{thm:linear} $$ \operatorname{linear} (x) = \operatorname{linear} (x) + \operatorname{line$ j gtg < y q "ukpi rg" vcumı" *UV+" cpf " y q" f wcn' vcumı" *F V+" *Hki wtg" 3+0' Vj g" qtf gt" y cu" r ugwf q/tcpf qo l\ gf" uwej " yj cv" y cmhpi " eqp\hpwgf " cmpi " yj g" qxcrl" vtcen0" Ukpi rg" vcumu" kpenwf gf " c" o qvqt " ukpi rg/vcum" y crmkpi " cv' c"eqo hqtvcdrg"r ceg"qp"cp"gxgp"uwthceg"*y cm#."cpf "c"eqi pkkxg"ukpi rg/ vcum" uvcpf kpi " y j krg" tgekskpi " gxgt { " qvj gt " rgwgt " qh' vj g" crr j cdgv' uvet kpi "htqo "D" *uvepf CDE="J qnk gt" gv" cn0" 4233="Dtcpf rgt" gv" cn0" 4234=" $Xgti\;j\;gug"\;gv"\;cn0"\;4234+0"\;Vj\;g"\;ukpi\;rg"\;vcumu"\;y\;gt\;g"\;wugf\;"\;cu"\;c"\;tghgtgpeg"\;vq"$ eqo r wg" yj g" ej cpi g" kp" r gthqto cpeg" f wtkpi " F V" vq" ceeqwpv" hqt" yj g" f khigtgpv" deugrkpg" edkikkgu" qh" geej "retvkekrepv0" Vjg" FV" eqpf kkqpu" tgs wktgf" rgthqto kpi " yj g" eqi pkkxg" vcum" y j krg" y cmkpi " qp" gxgp" *gxgpCDE+" qt" wpgxgp" uwtfregu" *wpgxgpCDE+0' P q" kpuvtwevkqp" y cu" i kxgp" cdqwv" y j kej " vcum" vq" r tkqtkxkt g0' Vj g" wpgxgpCDE" eqpf kxkqp" y cu" eqpukf gtgf " c" j ctf gt " F V" eqpf kkqp" yj cp" yj g" gxgpCDE " dgecwug" qh" yj g" kpetgcugf" ej cmgpi g" qh" dcmpekpi " cpf" y cmkpi " qp" vj g" wpgxgp" hqqt'uwthceg0

Vj g" wun'f wte ktpp" y cu" 42" u" htt" uwepf CDE0' Vj g" f wte ktpp" htt" yj g" o qvqt" UV" *y cmm" cpf " dqvj " F Vu" *gxgpCDE" cpf " wpgxgpCDE+" xctkgf" fgr gpf kpi " qp" yj g" vko g" yj g" ret kekr cpv' vqqni vq" y cmi' qxgt" yj g" 37" o " uvteki j yy c{0'Gxgt {"eqpf kktp" y cu"r tgegf gf "d{"c"s wkgv'uvepf kpi "htt"42"u" y j gtg" r ct kekr cpvu" y gtg" uko r n{" kput wevgf " vq" uvepf " ukni' cpf " pqv' f q" cp{ yi kpi 0' Vj g" s wkgv' uvepf kpi " cmqy gf " yj g" j go qf {pco ke" tgur qpug" vq" tgwrp" vq" tguv' rgxgn' uvej " yj cv' tgre kxg" ej cpi gu" kp" qz {i gpc ktp" qh" yj g" dmqf" eqwrf" dg" eqo r wygf " htt" gcej " vcum' eqpf kktp" eqo r ctgf " vq" s wkgv'uvepf kpi 0

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 $O\ qvqt"r\ gthqto\ cpeg"y\ cu"s\ wcpvkhkgf"d\{"i\ ckv"ur\ ggf"*o\ ku+0'I\ ckv"ur\ ggf" ku''eqo\ r\ wgf"cu"'y\ g"f\ kncpeg"*37"o\ +"f\ kxkf\ gf"d\{"'y\ g"'klo\ g"'klo\ g"kl''vqqn''vq"y\ cm''\ y'\ g"\ 37/o\ gvgt"\ y\ cmy\ c\{."\ y\ j\ gtg"\ klo\ g"\ y\ cu"\ o\ gcuwtgf"\ d\{"\ c"\ uvqr\ y\ cvej\ 0'\ Eqi\ pkkxg"r\ gthqto\ cpeg"\ y\ cu"\ s\ wcpvkhkgf"\ d\{"'y\ g"'tcvg"'qh''\ eqttgev''\ ngwgtu'u+0'\ Cxgtci\ g"\ o\ qvqt"\ cpf''\ eqi\ pkkxg"r\ gthqto\ cpeg"\ hqt"\ gcej\ "\ eqpf\ kkqp''\ cetquu''\ y'\ g"'\ hqwt''\ vtkcm'ku'tgr\ qt\ yf\ 0$

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y qtg" cp" gki j v'ej cppgn" eqpvkpwqwu" y cxg" hP kTU" j gcf dcpf " *Qexco qp." Ctvkpku" O gf kecn" U{uvgo u." P gyj gtrcpf u+" qxgt" yj gkt" hqtgj gcf "f wtkpi " yj g" gpvktg" gzr gtko gpv0' Vj g" j gcf dcpf " eqpvckpgf" wy q" f gvgevqtu" cpf " gki j v" uqwtegu" y kyj "c" uqwteg" cpf " f gvgevqt" r ckt" f kncpeg" qh" 57" o o " eqxgtkpi " dqy " yj g"rghv'cpf "tki j v'RHE" tgi kqpu "ur gekHecmf "Dtqf o cpp" ctgcu"; ."66." 67." cpf " 68" *J qr r gu" gv' cn0" 4242+0' Vj g" egpvgt" qh" yj g" j gcf dcpf " y cu" cnki pgf "y kyj "yj g" egpvgt" qh" yj g" r ctvkekr cpvxu" pqug." cpf " yj g" dqwqo "qh" yj g" j gcf dcpf " y cu" lwuv' cdqxg" yj g" g{ gdtqy " *Dqj mng" gv' cn0" 4245+0' P q" uj qtv' ugr ctcvkqp" ej cppgn" y cu" cxckrcdng" kp" yj g" gs wkr o gpv." cpf " r j {ukqnqi kecnf' cpf " gz vtceqtvkecnf' pqkugu" y gtg" cf f tguugf " uvcvkukecmf " *Ugg" 466" hP kTU" F cvc" Cpcn{uku+0' P gct/kphtctgf " nki j v' vtcpuo kvgf " cv' : 72" po " cpf "982" po " y cu" wugf " vq" f gvgev' ej cpi gu" kp" J dq" cpf " J dt0' F cvc" y gtg" uco r ngf " cv' 32" J | "cpf "eqmgevgf" d{ "yj g" Qz {Uqhv'uqhy ctg" *Ctvkpku" O gf kecn'U{uvgo u." P gyj gtrcpf u+0

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 $\label{eq:control} J\ dq"\ qhsp"\ j\ cu"\ c"\ untqpi\ gt"\ uki\ pcn'vq/pqkug"\ tcvkq"\ ^*O\ gpcpv'\ gv'\ cn0"$ $4242+"cpf."\ vj\ gtghqtg."\ y\ cu"wugf\ "cu"\ vj\ g"\ o\ ckp"\ o\ gcuwtg"\ qh''RHE\ "cevkxcvkqp"$ $hqt"\ vj\ g"\ tgo\ ckpf\ gt"\ qh''\ y\ g"\ tsvkerg0'\ J\ qy\ gxgt."\ vj\ g"\ uco\ g"\ crrtqcej\ "crrhquu"\ vq''\ dqv'\ "\ dq''\ cpf''\ J\ dt''\ o\ gcuwtgo\ gpvu0'\ Vj\ g''\ tguwnu'\ qh''\ ecrewrevkpi\ "\ vj\ g''\ kpf\ gz''wukpi\ ''\ J\ dt''\ ctg''\ hpenwf\ fg''\ 'kp''\ Uwrr ngo\ gpvut {\ ''o\ cvgtkcnu0'}$

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 $Vj\ g"\ i\ qcn'\ qh'\ ij\ g''\ cwgpvlqpcn'\ i\ cks''\ kpf\ gz''\ kn''\ q''\ etgcvg''\ c''\ ulspi\ ng''\ o\ qpqvqpke''\ czku''\ ij\ cv''\ eqo\ dkpgu''\ r\ gthqto\ cpeg''\ cpf''\ RHE''\ cevkxcvlqp.''\ y\ j\ gtg''c''nti\ gt''kpf\ gz'''\ km''cny\ c\{u''tgrtgugpv''c'''\ itgcvgt''pggf'''hqt''cwgpvlqpcn''\ eqpvtqn''\ fwtkpii''\ y\ cmkpi.'''\ kpf kecvkpi'''\ y\ qtug'''\ cwqo\ cvkek\{0''\ Y\ qtug'''\ cwqo\ cvkek\{0''\ ku''\ tghrgevgf''\ d\{0''\ vqtg'''\ kpvgthgtgpeg'''\ dgy\ ggp''\ fwcn''\ vcunu''\ y\ j\ gtg''\ j\ g\{'''\ eqo\ r\ gvg'''\ hqt'''\ y\ g'''\ uco\ g'''\ cwgpvlqpcn''\ tguqwtegu'''' Rcwn''\ gv''\ cn'''\ 4227+'''\ ngcf\ kpii''\ vq'''\ f\ getgcugf'''\ vcun''\ r\ gthqto\ cpeg'''\ cpf'''\ kpetgcugf'''\ tgetwko\ gpv'qh''cwgpvlqpcn''tguqwtegu'''' kQ0'''\ ki\ j\ gt''RHE''cevkxcvlqp+0$

Vj g" cwgpvlqpcn" i clv" kpf gz" eqo dkpkpi " eqtvlecn" cevkxcvlqp" cpf " r gthqto cpeg"ku"f gkkpgf "cu"vj g'hqmqy kpi <

Cwgpvkqpcn'I ckv'Kpf gz'MA ckp'' $ARHE_{Cevkxcvkqp}$

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y j gtg'I ckp'M $\c Rgthqtocpeg$ D $\c Rgthqtocpeg$

 M_h^A {r gtr ctco gygt "tgi wrcykpi "yj g"ko r cev"qh' a Rgthqto $c\ddot{p}eg$ "qp "yj g"C wgpykqpcn"I cky"kfof gz

UV"? "ukpi ng/ cum'eqpf kkqpu" "y cm'qt "ucpf CDE+FV"? "f wcn' cum'eqpf kkqpu" "gxgpCDE "qt "wpgxgpCDE+Urggf" "'i ckr'urggf" "b.::"o gcuwtgu" o qvqt "r gthqto cpeg

Tcvg"? "tcvg"qhl'eqttgev'rgwgtu"qhl'crr j cdgv'i gpgtcvgf "*rgwgtulu+:"o gcuwtgu'eqi pkkkg"r gthqto cpeg0

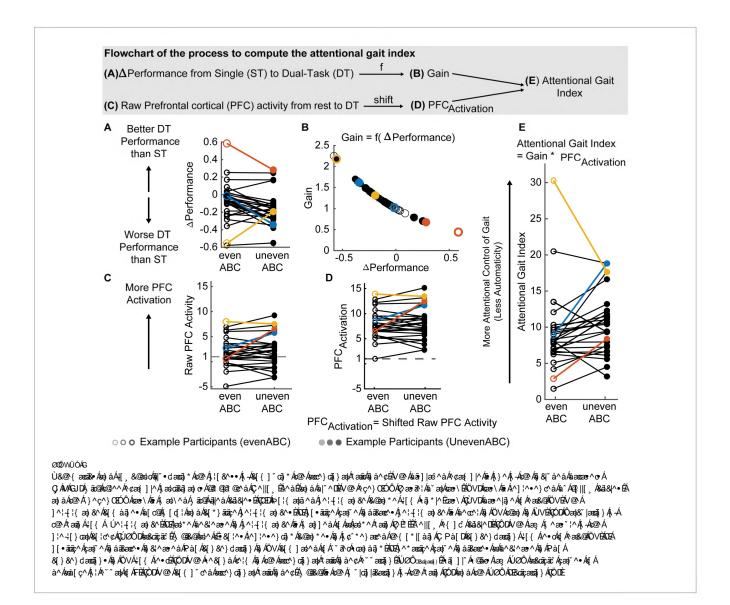
Vjg"cwgpvkqpcn'ick/'kpfgz"ku"igpgtcvgf"d{"uecnkpi"RHEceukscukqp"ykyj" c"ickp"yjcv'ku"c"hwpevkqp"qhl"yjg"j{rgtrctcogvgt." Á"cpf"rgthqtocpeg" ejcpig." Rgthqtocpeg" *Gs0'3+0'Hkiwtg"4"fgoqpuvtcvgu"yjg"rtqeguu"qhl"eqorwkqpi"yjg"cwgpvkqpcn'ickv'kpfgz"wukqpi"qpg"qhl"yjg"fcvcugvu"ykyj"yjtgg"gzcorng"rctvkekrcpvu"jkijnkijvgf"vq"xkuwcnklg"yjg"vtcpuhqtocvkqp"qh'yjg"fcvc0

 $Vj\ g"\ r\ gthqto\ cpeg"\ ej\ cpi\ g."\ f\ gpqvgf"\ cu"\quad Rgthqto\ cpeg"\ *Hi\ wtg"\ 4C+"$ $ku"\ eqo\ r\ wgf"\ cu"\ vj\ g"\ eqo\ dkpgf"\ ej\ cpi\ gu"\ kp"\ eqi\ pkkxg"\ cpf"\ o\ qvqt"$ $r\ gthqto\ cpegu"\ htqo\ "UV"\ vq"F\ V."\ pqto\ crk!\ gf\ "vq"r\ gthqto\ cpeg"\ kp"f\ qo\ ckp/$ $ur\ gekhle"\ UV"\ *uvcpf\ CDE"\ cpf''\ y\ crm''\ tgur\ gekxgpf."\ Gs\ 0'\ 3+0'\ Vj\ g"$ $pqto\ crk!\ cvkqp''\ ceeqwpw''\ hqt''\ kpf\ kkf\ wcn''\ f\ khtgtgpegu''\ kp''\ y\ crmkpi''\ ur\ ggf'''\ cpf''\ o\ qvqt'''$ $r\ gthqto\ cpeg''\ vr''\ dcugrkpg0'\ Eqi\ pkkxg''\ cpf'''\ o\ qvqt'''$ $r\ gthqto\ cpegu''\ ctg''\ y\ gki\ j\ ygf''\ gs\ wcm(''\ kp'''\ Rgthqto\ cpeg''\ vq''\ ceeqwpv''\ hqt'''$

y g" f kthgtgpv" uvtcvgi kgu" go r rq{gf" d{" yi g" r ctvkekr cpvu" f wtkpi " f wch' vcurkpi " ukpeg" pq" ur gektke" r tkqtkkk cvkqp" kpuvtwevkqp" y cu" i kxgp" *Xgti j gug"gv"cr0"4229="[qi gx/Ugrki o cpp"gv"cr0"4232="Nci wµ/Dgcwxcku"gv" cr0" 4237=0' Uwf kgu" y kj " r tkqtkkk cvkqp" kp" yi g" kpuvtwevkqp" uj qwrf" eqpukf gt" y gki j vkpi " yi g" o qvqt" cpf" eqi pkkxg" r gthqto cpeg" f kthgtgpvn(0' Vj g"f ghkpkkqp"qh" Rgthqto cpeg"ku"uko krct"vq"f wcn'vcurn'equv"kp"gzkndpi "rkxgtcwxtg" *Dtcwpgt" gv' cr0" 4243="Nqpi j wtuv" gv' cr0" 4244=0' C" o qtg" pgi cvkxg" Rgthqto cpeg" xcnxyg" kpf kecvgu" r gthqto cpeg" y cu" y qtug" *Mg0" r ctvkekr cpvu" y crngf" urqy gt" cpf kqt" i gpgtcvgf" kgy gt" eqttgev' crrj cdgv' rgwgtu+" f wtkpi " F V" eqo r ctgf" vq" UV0' Eqpxgtugn(." c" r qukkxg" Rgthqto cpeg"tgrtgugpwi'dgwgt"r gthqto cpeg"kp"F V'eqo r ctgf "q"UV0

C"pgi cvkxg"uki p"y cu" cf f gf "dghqtg" Rgthqto cpeg" *Gs 0' 3+" dgecwug" y g"gzr gevgf 'r gthqto cpeg 'vq'f getgcug'f wt.lpi "F V" *Ng0" Rgthqto cpeg

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Ö'2="Hki wtg"4C." o clqtkv{ "qh"f cvc"r qkpvu">"2+0"Vj g"pgi cvkxg" Rgthqto cpeg" tghrgevu" eqi pkkxgóo qvqt" kpvgthgtgpeg" f vtkpi "FV." y j kej "ku" gzr gevgf "kp" r qr wrcvkqpu"y j gtg"i ck/'cwvqo cvkckv{ "ku"tgf vegf." 'uvvej "cu"qrf gt"cf wrw0

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ugpukkxgn("f kuetko kpcvg" dgwy ggp" r ctvkekr cpvu" y kyj "f getgcugf" tcvj gt" yj cp"kpetgcugf" F V" r gthqto cpeg." cu"f getgcugf "r gthqto cpeg" y kyj "kpetgcukpi "vcumi ej cmgpi g"ku"gzr gevgf "cpf"ku"r ctvkewrctn("t grgxcpv'kp" yj g"r ctvkekr cpv' r qr wrcvkqpu" y j gtg" i ckv' cwqo cvkekv("ku"o quv'ahæp'nwf kef 0

Qwiligtu" y gtg" f glipgf" cu" xcnwgu" o qtg" yj cp" yj tgg" uecngf " o gf lcp" cduqnwg" f gxlcvlqpu" ltqo " yj g" o gf lcp." y j lej " lu" c" tqdww" o gcuwtg" qh" f lur gtulqp" cpf " qwiligtu" *Ng{u" gy" cn0" 4235+0' Vj g" qdlgevlxg" hwpevlqp" xcnwg"y cu"gxcnwcygf "hqt" ÁŽ.7Á/y kj "208" kpetgo gpvu0' Vj g"qr vlo cn' Á y cu'ej qugp"cu'yj g"uo cmguv" "ýj cv'o czło kj gu'yj g"qdlgevlxg'hwpevlqp0

 $\label{eq:cv''y} Cv''y g'''uvctv''qh''y g'''uyctej "tcpi g''* $$ $$ $$AM$$ 2+"y g''' ckp"'ttqo "Rethqto cpeg" ku'' gs wcn'' vq'' y g'' cwgpvkqpcn'' i cky'' kpf gz'' ku'' gs wcn'' vq'' y g''' RHE''' cevkxcvkqp." y j kej '' ku'' y g'' ewttgpv'' uvcpf ctf '' kp'' y g''' hkgrf 0' Vj g''' wrr gt''' dqwpf '' qh'' y g''' ugctej '' tcpi g'' $$ $$AM$''' y cu'' ej qugp'' j gwtknkecm('''' hqt''' y g'''' eqo dkpgf '' f cvcugv0' P qvkeg'' y cv'' y g''' ugctej '' tcpi g'' cpf '' qr vko cn'' ''' xcnwg''' $$$

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hqwpf" ctg" ur gelthle" vq" yi g" ewttgpv" f cvcugv." dwv" yi g" qdlgevlxxg" hwpevlqp" *Cs 0' 4+" cpf" yi g" qr vlo k| cvlqp" r tqegf vtg" ecp" dg" crr nlgf" vq" cp{" gzr gtlo gpvcn"f guki p'y kyi "yy q"ngxgnn"qh"F V"f khhlewnklgu0

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Y g" uj khogf " cm' RHE" cevkxcolop" xcnoogu" d{" vj g" o koko wo " xcnoog" cetquu"r ctvkekr cpvu"cpf "vcumu"cpf "vj gp"kpenvf gf "cp"qhhugv"* ÅVÅ3+"uwej " yj cv" yj g" o kpko wo "RHE" cevkxcvkqp" y qwrf "dg" f khhgtgpv" yj cp" | gtq" *Gs 0' 5+0' Vj ku" y cu" f qpg" vq" mggr " vj g" cwgpvkqpcn" i cki' kpf gz" *vj g" uecngf " RHE" cevkxcvkqp+" o qpqvqpke" y j krg" o ckpvckpkpi " yi g" tgrcvkxg" f khhgtgpeg" kp" RHE" cevkxcvkqp" cetquu" r ctvkekr cpvu0' P qvkeg" vj cv' Gs 0' 5" ku" c" rkpgct" qr gtcvkqp0' Vj wu." vj g" ur gekhke" xcnwg" qh" "f qgu" pqv" ko r cev" vj g" tguwnwu0' Kp" yi ku"ecug." y g"ej qug" "? "3"hqt"uko r nkekx{"*Hki wtg"4F+0'Ukpeg" yi g"uj khx' grko kpcvgu" vj g" uki p" qh" J dq" ej cpi gu." qwt" o gcuwtg" ecppqv" f gvgto kpg" j qy "vjg"cwgpvkqpcn'i ckv'kpfgz"ejcpigu"yk j "tgurgev'vq"tguv0'J qygxgt." ky" o ckpvckpu" vj g" tgrcvkxg" f khhgt gpegu" dgwy ggp" vcumu" y ksj kp" c" r ctvkekr cpv" cpf "cetquu" r ct wekr cpvu0' Kp" qvj gt" y qtf u." vj g" nkpgct" qr gtc wqp" f qgu" pqv" ko r cev" yj g" i qcn" qh" yj g" cwgpvkqpcn" i ckv" kpf gz." y j kej " ku" vq" eqo r ctg" vcumu" cpf "kpf kxkf wcm0' C" j ki j gt" xcnwg" dghqtg" qt" chwgt" vj g" uj khwlpi " y km1' cny c{u'tgrtgugpv'o qtg'RHE 'cevkxcvkqp'f wtkpi 'vj g'vcun0

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Hki wtg"4"f go qpuvtcvgu" yj g"hnqy ej ctv"hqt"eqo r wklpi "yj g"cwgpvkqpcn" i ck/lkpf gz "wukpi "qpg"qh" yi g" yi tgg"kpenxf gf "f cvcugvu0'Vj g"dnxg"r ct klekr cpv' ku"c"v(r kecn'gzco r ng"vj cv'dgj cxgu"cu"y g"gzr gevgf "htqo "vj g"vcum'f guki p0' Cu" vcum" f khhkevm (" kpetgcugf." yj g" dnwg" r ct wkekr cp wu" r gthqto cpeg" f getgcugf " *Hki wtg" 4C." pgi cvkxg" urqr g+" cpf " RHE" cevkxcvkqp" kpetgcugf " *Hki wtgu" 4E.F." r qukkkxg" umqrg+:" uwi i guvkpi " yjg" jctfgt" vcum' jcf" o qtg" kpvgthgtgpeg"dgvy ggp"y cmhpi "cpf" vj g"cn j cdgv' vcumu "cpf "tgs whtgf "o qtg" cwgpvkqpcn" tguqwtegu0' Kp" qvj gt" y qtf u." vj g" j ctf gt" vcum' y cu" r gthqto gf " y kj "j ki j gt" cwgpykapen' eapytan" k0g0" rguu" cwaqo cykeky{0' Cu" c" tguwnx." yj g" $j\ ctf\ gt"\ vcum"j\ cf"\ c"\ rcti\ gt"\ cwgp\ vqpcn"i\ ck'\ lpf\ gz"\ "Hki\ wtg"\ 4G.\ 'r\ qukkkxg"\ unqr\ g+0'$ $\label{lem:condition} \begin{tabular}{ll} $\begin{tabular}{ll} \begin cpf "f getgcugf "RHE"cevkxcvkqp"*Hki wtgu"4E.F+"cu"vj g"vcum'dgeco g"j ctf gt." uwi i gurkpi " vj g" j ctf gt" vcum' y cu" r gthqto gf " y knj " ko r tqxgf " cwqo cvkekv{" *Hki wtg" 4G." mgy gt" xcnwg" kp" cwgpvkqpcn' i ck/" kpf gz" hqt" vj g" j ctf gt" vcum+0' Vj ku eqwrf "tguwrw" htqo "yj g"r ctwlekr cpv 'pqv 'dgkpi "hwrn("gpi ci gf "kp" yj g" gcu{ '\cum'qt '\j g''qxgtcm'\cum'f guki p''pqv''dgkpi ''ej cmgpi kpi ''gpq\wi j 0

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F go qi tcr j keu." eqi pkkkg" vguv' tguvvnu." eqi pkkkg" cpf " o qvqt" vcuni' r gthqto cpegu." cpf " hP KTU' o gcuvtgo gpvu" qh" RHE" cevkxcvkqp" kp" f wcn' vcunu"ctg"uj qy p"hqt"uj g"hwni'uco r ng"kp"Vcdng"30'Co qpi "vj g"44"pqp/y j ksg" r ctvkekr cpvu." qpg" r ctvkekr cpvv' kf gpvkklgf " cu" Cukcp." qpg" kf gpvkklgf " cu" Co gtkecp" Kpf kcp" qt" C ncuncp" P cvkxg." 3; " kf gpvkklgf " cu" D ncem" cpf " qpg" kf gpvkklgf " cu" o kzgf " qt" qvj gt" tceg0' Co qpi " vj g" r ctvkekr cpvu" y kyj " gf wecvkqp" nguu" vj cp" qt" gs wcn' vq" j ki j " uej qqn" qpn(" qpg" r ctvkekr cpvxu" j ki j guv'ngxgn'qh'gf wecvkqp"y cu'nguu'vj cp"j ki j "uej qqn")

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J dq'htqo 'tguv''q''wpgxgpCDE''*\/vuc\u+	3Q; "Õ5046	

 $Cm''' cvc''ctg''uj \ qy \ p''cu''o \ gcp''' \ \dot{\mathbf{A}} F \ ''gzegr \ ''hqt''ugz.''y \ j \ lej \ ''hu''dlpct \{.''cpf \ ''ccg''cpf \ ''j \ ki \ j \ guv''gxgri'qh''gf \ wecvlqp.''y \ j \ lej \ ''ctg''ecvgi \ qtlecr0 \ ''ccg''cpf \ ''j \ ki \ j \ guv''gxgri'qh''gf \ wecvlqp.''y \ j \ lej \ ''ctg''ecvgi \ qtlecr0 \ ''ccg''cpf \ ''j \ ki \ j \ guv''gxgri'qh''gf \ wecvlqp.''y \ j \ lej \ ''ctg''ecvgi \ qtlecr0 \ ''ccg''cpf \ ''j \ ki \ j \ guv''gxgri'qh''gf \ wecvlqp.''y \ j \ lej \ ''ctg''ecvgi \ qtlecr0 \ ''ccg''cpf \ ''j \ ki \ j \ guv''gxgri'qh''gf \ wecvlqp.''y \ j \ lej \ ''ctg''ecvgi \ qtlecr0 \ ''ccg''cpf \ ''j \ ki \ j \ guv''gxgri'qh''gf \ wecvlqp.''y \ j \ lej \ ''ctg''ecvgi \ qtlecr0 \ ''ccg''cpf \ ''j \ ki \ j \ guv''gxgri'qh''gf \ wecvlqp.''y \ j \ lej \ ''ctg''ecvgi \ qtlecr0 \ ''ccg''cpf \ ''ccg''cpf \ ''ctg''ccg''cpf \ ''ccg''cpf \ ''ccg''cpf \ ''ctg''cpf \ ''ccg''cpf \ ''ccg''c$

gxkf gpeg"qh"kpetgcugf "cwgpvkqpcn"eqpvtqn"cu"vcum'f khhkevm{ "kpetgcugf "d{" vj ku"o gcuwtg"cnqpg0'J qy gxgt."95' "qh"r ctvkekr cpvu"kpetgcugf "cwgpvkqpcn" i ckl" kpf gz" %0g0" j cf "y qtug" cwqo cvkekv{+" cu" vcum'f khhkevm{ "kpetgcugf "* "hki wtg"5C"dqwqo "o kf f mg"r cpgn+"o cvej kpi "qwt"cpvkekr cvgf "tguwn" y cv" o qtg" ej cngpi kpi "wcumu" y qwf "dg" r gthqto gf "y kyj "nqy gt" cwqo cvkekv{0' P qvkeg" yi cv" yi g"kpetgcug"htqo "79" vq"95' "qh"r ctvkekr cpvu"hqmqy kpi "qwt" gzr gevcvkqp" y cu"r tko ctkn{"f wg" vq" yi g" i tc{"r ctvkekr cpvu" hqmqy kpi "qwt" gzr gevcvkqp" wpgzr gevgf n{"f getgcugf" y kyj "kpetgcugf" vcum'f khhkevm{"%Hki wg"5C" vqr "tki j vv0'Vj gug"i tc{"r ctvkekr cpvu"tgetvkkgf "nguu"RHE"cu" yi g" vcum'dgeco g" j ctf gt." dwl' yi gkt" r gthqto cpeg" f genkpgf." uwi i guvkpi "y cv" RHE"tguqwtegu"y gtg"pqv'dgkpi "wugf"cu"ghtgevkxgn{"cu"pggf gf "d{"yi g"vcum'f go cpf.'yi kej "kpf kecvgu'tgf wegf "cwqo cvkekv{1p' yj g'j ctf gt"vcum0

Kp"eqo r ctkuqp."c"nti gt"r gtegpvci g"qh"r ct vlekr cpvu"*93' +"f getgcugf" yi gkt" r gthqto cpeg" *eqo dkpgf" eqi pkskxg" cpf" o qvqt" r gthqto cpeg+" cu" yi g" vcumi dgeco g" j ctf gt" *Hki wtg" 5D" vqr" o kf f ng" r cpgn+:" y j kej " y cu" gzr gevgf 0'C"uo cmgt"r gtegpvci g" j cf "dgvygt" vcumi r gthqto cpeg "f wtkpi " yi g" o qtg" f kthkewn/" vcumi *4; "." Hki wtg" 5D" vqr "t ki j v"r cpgn+0' Uqo g"qh" yi gug" r ctvlekr cpvu" y kyj " ko r tqxgf" vcumi r gthqto cpeg" o qxgf " kp" yi g" gzr gevgf "f ktgevlqp" y j gp" wukpi " yi g" cwgpvlqpcn' i ck/" kpf gz" *i tc{" kp" Hki wtg" 5D" dqwqo " o kf f ng" r cpgn+:" r gtj cr u" kf gpvlhl(kpi " kpf kxkf wcm" y j q" ko r tqxgf" yi gkt"r gthqto cpeg" cv' c" equv' qh' i tgcvgt" RHE "tget wko gpv0' Vj g" kpetgcugf" RHE "tget wko gpv0' vj gv' cumif go cpf .'y j kej "eqttgur qpf u'vq' tgf wegf "cwqo cvleks{0

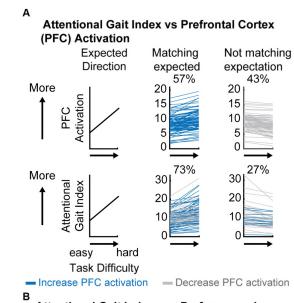
Kp"uwo o ct{."cu" vcun" f kthkevnx{"kpetgcugu."o qtg"rct kekrcpvu"uj qy gf" yj g" gzrgevgf "f getgcug" kp" cwqo cvkekx{"cu" o gcuwtgf "d{" yj g" cwgpvkqpcrd" i ckv" kpf gz" cpf " Rgthqto cpeg" eqo rctgf " vq" RHE "cevkxcvkqp." uwi i guvkpi " yj cv" cwgpvkqpcrd" i ckv" kpf gz "cpf " Rgthqto cpeg" ctg" o qtg" ugpukskxg" vq" yj g" dgw ggp" vcun"f kthgtgpegu'y kyj kp" yj g" ctvkekrcpvu0

$HECAO(^aec^{\hat{A}}) = Aec^{\hat{A}} = Aec^{\hat{A$

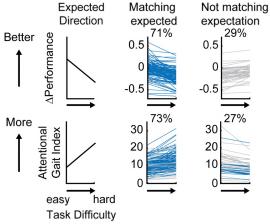
Cm" kpf gr gpf gpv" xctkcdrgu" *O O UG" ueqtg." ci g." ugz." tceg." cpf "j ki j guv"ngxgn"qh"gf wecvkqp+"j cf "XKH"nguu"vj cp"32"cpf "y gtg"cm"ngr v"kp" vj g"o wnkr ng"tgi tguukqp"o qf gnu0

 $\label{eq:continuity} Vjg" tguwn" tgo ckpu" tqdww" chgt" tgo qxkpi " yjg" yyq" r ctykekr cpvu" yjq" f kf" pqv" hqmqy " kpuntwevkqpu" vq" tgeksg" gxgt { " qvj gt" ngwgt" qh" yjg" cm*j cdgvl" Vjg" o qf gnu" dgwy ggp" O O UG" cpf " cwgpvkqpcn" i ckv" kpf gz" uwkni' j cf "yjg"ncti guv'xctkcpeg"ceeqwpvgf "hqt" cpf 'mti guv'uvcpf ctf kjgf"$

ŠãÁroÁs∮Ė



Attentional Gait Index vs ∆Performance in Dual-Task (DT) Compared to Single-Task (ST)



■ Decrease ΔPerformance Increase ΔPerformance

ØØWÜÒÁH

 $\ddot{O}^{\bullet} \& \dot{a}_{1} \ddot{a}_{0} \wedge \dot{a}_{1} \{ \] \Rightarrow \ddot{a}_{1} [\ \dot{a}_{0} \wedge c_{0} \wedge A \ \dot{a}_{0} \wedge c_{0} \wedge A \ \dot{a}_{0} \wedge \dot{a}_{0} \} \Rightarrow \dot{a}_{1} \wedge \dot{a}_{0} \wedge$ &[| ca&aqÁqÚlØÔDÁse&caçaeaa[} ÉÁse) åÁ Ú^|-[| { a;) &^Áse Ásæ \ Ásiã-a&` | cîÁ āj&\^æe^• EÁÇCEDÁÔ[{]ætãr[}Ási^c, ^^}Ásæcc^}cā[}ætÁtænásiásiá^¢Áæt;åAÚØÔÁ as & agaza $\label{eq:control_lambda} $$ \ \ ^{\hat{A}} = \hat{A} =$ æ\$kaãçææã[}ÁQ[]Á(ãàå|^Á;æ)^|DÁæ)åÁ'¦æêÁæ,æê•Á^]¦^•^}} σ Á;æka8å[æ) σ Ó , @(Áså^&\^æ=^åÁÚØÔÁæ&oãçææã[}ÁQ[]Ááã@DÁæ=Ás@\Áæ=\Ás^&æ{^Á;[¦^Á åã-a8c | dàÁÔ[|[| • Áspás@ Ás[cd[{ Áp æ} ^ |Á^] | ^ • ^ } cÁQ , Áp æb ca8ca] æ} œ Ál[{ Á åã⊷\^}oÁt¦[ˇ]•ÁandÁs@Áq[]Ájæ}^|Á;[ç^åÁājq[Ááã-△\^}oÁ&and^*[¦ãN•Á Çāj&'^æ•^Ái;'Ás^&'^æ•^DÁsjÁææc^}cāi}æþÁ æañÁsjå^¢ÈÁÞ[cã&^Ás@æcÁ•[{^Á] æt cã&ā] æ) o Á, ão@Áæ) Á}^¢]^&c^å/Ás^&¦^æ•^Á§jÁÚØÔÁæ&cãçææā[}Á, āļÁ;[¸Á]^\{ a) &^AÇ\æÂş Ác@ Áş] Áa@ Áş] Áaî @A, [ç^åÁş Ác@ Áş[cd[{Á, ããå|^Á, æ}^|DÉA æq, æê•Á^]¦^•^}œÁ,ædæ&ajæq;œÁ,@QÁ;@Q,^åÁæq,Á%¢]^&&^åÁa^&\^æ^ÁajÁ Ú^\{{\} aa} &^Áaæ Ás@ Ásæ \Ás@ Ásæ \Ás\8[{ ^•Á@adå^\ÁQ{] Á; ãåå|^Á; æ}^|DÁsa} åÁ\aa Á æļ æê•Á^]¦^•^} œ Áœ Á;}^•Á @ Áş&l^æ•^åÁ Ú^¦-{¦{ æ}&^ÁQ;]Áð @DÁ $\hat{O}[\ \|\ | \cdot \hat{A} = \hat{A} \hat{A} \otimes \hat{A} = (\alpha \{ \hat{A} \Rightarrow \hat{A} \Rightarrow \hat{A} = \hat{A} \Rightarrow \hat{A} = \hat{A} \Rightarrow \hat{A} = \hat{A} \Rightarrow \hat{A} = \hat{A} \Rightarrow \hat{A}$ Ú^|-{|{ aa} &^ÁseaÁs@Áq[Á,aa}^|Á,[ç^åÁşq[Ásãa-^\^} oÁsaæ^*[¦ã>•Á Çāj&l^æ•^Ái;¦Ási^&l^æ•^DÁsjÁæez^}cāj}æþÁ æañÁsjå^¢ÁÇā[cd[{Ájæ})^|DÈ

o ci pkwf g" cetquu" dqvj " vcumı" *Vcum' gxgpCDE<' Cwgpvkqpcn' I ck/' Kpf gz" T^{4+} ? "2082." ÅMË2043."RHE $_{\text{Cevkxc-kqp}}$ <" T^{4+} ? "2029." ÅMË2066." Rgthqto cpeg<' T^{4+} ? " 2025." " ?" 20550' Vcum' wpgxgpCDE<' Cwgpvkqpcn' I ck/' Kpf gz"

 $T_{4"}$?"202:." ÁMÉ2042."RHE Ceskscslqp<" $T_{4"}$?"2026." ÁMÉ2082." Rgthqto cpeg<" $T_{4"}$?"2027." "?"2085+0

I ÁÖã& •• ã }

 $Y g" \ eqo \ dkpgf" \ RHE" \ ce4kxc4kqp" \ cpf" \ F \ V" \ r \ gthqto \ cpeg" \ o \ gcuwtgu" \ vq"$ $etgcvg" \ c" \ o \ qpqvqpke" \ kpf \ gz" \ vq" \ s \ wcp4kl(" \ i \ ck" \ cwqo \ cvkek(0' \ Y \ g" \ i \ qp \ gf" \ vj \ cv" \ y \ g" \ cvwqp \ cvkek(0' \ Y \ g" \ i \ qp \ gf" \ vj \ cv" \ vg" \ vq \ gg" \ vcum' \ f \ khtkewn(/" \ tgrcvgf" \ vj \ c" \ vtgf" \ vj \ g" \ vcum' \ f \ khtkewn(/" \ tgrcvgf" \ vq" \ i \ gpgtcn' \ eqi \ pkakg" \ hwpe4kqp" \ vj \ cp" \ gkj \ gt" \ RHE" \ ce4kxc4kqp" \ qt" \ F \ V" \ r \ gthqto \ cpeg" \ cnqpg0' \ Kp" \ uwo \ o \ ct \{." \ vj \ g" \ r \ tqr \ qugf" \ kpf \ gz" \ y \ cu" \ ghtpe4kxg" \ cv' \ f \ khtgtgp4kc4kpi \ "3+"dgy \ ggp" \ cum' \ cpf" \ ^4+"dgy \ ggp" \ r \ ct4kcr \ cpvt0$

lÈÁ Væ•\Á,^¦-¦¦{æ; & ^Ás[}dãa č^•Áşæ; æà|^Á ã;-{¦{æãa}}Áq[Ás@ Ásæc^}dā;}æḥÁ*æãnÁs;å^¢Á . @}Á&[{]æàã;*Ásæ•\Ásãa-ā8č|dã••

Y j gp"eqo rctkpi " vcumi f kthkevnkgu." y g" gzr gevgf " y g" j ctf gt" vcumi vq" uj qy "y qtug" cwqo cvkek{ = "ur gekthecm{." y j g" o qtg" ej cmgpi kpi " vcumi y kmi tgs wktg" kpetgcugf " cwgpvkqpcni" f go cpf " htqo " y g" RHE" cpf " tguwni" kp" f getgcugf " rgthqto cpeg" f wg" vq" i tgcvgt " kpvgthgtgpeg" dgw ggp" y g" o qvqt" cpf " eqi pkkxg" vcumi0" Vj ku" gzr gevgf " ej cpi g" y qwrf " dg" tghrgevgf " cu" cp" kpetgcug" kp" y j g" cwgpvkqpcni" i cki" kpf gz." cp" kpetgcug" kp" RHE" cevkxcvkqp." cpf " c" f getgcug" kp" rgthqto cpeg0' Y g" qdugtxgf " y cv'95' " qhi'r ctvkekr cpvu" kpetgcugf " cwgpvkqpcni" i cki" kpf gz " cpf " 93' " f getgcugf " rgthqto cpeg" cu" gzr gevgf." dwi' qpn(" 79' " qhi'r ctvkekr cpvu" kpetgcugf " RHE" cevkxcvkqp" htqo " gxgpCDE" vq" wpgxgpCDE0' Vj g" tguwni" eqphkto u" yi cv' yi g" wpgxgpCDE" vcumi' y cu'' o qtg" ej cmgpi kpi " vq" yi g" r ctvkekr cpvu." i kxgp" yi g" o clqtkk{" qhi'' yi g" r ctvkekr cpvu" f getgcugf " rgthqto cpeg0' J qy gxgt." yi ku" kpetgcugf " ej cmgpi g'y cu'pqv'cny c {u'tghrgevgf "kp"RHE" cevkxcvkqp"cmpg0

O wnkr ng" tgcuqpu" eqwrf" gzr nzkp" y j {"r ctvkekr cpvu" f kf" pqv' kpetgcug" RHE"cevkxcvkqp"y ksj "kpetgcukpi "vcum' go cpf u<"kpghtkekgpv' tgetvkso gpv' qh' pgeguuct {"pgwtcn' tguqwtegu." y g" vcum' gzeggf kpi "ecr ceks{" *T gwgt/Nqtgp|" cpf " Ecr r gm" 422: ±" qt" f kugpi ci go gpv' htqo " y g" vcum' uwej " y cv' y g" r ctvkekr cpv' f kf "pqv' gxgp" vt {" vq" eqr g" y ksj " y g" f kthkevnv(0' Kp" cf f kskqp" vq" kpf kxf wcn' f kthgtgpegu. "y j g" kpeqpukuvgpe { "kp" y g" RHE "cevkzks{" eqwrf" cnuq" dg" cwtkdwgf" vq" o gcuwtgo gpv' pqkug" htqo "hP KTU." uwej "cu" r j { ukqnqi kecn' ej cpi gu" cpf "umbp" r tqr gtvkgu" *Xkqtlq" gv' cn0" 4239 ±" O gpcpv' gv' cn0" 4242 ±0' Vj ku" qdugtxcvkqp" go r j cukt gu" y g" j gytqt gpgks{ "qh" RHE "tgur qpug" f gur kg" eqpukuvgpv' dgj cxkqtcn'r gtfqto cpeg" cpf " yi g" ko r qtvcpeg" qh' kpeqtr qtcvkpi " dgj cxkqtcn'r gtfqto cpeg" y j gp'kpvgtr tgvkpi "RHE" cevkzks{ 0

 $Qwt"\ hlpf lpi"\ yi\ cv'\ FV''\ r\ gthqto\ cpeg"\ eqpvclpu''\ etwelcn''\ lphqto\ cvlqp"\ yj\ gp"\ cuuguulpi "\ cwqo\ cvlek{"\ crki\ pu''\ y\ kj\ ''\ r\ tgxkqwu''\ uwf\ lgu''\ uj\ qy\ kpi\ ''\ yi\ r'\ FV''\ r\ gthqto\ cpeg"\ ku''\ tgrevgf"\ vq''\ qff\ gt''\ cf\ wnwg''\ o\ qlkkk{"\ "0\ qpvgtq/"}\ Qf\ cuuq''\ gv''\ cfl''' 4234=''\ Tquuq''\ gv''\ cfl''' 4234:''\ Tquuq''\ gv''\ cfl''' 423;\ c+''\ cpf'''\ eqi\ pklkxg''\ cdkrkklgu''\ "f\ qrk'\ gv''\ cfl''' 4228='''\ Tquuq''\ gv''\ cfl''' 423;\ d=''\ Dtcwpgt'''\ gv''\ cfl'''\ 4243+'l''\ P\ gxgty'\ grguu.''\ r\ gthqto\ cpeg'''\ crqp''\ f\ qgu''\ pqv''\ swcpvlhf(''')\ cwqo\ cvlekk{'''\ ulpeg''\ cwqo\ cvlek{'''\ ku''\ f\ glkpgf'''\ d{'''\ r\ tqhkekgpv''\ r\ gthqto\ cpeg'''\ crqp''\ ulf\ g''\ kgvlkqpcri'cpf'' gzgewkxg$

Šã ÁrofașiE

VŒŚŚŎÆÁN) anàbǐ • chāÁn^* | ^• • ā} Á; [ả^|• Á; Ásā-^!^> chā anābē ({ anabācē (Ā ^as " !^• Á; ās@AT ā) āT ^} caṭÁUcane^ÁOcae(ÁOT T ÙÒDÁ &[!^• Á; ÁsÁnÁTĨ HDÈ

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CwgpwlqpcniI ckv'lfof gz _{gxgpCDE}	2028	20224	Ë2045"ł Á 2 0 29	20224
RHECevkxcvkqpæ{æ^nño	2025	2024	Ë208: ' \ Á 02:	2024
Rgthqto cpeg _{gxgpCDE}	20227	2056	2ው9'ነ Áው:	2056
wpgxgpCDE"Vcum				
Cwgpwqpcn'I ckv'Ifof gzwpgxgpCDE	2027	20225	Ë2014'' † Á 2 0 29	2025
RHECevkxcvkqp ^æ(æ^nño	2024	202:	Ë2035' ł Á O:	202:
Rgthqto cpeg ^æ{æ^NÑO	20227	2058	2ው9'ነ Æው:	2058

T [å^	ÜĞ	T [å^ Æj;æ¥`^	Ùœ)忦åã^åÁ ´TTÙÒÁÇÒ•cã[æe^•Á ÁUÒD	´TTÙÒĄĖţæţ`^
gxgpCDE"Vcum				
Cwgpwlqpcn'll ckv'lfof gz _{gxgpCDE}	202;	2024	Ë20#2" ! Á XO:	2023
RHECevkxcvkqp _{gxgpCDE}	2029	2028	Ë2057 Á02:	2032
Rgthqto cpegæ{æ^NÑo	2024	2099	20: ነ Áነር:	2052
wpgxgpCDE'Vcum				
Cwgpvkqpcn'I ckv'Ifof gz ^æ{æ^nño	2029	2028	Ë208; "† Á202:	2024
RHECevkxcvkqp ^æ{æ^nño	2026	2062	Ë2082' † Á 202:	2043
Rgthqto cpeg ^æ{æ^NÑo	2023	20,2	2 ው 9 † Á ው:	2063

Uki pkhkecpv'o qfgnu'ctg'j kij nkij vgf "kp'tgf."cpf "vtgpfkpi "*r">"208+"o qfgnu'ctg'j kij nkij vgf "kp"{gnnqy 0

eqpvtqn" egpvgt" *Enctm" 4237+0" Kp" qvj gt" y qtf u." vj g" gpi ci go gpv" qh" cwgpvkqpcn" tguqwtegu" f wthpi " c" v{rkecm{" cwqo cvke" vcuni uwej " cu" y cmkpi " ku" c" uki pcwstg" qh" tgf wegf " cwqo cvkek{" *Xcp" Uy gctkpi gp" cpf " Uwf gpunk" 4236=" Enctm" 4237+0" O qtgqxgt." o quv" vj gqtgvkecni o qf gnu" go r j cuk g" vj g" ko r qtvcpeg" qh" gzco kpkpi " vj g" cevkxcvkqp" r cwgtpu" qh" RHE" vq" wpf gtuvcpf " eqi pkkxg" ci kpi " *Tgwwgt/Nqtgp| " cpf " Ecrr gm" 422: ="Rctm"cpf "Tgwwgt/Nqtgp| ."422; ="Hguvkpk"gv"cn0"423: +0"Eqpukf gtkpi " hP KTU" ku" c" tgrcvkxgn{" pgy " yej pqmi { " y kj " hcuv'gxqnxkpi " kputwo gpv" fguki p" cpf " cpcn{ uku" yej pks wgu" *Rgttg{ ." 4236+" hwwtg" uwrf kgu" uj qwrf " nggr " eqpukf gtkpi " r gthqto cpeg" cpf " RHE" cevkxk{" vqi gvj gt" wukpi " vj g" cwgpvkqpcni ckvlkpf gz"vq"ko r tqxg"s wcpvkhecvkqp"qh'i ckv'cwqo cvkek{0

 $Yjgp"\ eqorctkpi''\ cetquu''\ rctvkekrcpvu.''\ yg''\ uj\ qy\ gf''\ vj\ cv''\ nqy\ gt''$ eqi pkskxg"\ hwpevkqp.''\ o\ gcuvxtgf''\ d{''\ O\ UG''\ ueqtg.''\ ku''\ tgrcvgf''\ vq''\ nqy\ gt''\ cwgpvkqpcn''\ i\ ck''\ kpf\ gz''\ kp''\ dqvj\ "F\ V''\ f\ khkewnkgu0'\ Vj\ g''\ tguvxnu''\ uwi\ i\ guv'\ vj\ cv'\ yg''\ \ cwgpvkqpcn''\ i\ ck''\ kpf\ gz''\ y\ cu''\ o\ qtg''\ ugpukskxg''\ vq''\ kpf\ kxkf\ wcn'\ ej\ ctcevgt\ knkeu''\ yi\ cy'\ eqwrf''\ ko\ r\ cev'\ cwqo\ cvkek\{''\ yi\ cp''\ RHE''\ cevkxc\ kqp''\ qt''\ r\ gthqto\ cpeg.''y\ j\ kej\ ''ctg''gz\ knkpi\ ''o\ gyt\ keu'\q''s\ wcpv\ kh\{''\ cwqo\ cvkek\{0\}

J qy gxgt." y g" pqvlegf" vj cv" vj g" xctlcpeg" gzr mlpgf" d{" vj g" o qf gnu" *T++"ku"tgmvlxgn("mpy 0'Vj g"lkv"tgo clipu"tqwi j n("vj g"uco g"y kij "qt"y kij qww" cf lwuvlipi "hqt"ci g."ugz."tceg."cpf "j ki j guv"ngxgn"qh"gf wecvlqp."uwi i guvlipi "vj cv"o quv"qh"vj g"xctlcpeg"lip"vj g"cwgpvlqpcn"i ckv"kpf gz"cpf "RHE"cevlxkx{"

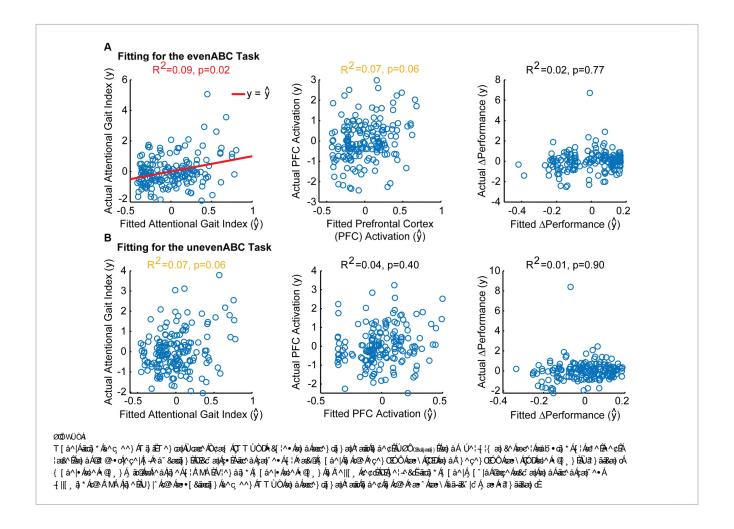
y cu" pqv" gzr mkpgf " d{" yi g" f go qi tcr j keu" cpf " eqi pkkkg" cdktkkgu0' Vj g" my " $T^{\downarrow \circ}$ ku" pqv" wpgzr gevgf " cu" i ckv" cwqo cvkek{" f gr gpf u" qp" yi g" uwdeqtvkecni' ektevkku." y j kej " y gtg" pqv" o gcuxtgf " y kj " hP KTU' f wtkpi " y cmlpi "*Y w"cpf "J cmgw."4227="Tqucpq"gv"cn0"4229="En:tm"4237+0"Vj wu." eqo r rgo gpvct {" ko ci kpi " f cvc" cdqww" yi g" kpvgi tkv{" qh" yi g" uwdeqtvkecni' ektevkku." kpenvf kpi " xqnvo g" qt" ektevkxt {" eqppgevkxkv{." o ki j v" ceeqwpv" hqt" yi g"wpgzr mkpgf "xctkcpeg"kp"yi g"o qf gr0

 $\label{eq:continuous} \begin{tabular}{ll} $$ \end{tabular} $$ \end{tabul$

$$\begin{split} & \text{l} \dot{\mathbb{H}} \acute{\text{O}} \text{Tot} \rangle \not= \mathring{A} \not= \mathring{A} \not= \mathring{A} \not= \mathring{A} \downarrow \mathring{A} \downarrow \mathring{A} \not= \mathring$$

 $\label{eq:constraint} Rgthqto\ cpeg"\ kp"\ F\ V''\ y\ cmhpi\ ''\ ku''\ c''\ eqo\ o\ qpn(''\ wugf\ ''\ o\ gvthe''\ vq''\ cuuguu'i\ ck\'cwqo\ cvhek\{.''dw'r\ gthqto\ cpeg''cnppg'f\ qgu''pqv't\ ghrgev'\j\ g$

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eqtvlecni kpr wi' tgs wktgf 0' Hqt" kpurcpeg." yi g" uco g" rgthqto cpeg" ecp" dg" cej kgxgf "y kyj" rkwrg" ghiqtv' cpf "nqy" cwgpvkqpcni eqpvtqn" klg0" cwqo cvlekv{." qt" y kyj "uki pkhlecpv' ghiqtv' htqo "yi g" cwgpvkqpcni tguqwteg" egpvgt0' P gwtqrj {ukqrqi kecni o gcuwtgu." uwej "cu" RHE" cevkxcvkqp." rtqxkf g" o qtg" kpuki j vu" kpvq" yi g" eqtvlecni kpr wu" uwrrqtvkpi "yi g" qdugtxgf "rgthqto cpeg0' J qy gxgt." rtkqt" tgugctej "qp" RHE" uki pcnu" fwtkpi "y cmkpi "j cu" uj qy p" kpeqpukuvgpv' tguwnu" *{ gwpi "cpf "Ej cp." 4243-40' Dqyj "kpetgcugf "*J qn\| gt" gv' cn0" 4233="O ktgm cp" gv' cn0" 4239-t" cpf "f getgcugf "*Dgwtungpv" gv' cn0" 4236-t" RHE" cevkxkv{"f wtkpi "F V" y cmkpi "j cxg" dggp" tgrqtvgf 0' Vj gug" hkpf kpi u" ctg" j ctf "vq" tgeqpekrg" y kyj qw'eqpuklf gtkpi "cumir gthqto cpeg0

Vj g" cwgp\qpcn" i ck" kpf gz" rtqxkf gu" c" uqnwlqp" d{" guvcdrkij kpi " c" wpkligf" czku" yj cv" eqo dkpgu" r gthqto cpeg" cpf " RHE" cekkckqp0' Vj g" kpetgcugf "RHE" cekkck{qp0' Vj g" kpetgcugf "RHE" cekkck{qp0' Vj g" kpetgcugf "RHE" cekkck{qp0' Vj g" kpetgcugf "tgrkcpeg" qp" y g" cwgp\qpcn" egpyt" vq" eqo r gpucyg" hqt" y g" nquu" qh" cwqo cykek{" tguwnkpi " kp" o ckpvkpgf" wum' r gthqto cpeg" qt" f gf khigtgp\kc\qp" kp" y g" cwgp\qpcn" i cki" kpf gz." y g" kpetgcugf " RHE" cekkk{" y qwrf" dg" uecngf " f qy p" hqt" o ckpvkpgf" r gthqto cpeg" vq" tghrgev' uweeguuhwi' eqo r gpucyqp" cpf" uecngf " wr " hqt" r qqt" wum' r gthqto cpeg" wpwweeguuhwi' eqo r gpucyqp" qt" f gf khigtgp\kc\qp" (pf" uecngf " wr " hqt" r qqt" wum' r gthqto cpeg" vq" tghrgev' wpuweeguuhwi' eqo r gpucyqp" qt" f gf khigtgp\kc\qp0' Vj g" f getgcugf " RHE" cekkxk{ " tgr qtygf " d{" Dgwtungpu" gv'cn') *4236+"eqwrf " tgr tgugpv' gkyj gt" kpghhekgpe { "qh" tguqwteg" wkrk cykqp." ngcf kpi " vq" r qqt" wum' r gthqto cpeg." qt" o ckpvkpgf" cwqo cykek{ " tguwnkpi " kp" i qqf " r gthqto cpeg0' Vj gug" f khigtgpegu" y qwrf " dg" tghrgevgf " kp" y g" cwgp\qpcn" i cki' kpf gz." y j gtg" y g" uco g" RHE" cekkxk{" y qwrf" kp y qwrf" kp" y qwrf" dg" tghrgevgf" kp" y g" cwgp\qqcaller " cekkkk{" y qwrf" y q" cwgp\qqcaller " cekkkk{" y qwrf" y g" cwgp\qqcaller " cekkkk{" y qwrf" y q" cwgp\qqcaller " cekkkk{" y qwrf" y q" cwgp\qqcaller " cekkkk{" y qwrf" y g" cwgp\qqcaller " cekkkk{" y qwrf" y q" cwgp\qqcaller " cekkkk{" y qwrf" y q" cwgp\qqcaller " cekkkk{" y qwrf" y q" cwgp\qqcaller

dg" uecngf " wr " hqt " yj g" tgf wegf " r gthqto cpeg" uegpctlq " vq " tgh
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Qpg"o ckp" rko ksc
-kqp" ku" vjcv' vjg"cwgp
-kqpcn" i cks" kpfgz" ecp" qpn
(" dg" eqo r wygf " hqt" uwwf {" f guki pu" y kyj " cv" ngcuv" yy q" f kunkpev" vcum! f khhkewn kgu" dgecwug" r ctco gwgt" qr who kt cwkqp" "tgs wktgu" cv" ngcuv" wy q" fkhhkewn-kgu0' Cffk-kkqpcm(."gxgp"yjqwij"yjg"rtqrqugf"ogyjqf"vq" eqorwig" yjg" cwgpylqpcn'ickv'lpfgz" ecp" dg" crrnlgf" vq" cp{"fwcn'vcun' r ctcf ki o " y kyj " cv" ngcuv" yy q" ngxgnu" qh" vcum' f khhkewnkgu." yj g" f cvcugvu" wugf "vq" vguv" yi g" kpf gz "j gt g" cm" r gthqto gf "yi g" uco g"f wcn' vcum' y cmłoji "rctcfkio" *k0g0" y cmłoji "cpf" tgekskoji "cnygtockoji "ngwygtu"qh" yj g" cnr j cdgv' y kij " qt" y kij qw' cp" wpgxgp" uwthceg+" y kij " pq" wcunl $rtkqtksk\!\!\!/\,cskqp0'\ \ K\!V'\ j\ cu''\ dggp''\ uj\ qy\ p''\ \ yj\ csV'\ f\ wcn'scum''\ o\ qf\ cnks\{\ ''\ cpf\ ''$ rtkqtkkk cvkqp" ecp" korcev' rgthqtocpeg" cpf" cuuguuogpv' tguwmu" f khhgtgpvn(" *Xgti j gug" gv" cn0" 4229=" [qi gx/Ugrki o cpp" gv" cn0" 4232=" Dgwtungpu" gv" cr0" 4236=" Nci wu/Dgcwxcku" gv" cr0" 4237=" Vucpi " gv" cr0" 4244+0' Vj gtghqtg." kv" ku" ko r qtvcpv' vq" xgtkh(" vj cv' vj g" kpf gz" f guki p" ku" tqdwwv' vq" xct{kpi" gzrgtko gpvcn' rtqvqeqnu." kpenwfkpi" fkhhgtgpv' oqvqt" cpf" eqipk.kxg" vcumu." rtkqtk.kk|cvkqp" kpuvtwevkqpu." cpf" rgthqtocpeg" ogvtkeu." kp" hwwtg" uwfkgu0' Hkpcm(." yjg" rctvkekrcpvu" tgetwksgf" ctg" tgncvkxgn(" j gcnyj {" kp" yj gkt" eqi pkskxg" cdkrkskgu" *OOUG" ogcp"ł UF <"4:064" ł A30.5." okp"?" 43+" yjkej" oc{"pqv" tghngev" yjg" hwm! $r\,qr\,wrcwlqp"\ qh''\ eqo\ o\ wpkw{/fy\ grrlwpi\ ''}\ qrf\,gt''\ cf\,wrnu''\ {}^*\!\!Lces\,o\ kp/I\ cf\,f\,c''$ Šã ÁroÁs∮É

gv" cr0" 3; ; 940' Hwwtg" uwf kgu" ecp" cuuguu" khi 'yi g" hkpf kpi u" ctg" i gpgtcrk cdrg" vq" r qr wrc kqpu" y kyj " c" y kf gt" tcpi g" qh" eqi pkskxg" cdkrkkgu0' Hwwtg" uwf kgu" uj qwrf " cruq" kpxgurki cvg" khi 'yi g" kpf gz" ku" tgrc vgf " vq" erkpkecm(" tgrgxcpv" o gcuwtgu" uwej " cu" dcrc peg" eqplikf gpeg" qt"hcmt kumu0

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I cki" cwqo cyleks{ " ku" etwelcri" hqt" uchg" eqo o wpks{ " o qdkrks{ ." cpf " cwqo cyleky{" ku" cp" ko rqtycpy" tgj cdkrkycylqp" ycti gy" yq" tguyqtg" y cmlipi "hwpevliqp" cpf "lipf gr gpf gpeg0' J qy gxgt." c"uvcpf ctf "cpf " tqdwuv" cuuguuo gpv" hqt" i ckv" cwqo cvkekv{" ku" ncemkpi 0' Y g" cfftguugf" yj g" pggf " vq" dgwgt " s wcpvkh{ " i ckv" cwqo cvkekv{ " wukpi " c" pqxgn' crrtqcej " vq" eqo dkpg" dqvj " FV" rgthqto cpeg" cpf " RHE" cevkxcvkqp" kpvq" cp" cwgpvkqpcn' i ckv' kpf gz0' Y g" f go qpuvtcvgf " yj g" ghhkece{ " qh" yj g" kpf gz" d{" cej kgxkpi " wy q" qdlgevkxgu." ur gekhkecm{." dgwgt/ f khhgtgpskcskpi " cwqo cskeks{" *3+" dgwy ggp" vcumu" y kaj kp" r ctskekr cpsu" cpf " *4+" dgw ggp" r ct wekr cpvu" dcugf " qp" qxgtcm" eqi pkxkxg" hwpevkqp0' Vjg" kpfgz" tgxgcngf" c" fgetgcug" kp" cwqo cvkekv{" cu" vcum' fkhhkewnv{" kpetgcugf." y j kej "y cu"pqv"gxkfgpegf "d{"RHE"cevkxcvkqp0' Hwt yi gto qt g." yi g" kpf gz" ecr wxt gf " yi g" eqi pkxg" cdxfyf grevgf " fkhhgtgpegu" kp" cwqo cvkeks{" dgwgt" vj cp" RHE" cevkxcvkqp" qt" FV" rgthqtocpeg" cnqpg0' Kp" uwooct{." yjg" cwgpvkqpcn' icki' kpfgz" rtqxlfgf" c" uvcpfctf" o gvtle" vq" ej ctcevgtlkg" i clv" cwvqo cvlekv{" kp" c" fwcn/wumi' y cmkpi "rctcfki o 0' Vjg" uvcpfctfkjgf" o gvtke" y kmi' cmqy " dgwgt" swcpultheculiqp" qh" yj g" ghhgeulxgpguu" qh" lipvgtxgpulqpu" clo gf " cv' ko rtqxkpi " cwqo cykeky(" cpf " hcekrkxcyg" hwwtg" uwnf kgu" vq" kpxgunki cyg" yjg" eqppgeskqpu" dgwy ggp" cwqo cvkekv{" cpf" qvjgt" r ctvkekr cp√ ur gekhke 'ej ctcevgtkuvkeu0

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Vj g"f cvc"cpcn{| gf "kp" ij ku"uwf { "ku"uwdlgev" vq" ij g"nqmqy kpi "nlegpugut" tguvtlevkqpu<" Vj g"tcy "f cvc"uwr r qt kpi " ij g"eqpenwukqpu" qh" ij g"ct kleng" y km" dg" o cf g" cxckrcdng" d{ " ij g" cwij qtu" wr qp" tgs wguv0" Tgs wguvu" vq" ceeguu" ij gwg" f cvcugvu" uj qwrf " dg" f ktgevgf " vq" UN." uj n3: 9B r kwlyf w=" CT." CNT365B r kwlyf w=" I V/Q." gnu{ vqB r kwlyf w0

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 $\label{eq:continuity} V_j g'' uwwf kgu'' kpxqrxkpi "j wo cpu" y gtg'' crrtqxgf'' d \{'' yj g'' Kfurkswkqpcti'' Tgxkgy " Dqctf'' cv'' yj g'' Wpkxgtuks {'' qh'' Rkwudwti j 0'' Vj g'' uwwf kgu'' y gtg'' eqpf wevgf'' kp'' ceeqtf cpeg'' y ksj''' yj g'' rqecn'' rgi kurcvkqp'' cpf'' kpurkswkqpcn'' tgs wktgo gpvu0'' Vj g''' rctvkekr cpvu''' rtqxkf gf''' yj gkt''' y tkwgp''' kphqto gf''' eqpugpv'vq''r ctvkekr cvg''kp''yj ku'uwwf {0}$

UN

Eqpegr work cvkqp." Fcvc" ewtcvkqp." Hqto cri' cpcn(uku."

O gyj qf qrqi {." Uqhwy ctg." Xkuwork cvkqp." Y tkkpi " 6" qtki kpcri' f tchv."

Y tkkpi " 6" tgxkgy " (" gf kkpi 0' CT< Eqpegr work cvkqp." Hwpf kpi "

ces wkukskqp." O gyj qf qrqi {." Rtqlgev' cf o kpkrtcvkqp." Tguqwtegu."

Uwr gtxkukqp."Y tkkpi "6"tgxkgy "("gf kkpi 0'GD<Eqpegr work cvkqp.

 $\label{eq:controller} Fcvc" \ \text{ewtcvlqp."} \ O \ gvj \ qf \ qmi \ \{.'' \ Xcrkf \ cvlqp." \ Y \ tkkpi " 6" \ tgxkgy " ("gf kkpi 0' CY <"Eqpegr wcrkj \ cvlqp." \ Uwr gtxkulqp." Y tkkpi " 6" \ tgxkgy " ("gf kkpi ." Hwpf kpi " ces wkukkqp." Rtqlgev" cf o kpkurtcvlqp." Tguqwtegu0' I V/Q<" Eqpegr wcrkj cvlqp." Hwpf kpi " ces wkukkqp." O gvj qf qrqi <math>\{.'' \ Rtqlgev'' \ cf o \ kpkurtcvlqp." \ Tguqwtegu." \ Uwr gtxkulqp."Y tkkpi "6" tgxkgy " ("gf kkpi 0)$

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 $Vj\ g"\ cwj\ qt*u+"\ f\ genctg"\ hkpcpekcn' \ uwr\ qtv'\ y\ cu''\ tgegkxgf"\ hqt"\ y\ g"\ tgugctej\ ."\ cwj\ qtuj\ kr."\ cpf\ lqt"\ r\ wdrkeckqp"\ qh''\ y\ ku''\ ctvkerg0'\ Vj\ ku''\ uwr\ f"\ y\ cu''\ uwr\ qtvgf"\ d{"\ P\ UH'\ Ectggt"\ Cy\ ctf''\ 3:69:;3"\ cpf''\ Rkwudwti\ j''\ Rgr\ rgt"\ Egpvgt"\ R52CI\ 246:490'\ Vj\ g''\ f\ cvcugvu''\ ctg''\ htqo\ ''\ uwr\ f\ kgu''\ uwr\ rqtvgf''\ d{''\ THBCI\ 247738.''\ M23CI\ 275653''\ *P\ gwtcn''\ O\ gej\ cpkuo\ u''\ qh''\ Eqo\ o\ wpks{''}\ O\ qdkrks{'+="\ T23CI\ 267474.''\ M46CI\ 27994:.''\ T23CI\ 279893''\ *Rtqi\ tco\ ''\ vq''\ Ko\ rtqxg''\ O\ qdkrks{''\ kp''\ Ci\ kpi\ +=="\ cpf'''\ T23CI\ 245873.''\ W23CI\ 2835;5''\ *O\ qxg''\ O\ qpppi\ cj\ grc/[\ qwi\ j\ kqi\ j\ gp{''\ Ygco\ 40'\ CY''\ ku''\ uwr\ rqtvgf''\ d{''\ yj\ g''\ P\ cvkqpcn''\ kpurkswgu''\ qh''\ J\ gcnj'' *M45CI\ 298885+0'\ GD''\ ku''\ uwr\ rqtvgf''\ d{''\ yj\ g''\ P\ cvkqpcn''\ kpurkswgu''qh''\ J\ gcnj'' *V54CI\ 243::7+0''$

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 $\label{eq:constraint} Vj\ g''\ cwj\ g''\ tgugctej\ ''\ y\ cu''\ eqpf\ wevgf\ ''\ kp''\ yj\ g''\ cdugpeg''\ qh''\ cp\{''\ eqo\ o\ gtekcri'\ qt''\ hkpcpekcri'\ tgrcvkqpuj\ kr\ u''\ yj\ cv''\ eqwrf\ ''\ dg''eqpuvtwgf\ ''cu'c'r\ qvgpvkcri'eqphrkev'qh'lkpvgtguv0$

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 $\label{eq:continuous} Cm'' encko u'' gzrtguugf'' kp'' yi ku'' ctvleng'' ctg'' uqngn{'' yi qug'' qh'' yi g'' cwi qtu'' cpf'' f q'' pqv'' pgeguuctkn{'' tgrtgugpv'' yi qug'' qh'' yi gkt'' chlhdcvgf'' qti cpk{ cvkqpu.'' qt'' yi qug'' qh'' yi g'' rwdrkuj gt.'' yi g'' gf kqtu'' cpf'' yi g'' tgxkgy gtu0''Cp{''rtqf wev''yi cv'' o c{''dg'' gxcnwcvgf'' kp''yi ku'' ctvkeng.'' qt'' encko'' yi cv'' o c{''dg'' o cfg'' d{''ku'' o cpwhcewtgt.'' ku'' pqv'' i wctcpvggf'' qt'' gpf qtugf'' d{''yi g''rwdrkuj gt0}$

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cv"jwru⊲lyyy0tqpvkgtukp0qtikctvkengul32055:: lhpcik04245084:5598]"
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 $\label{eq:continuous} \textbf{Ckl. gpurgkp."I 0IO"P gdgu."T0F0"Uczvqp."I0C0"Rtkeg."I0E0"O cvj. ku."E0C0"Vuqr.grcu."P0F0"}$ *422: +0" Hitgs wgpv" co { rqkf " f gr qukskqp" y kaj qwv" uki pkhkecpv" eqi pkakxg" ko r ckto gpv" co qpi "yj g"grf gtn(0Ctej0" Pgwtqn0"87."372; ó37390f qk<u><3208223 ktej pgwt087083087</u>

 $Dctngt." \ IO' \ Y \ 0" \ Cctcdk" \ CO" \ cpf " \ J \ wr \ r \ gtv." \ VO' \ IO' \ *4235+0' \ Cwqtgi \ tguukxg" \ o \ qf \ gn'' \ dcugf \ " \ dcugf$ cni qtksj o "hqt"eqttgeskpi "o qskqp"cpf "ugtkcm("eqttgresgf "gttqtu'kp"hP KTUVDkqogf0" Qrv0Á Gzrtguu'6."35886359; 0fqk<u>3205861dqg06022358</u>

Dgwtungpu." T0" J gro kej ." K0" Tgkp." T0" cpf " Dqem" Q0' *4236+0' Ci g/tgrcvgf " ej cpi gu" kp" rtghtqpvcn" cevkxks{ "fwtkpi" y cmkpi" kp" fwcn/vcunn' ukwcvkqpu<" c" hPKTU" uwsf {0'Kpv0" L0Á $Ru\{ejqrj\{ukqn0"; 4."344634: 0"fqk: 320623810lru\{ejq042360250227, 2007,$

Dqj mg."M0"Rgtgtc."U0"Dckmcti gqp."G0'O 0"T gf hgtp."O 0'U0"Ur ctvq."R0I0"Uglf ke."G0"gv"cn0" *4245+0'Gzgtekug"kpvgtxgpvkqpu."rquvwtcni'eqpvtqn"cpf"rtghtqpvcni'eqtvgz"cevkxcvkqp"kp"qnfgt" ${\tt cf\,wm0Dtckp''Eqip0''393-3282850f\,qk} {\tt \underline{'320B238\,ll0lcpf\,e0424508282850f}} {\tt qk} {\tt \underline{'320B238\,ll0lcpf\,e0424508282850f}} {\tt \underline{'320B238\,ll0lcpf\,e042450828280606}} {\tt \underline{'320B238\,ll0lcpf$

*4242+0'Rtqitco "vq" kortqxg" oqdkrkv{"kp" cikpi "*RTKOC+"uvvf{<'ogijqfu"cpf"tcvkqpcrg' qhic "cumiqtlgpygf" o qvqt "gctplpi "gzgtelug" rtqi tco 0Eqpvgor0 "Enkp0" Vtkcnu": ; 327; 340" Nqpi j wuw" L0' M0" Thi gt." L0' X0" Ewo o lpi u " L0' N0" Lqj p." L0' G0" Rquvqp." D0" J grf"

 $Dtcpf \, rgt. "V0'E0"Qj \, / Rctm"O \, 0"Y \, cpi \, . "E0"J \, qn \hspace{-0.5em} \mid \hspace{-0.5em} gt. "T0"cpf "Xgti \, j \, gug. "I0" \hspace{-0.5em} \mid \hspace{-0.5em} 4234 + \hspace{-0.5em} 0"Y \, cm \hspace{-0.5em} \mid \hspace{-0.5em} pi \, "U1" \, | \hspace{-0.5em} \mid \hspace{-0.5em} pi \, | \hspace{-0.5em} \mid \hspace{-0.5em} \mid \hspace{-0.5em} pi \, | \hspace{-0.5em} \mid \hspace{-0.5em} pi \, | \hspace{-0.5em} \mid \hspace{-0.5e$ y j kng"\cmkpi <\pxguvki cvkqp"qh"cnvgtpcvg"hqto u0"1 ckv" Rquvwtg"57."38663880f qk<<u>3208238110</u>"

 $Dtcwpgt." \ H0' \ Q0" \ Dcrdkpqv" \ I \ 0" \ Hki \ wgktgf \ q." \ C0' \ K0" \ J \ cwugp." \ F \ 0' \ Q0" \ Uej \ kcxq." \ C0" \ cpf \ " \ C0" \ cpf \ " \ C0" \$ O~guxtkpgt."T0'I~0'*4243+0'Vj~g"r~gthqto~cpeg"kpf~gz"kf~gpvkhkgu"ej~cpi~gu"cetquu"vj~g"f~wcn'vcum'vko gf "wr "cpf "i q "vguv'r j cugu"cpf "ko r cevu"vcumiequv'guvko cvkqp "kp "vj g "qrf guv/qrf 0*Htqpv*0Á Jwo0" Pgwtquek0"37."36340fqk<u>"32055: ; llpj wo 04243094293</u>

Dtwrkg, "R0' T0" Tcdci rkgwk "G0" Hato kec, "U0" cpf "Nkwdlekei, "O 0' G0' *423; +0' F wcn' ycum" vtckpkpi "kp" qrf gt" cf wnw<" y g" ghhgev" qh" cf f kklqpcri o qvqt" vcumu" qp" o qdkrkx{"r gthqto cpeg0" Ctej0" Igtqpvqn0" Igtkcvt0"97."33; 63460fqk<u>32023810ctejigt04239034025</u>

 $Ecdg|\ c."T0" \ ^*\!4224 + 0"J\ go\ kurj\ gtke"\ cu\{o\ o\ gut\{"tgf\ wevkqp"\ kp"\ qrf\ gt"\ cf\ wnuc"\ yj\ g"J\ CTQNF"\ and \ burlings of the constraints of the con$ o qf gr
0'Ru{ejqn0"Cikpi"39.": 763220f qk
320825912: : 4/9; 96089080 7

nqdg" hwpevkqp0'gfu0F0'V0'Uwuu'cpf"T0'V0'Mpkijv'*Qzhqtf"\@zhqtf"\@pkxgtuk\f"\Rtguu+" 84: ó8740

hpj wo 04237022468

 $Eretm"F0'I0"Ej~tkuvqw."G0'C0"Tkpi~."U0'C0"Y~kuvlco~uqp."I0'D0"cpf~F~qv{.}"N0'*4236c*0''$ Gpj cpegf " uqo cyuepuqt { " lægf dcem' tef wegu' r teftqpvcn' eqt wecn' ce wkw { " f wthpi " y cmmpi " lap'qnf gt "cf www DLO" I gt qpvqn 0 " C" Dkqn 0 " Uek 0 " Ogf 0 " Uek 0 " S; ."36446364: 0f qk 32052

Erctm"F0'I0"Tqug."F0'M0"Tkpi."U0'C0"cpf "Rqti gu."G0'E0'*4236d+0'Wkrk cvkqp"qh'egpvtcn" pgtxqwu"u{urgo "tguqwtegu"hqt"rtgrctcwlqp"cpf"rgthqtocpeg"qh"eqorngz"ycmlwpi "vcumu"kp"

qrf gt"cf wmu0Htqpv0"Cikpi"Pgwtquek0"8."36; 0f qk<a>32055: ; llpci l04236022439 $\label{eq:hydrogeneral} Hgwkpk" LWD0'\ cjqfpg" N0'cpf" Tgwgt/Nqtgp|."R0C0"423: 40V jqqtgvkecn" rgturgevkweditqf\text{hf}.0Cppw0" Tgx0" Ru{ejqn0"82."} cig" fkhhgtgpegu" kp" dtckp" cevkxcvkqp<" jctqnf." rcuc." etwpejôjqy" Lfq'\text{tw}. \frac{1}{12} \text{LWCE} \text{W} \text{r} A'\text{Qz} \text{hqtf}" \text{ } \text{l} \text{l} \text{LWCE} \text{W} \text{r} A'\text{LWCE} \text{R} \text{W} \text{r} A'\text{LWCE} \text{W} \text{r} A'\text{LWCE} \text{R} \text{W} \text{r} A'\text{LWCE} \text{R} \text{LWCE} \text{LWCE} \text{R} \text{LWCE} \text$

*4243+0' Dtckp" cevkxkv{" f wtkpi " y cm/spi " kp" qrf gt" cf wnxv." ko r nkecvkqpu" hqt" eqo r gpucvqt { " xgtuwu" f {uhwpevkqpcn" ceeqwpvu0' Pgwtqdkqn0" Cikpi" 327."56; 65860' fqk<u>" 3208238110'</u> pgwtadkarci koi 042430270237

Hqnngkp." O 0'H0"Hqnngkp." U0'G0"cpf "O eJ wi j ."R0'T0'*3; 97+0'õO kpk'o gpvcn'uvcvgö0'C"

Hicugt."U0'C0"F wr wf."Q0"Rqwrlqv."R0"Nguci g."H0"cpf "Dj gtgt."N0'*4238+0'Eqo r ctcdrg" egtgdtcn"qz{i gpcvkqp"r cwgtpu"kp"{qwpi gt"cpf "qrf gt"cf wnw"f wtkpi "f wcn'vcuni'y cmkpi "y ksj " kpetgcukpi "nqcf0Htqpv0" Cikpi" Pgwtquek0": ."36; 0fqk<a>32055: ; 1pci 1042380

I cpi wrk "O 0"Ej cpi ."E0'E0'J 0"Upkt/."D0'G0"Uczvqp."I0'C0"Xcpf gtdknx"I0"cpf "Ngg."E0'Y 0" *4232±0" Rtgxcngpeg" qhi" oknf "eqipkskxg" korcktogpv" d{"ownskrng" encuukhkecvkqpu<"vjg" O qpqpi cj grc/{qwi j kqi j gp{"j gcnj {"ci kpi "\gco "\O[J Cv+"rtqlgev0Co0" L0" Igtkcvt0Â

 $I \ uej \ y \ kpf ."[\ 0\text{I}0"Dt \ kf \ gpdcwi \ j ."UOC0"cpf "Mrguuki ."T0"Y \ 0\%4232\#0"I \ ck\"f \ kuqtf \ gtu"cpf "hcm0" \ label{eq:control_final}$ IgtqRu{ej"45."436540fqk<u>320824613884/;8691c222226</u>

J gtqrf."H0"Y kgi gn"R0"Uej qmo cpp."H0"Vj kgtu."C0"J co cej gt."F0"cpf "Uej gi c."N0*4239+0" Hwpeskqpcni' pgct/kphtctgf " ur gestqueqr { " kp" o qxgo gpv" uekgpeg<" c" u{ usgo cske" tgxkgy " qp' eqtvlecri'cevlxkk{ "lip"r quwtcri'cpf "y cmlipi "\cumu0Pgwtqrjqvqpkeu"62636250fqk<u>23208339180"</u>

 $\label{eq:control_of_problem} J.~qn_{\parallel}~gt."T0"O~cj~qpg\{."L0"T0"K_{\parallel}~gvqi~nw"O~0"K_{\parallel}~gvqi~nw"M0"Qpctcn"D0"cpf~"Xgti~j~gug."L0"~problem problem pr$ *4233+0"hP KTU"uwxf {"qh"y cmkpi "cpf "y cmkpi "y j krg"vcmkpi "kp"{qwpi "cpf "qrf "kpf kxkf wcm.0" L0" Igtqpvqn0"C"Dkqn0"Uek0"Ogf0"Uek0'88.":9; 6::90fqk<u>32062;</u>

 $\label{eq:continuity} J \; qn \!\!\!/ \; gt. "T0" O \;\!\!\! \; cj \; qpg \{."I0" T0" \ \!\!\! \; K | \; gvqi \; nw" O \;\!\!\! \; 0" Y \;\!\!\! \; cpi \; ."E0" Gpi \;\!\!\! \; npf \; ."U0" cpf "Xgti \; j \;\!\!\! \; gug. "I0" Cpj \;\!\!\! \; \; respectively (applications) (by the continuity of the continuit$ *4237+0" Qprkpg" htqpvq/eqtvkecn" eqpvtqn" qh" uko r rg" cpf " cwgpvkqp/f go cpf kpi " rqeqo qvkqp" kp"j wo cpu0/Pgwtqkocig"334."374637; 0fqk<u>320823810pgwtqkocig042</u>

J qn/gt."T0"Xgti j gug."I0"Zwg."Z0"cpf "Nkr vqp."T0'D0"4228+0'Eqi pkskxg"r tqeguugu"tgncvgf " vq'i ck/xgnqek{<tguwmu'htqo "vjg"Gkpungkp"ci kpi "unwf{0?pgwtqru{ejqnqi{"42."43764450fqk<

J qrrgu." E0' Y 0" J wrrgtv." V0' I0" Y j kpg{." U0' N0" F wpncr." R0' O 0" F kucnklq." P 0' N0" Cnuj gddgt."M0'O 0"gv"cn0'*4242+0'Ej cpi gu"kp"eqtvkecn'cevkxcvkqp"f wtkpi "f wcn'vcum'y cmkpi kp'kpf kxkf wenı'y kij "epf "y kij qw."xknwerl"Xgtvki q0"L0 " Pgwtqn0 " Rj { u0 " V jgt0 "66."37863850f qk." 32082; 9 IP RV022222

Ices o kp/I cffc."J 0"Hcdtki qwrg."E0"Eqo o gpi gu."F0"cpf"Fctvki wgu."I0"H0"*3;;9+0"C" $7/\{\gcd"nqpi\ kwf\ kpcn'uwf\ \{"qh"vj\ g"o\ kpk'o\ gpvcn'uvcvg"gzco\ kpcvkqp"kp"pqto\ cn'ci\ kpi\ 0'Co0"\ L0\'A$ $Grkfgokqn0"367."6;: 67280 fqk \underline{\colored{32082;5 qzhqtf lqwtpcn0clg0}}$

Nci vµ/Dgcwxcku." O 0" Htcugt." U0' C0" F gulctf kpu/Et²r gcw." N0" Ecurqpi vc{." P 0" F gulctf kpu." O 0" Nguci g." HO" gv" cn0' *4237+0' Uj gf f kpi " nki j v" qp" vj g" ghhgev" qhl' r t kqt kv{" kpurt weskapu" f wt kpi "f wcm' vcunt'r gthqto cpeg" kp" { qwpi gt" cpf "qnf gt" cf wm w. "c" hP KT U' uw f {0'

 $Ng\{u."E0"Ng\{."E0"Mrgkp."Q0"Dgtpctf."R0"cpf"Nkecvc."N0"*4235\#0"Fgvgevkpi"qwwrkgtu<"fq", and the sum of the control of the con$ pqv'wwg'uccpfctf"fgxkc\qp"ctq\wpf"\yjg"o gcp. 'wwg''cduqnwg"fgxkc\qpp"ctq\wpf"\yjg"o gf kcp0' L0" Gzr0" Uqe0" Ru $\{ejqn0$ '6; .\98669880fq\k32\6238\ll0gur\\235\C25\C35

Dtcf hqtf." G0' E0" gv' cn0' *4244+0' C" pqxgn' y c{" qh' o gcuwtkpi " f wcn' vcuni' kpvgthgt gpeg<" vj g" tgrkcdkrk{" cpf " eqpurt wev" xcnkf kx{" qh" yi g" f wcn'vcuni' ghhgev" dcwgt {" kp" pgwtqf gi gpgtcvkxg" $f \, kugcug 0'Pgwtqtgjcdkn0" \, Pgwtcn" \, Tgrckt" 58. "568657; \, 0'f \, qk \underline{"3208399137} \, d's \,$

Ockney." F 0" cpf " Tclcj ." O 0' P 0' *4235-0' Cuuqekc-kqp" dgwy ggp" r tghtqpvcn' cevkx kv{ " cpf " xqnwo g"ej cpi g"kp"r tghtqpvcn'cpf "o gf kcn'vgo r qtcn'nqdgu"kp"ci kpi "cpf "f go gpvkc<'c"tgxkgy 0' Cigkpi "Tgu0" Tgx0"34."69; 66:; 0fqk<320823810tt0

Ogpcpv."IOE0"Ockfcp.""K0"Cregem"N0"Cn/[cj{c."G0"Egtcuc."C0"Erctm"F0I0"gv'cr0"4242+0" C" eqpugpuwu" i wkf g" vq" wukpi " hwpevkqpcn' pgct/kphtctgf " ur gevtqueqr { " kp" r quwxtg" cpf " i cks" tgugctej 0'Ickv" Rquvwtg": 4."47664870fqk<u>3208238110 ckr qw0424202; 0234</u>

Oktgro cp." C0" Ockf cp." K0" Dgtpcf/Grc| ctk" J 0" Uj wuxcem" U0" I krcf k" P 0" cpf' J cwuf qthh"II/O 0"4239+0'Grigewi'qh"ci kpi "qp"r tghtqpvcn'dtckp"cevkxcvkqp"f wtkpi "ej cmgpi kpi " y cmkpi "eqpf kkqpu0/Dtckp" Eqip0"337. "636680f qk<u>"320823810dcpf e04239</u>

 $O\:k\!(\:ck''\:K\!0''\:Vcpcdg.''\:J\:\:0'E0''\:Ucug.''\:K\!0''\:Gf\:c.''\:J\:\:0''\:Qf\:c.''\:K\!0''\:Mqpkuj\:\:k''\:K\!0''\:gv''cn')'^*\!4223+0'\:Eqt\ vkecn''$ Ecdgl c."T0"cpf "Fgppku"P0C0"4234-05Hqpvcn'nqdgu'cpf "ci lpi ö"lp"Rtkpekrngù" qh" htqpvcrhfi "qh" kt@lp") wo cpuc'c"pgct/kphtctgf "ur gevqueqr ke"vqrqi tcrj { "uwf {0PgwtqkocigA 36."33: 8633; 40f qk<a>3206228 lplo i 0422302; 27

84: 08/40

Oqpvgtq/Qf cuuq. "O 0"O wk. "UVY 0"J cm"O 0"F qj gtv[. "V0I0"Mtqugem"O 0"Dgcwej gv"Q0"

Eixtm" F 0' I0' \$4237+0' Cwqo cvkels{ "qh" y cmhpi < hwperlqpcn" uhi pkhiecpeg." o gej cpkto u "gv" cn') \$4233+0' I ck!" xctkcdkrks{ "ki" cuuqekcvgf "y ksj "htchn{" hp" eqo o wpks//f y gmhpi "qnf gt" o gcuwtgo gpv"cpf "tgj cdkrksvlqp"tutcvgi lgu0Htqpv0" Jwo0" Pgwtquek0"; .36350f qk<3205: .cf" wmt0IL0" I gtqpvqn0" C" Dkqn0" Uek0" Ogf0" Uek0"88:78: 67980f qk<3205: 51 gtqpc li rt229

 $O\ qpvgtq/Qf\ cuuq."O\ 0"Xgti\ j\ gug."I0"Dgcwej\ gv."Q0"cpf\ "J\ cwuf\ qthh\ "I0"O\ 0"*4234+0"I\ cki"cpf\ "$ eqi pkkqp" c" eqo r ngo gpvct ("crrtqcej" vq" wpf gtucpf kpi "dtckp" hwpevkqp" cpf " yi g" tkmi' qhi' licmkpi 0L0" C00" Igtkcvt0" Uqe0'82. '4349643580f qk3208333108754/7637042340642; 0."

Outhwork c." Q0" Dgpf gp." O 0' G0" F qy f {." F 0" cpf " O gj vc." T 0' M0' *4238+0' Qdgulw {/ ur gelkke" pewteri' equv' qh' o chyckphpi " i clsh' r gthqto cpeg" wpf gt " eqo r ngz" eqpf klqpu" lp" eqo o wpls(/f y gmlpi " qrf gt" cf wnu0' Enkp0" Dkqoge j0" 57." 6466: 0' f qk<u>* 3208238 ll</u>0' erkpdkgo gej 042380250233

Rctm"F0"E0"cpf"Tgwgt/Nqtgp|."R0" 422; +0"Vj~g"cf~cr~kxg"dtckp<"ci~kpi~"cpf~"pgwtqeqi~pkkxg"395ó3; 80f qk<a>3208368<a>1<a>2<a>2<a>2<a>3<a>2<a>3<a>6<a>2<a>6<a>2<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>3<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2<a>2</a

 $Rcvrc." C0" G0" cpf "Uj wo y c{/Eqqm" C0" *3; ; ; +0" F ko gpukqpu" qh" o qdkrkv{-"fghkpkpi "vjg" }$ eqorngzks{"cpf"fkthkewns{"cuuqekcygf"yksj"eqoowpks{"oqdkrks{0L0"Cikpi"Rj{u0"Cev0"9." 963; 0f qk<320345 llcr c0000

Rcwn" U0" U0" Cfc." N0" cpf" Ecpploi." E0' I 0' *4227+0' Cwqo cvleks{" qh" y cmhpi 6" ko rnlecvkqpu"hqt"rj {ukqvj gtcr {"rtcevkeg0"Rj { u0 "Vjgt0" Tgx0"32."376450fqk<u><"320839; j"</u>

hP KTUOHtqpv0" Rj{ukqn0"7."326350fqk<u>332655:; llrj{u0423</u>

Tepvenqnmq." O 0" Rqtvgi klu." G0" Xkrlepgp." C0" Ky etuuqp." U0" Mewr r kpgp." O 0" epf Tcpvcpgp." V0' *4238+0' Ej cpi gu" kp" rkhg/ur ceg" o qdkrks{" cpf" s wcrks{" qh" rkhg" co qpi eqo o wpks{/f y gnkpi "qrf gt"r gqr rg<"c"4/{ gct"hqmqy /wr "uwxf {0'Swcn0" Nkhg" Tgu0"47." 33: ; 633; 90f qk<3208229 h33358/237/3359/

 $T\,gwgt/Nqt\,gp|\;."\;R0'\;C0"\;cpf\;"\;Ecr\,r\,gm"\;M0'\;C0'\;*422:\; 40'\;P\;gwtqeqi\;pkskxg"\;ci\;kpi\;"\;cpf\;"\;\dot{y}\;g"$ eqo r gpucwlqp"j {r q yj gulu0/Ewtt0 "Fkt0 "Ru{ejqn0 "Uek0"39." 39963: 40f qk≪

Tqucpq. "E0"Ck gpungkp. "J 0'I0"Uwf gpunk "U0"cpf "P gy o cp. "C0'D0'*4229+0'C"tgi kqpu/qh/" koveteuv" xanvo evike "cocní uku "ah" o adkrkví "nio kovkapu "ko" ego o vokví /f v emkoi "anfet" cf vmu0' L0" Igtqpvqn0"C"Dkqn0"Uek0"Ogf0"Uek0'84."326: 632770fqk<u>32082;51i gtqpc1840 (826:</u>

Tquuq. "C0"N0"O gwk"C0"N0"Hcwmpgt. "M0"Dtcej. "I0"U0"Uwf gpunk"U0"C0"Tgf hgtp. "O0"gv"cn0" gwlchollog gwlcho*423; c+0'Cuuqekcvkqpu"qh"wuwcn'r ceg"cpf "eqor ngz"vcum'i ckv"ur ggf u"y ksj "kpekf gpv"oqdknkw{" f kucdkrkv{0"L0" Co0" Igtkcvt0" Uqe0'89."4294642980 fqk32033311i u0826

Tquuq. "C0N0"O~gwk"C0N0"Hcwmpgt. "M0"T~gf~lgtp. "O~0"[~chlg."M0"Ncwpgt."N0"gvlcn0"423; d+0"] and the control of the control.51i gtqpc1int28; Eqorngz"y cmhpi "vcmm"cpf"tkm1hqt"eqipkkkg"fgenkpg"lp"jkij "hwpevkqpkpi"qnfgt"cfwnu0" L0 "Cn | jgkogtu"Fku0"93."U876U9501fqk⊠32U54551LCF/3: 3362

> $Tquuq. "C0"N0"Vc \{ qt. "L0"C0"Vcdd. "N0"R0"cpf "O kej cgn" [0"N0"4235+0"O qdktks \{ . "f kucdktks \{ . "f kuc$ cpf" uqekcn" gpi ci go gpv" kp" qrf gt" cf wrw0" L0" Cikpi" Jgcnv j" 47." 83968590' f qk." 32039912: ; : 4865356: 46:

> vqqrdqz0Cniqtkvjou"33-950fqk<u><32055;21C33272295</u>

ŠãÁN (ÁMHÈ <u>F€ÌHÌ JÐ</u>) æ* äÌЀGHÌFGÌ HHÏ Î

 $\label{eq:continuous} \mbox{Uj grrctf."} \mbox{M0"F0"Ucy } \mbox{\{gr."R0"Tkej kg."E0"U0"Cmo cp."T0"O 0"cpf "Dtqy p."E0"U0"$4235+0" $$} \mbox{\footnote{Align: Constraint of the continuous of$ Nkhg/ur ceg"o qdkrkk{"r tgf kevu"pwtukpi "j qo g"cf o kuukqp"qxgt"8"{gctu0"L0" Cikpi"Jgcnvj"47." · 296· 420f ak 32(839912:

Vgpi." G0" N0" cpf" Ej wk" J 0" E0" *3; : 9 + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg" *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf" O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O kpk'o gpvcn' uvcvg'' *5 O U + 0" Vj g" o qf khkgf'' O U + 0" Vj g" o qfgzco kpckqp0L0"Enkp0"Ru{ejkcvt{"6:."536653:0

Vj kgu."U0'D0"Tkej ctf uqp."I0'M0"F gO qw."V0"cpf "Cuj vqp/O kngt."I0'C0'*4227+0'Kphnvgpeg" qh"cp"kttgi wrct"uwthceg"cpf "myy "nki j v"qp" yi g"uvgr "xctlcdknk{ "qh"r cvkgpvu"y ksj "r gtkr j gtcn" pgwtqrcyi { "f wtkpi "rgxgrli ck0" I ckv " Rquvwtg" 44. "626670 f qk <u>23208238 110 ckr qw0 422</u>

Vucpi ."E0'U0'N0"Y cpi ."U0"O kngt."V0"cpf "Rcpi ."O 0'[0'E0'*4244+0'F gi tgg"cpf "r cwgtp"qh" f won' wuni' kpygthgt gpeg "f wt kpi "y cmkpi "xct { "y ksj "eqo r qpgpv" wunu "kp" r gqr rg "chkgt "uxt qng < c"u{uvgo cvke"tgxkgy 0L0" Rj{ukqvjgt0"8: ."486580fqk<u>320823810rj{u04243084022</u>;

eqipklksg'lorcktogpv'lp"qrfgl"cfwnx00%pv0"Ru{ejqigtkcvt0"\$3.8;569230fqk<u><3206239</u>1"jgenj{"cikpi0/Pgwtqru{ejqn0"Tgx0"53."35;63880fqk<u><3206229hd32</u>1

 $Xcp"Uy~gctkpi~gp."IOO~0"cpf~"Uwf~gpunk"UO'C0"*4236*O'Ci~kpi~"o~qvqt"unkm"cpf~"vj~g"gpgti~\{"allowed a constraint of the constraint of the$

 $\label{eq:constraint} Xgtijgug. "L0" Jqnlgt. "T0" Nkr vqp. "T0" D0" cpf "Y cpi." E0" *4234+0" Oqdktk\f" uvtguu" vgu" crrtqcej "vq" rtgf ke-kpi "htckn\f". "f kucdktk\f" cpf "oqtvctk\f" lp" j ki j /hwpe-kqpkpi "qnf gt" cf vnu0" L0" C00" Igtkcvt0" Uqe0" 82."3; 2363; 270f qk<32(8333) L0754/763704234(263670).$

Xgti j gug."I0"Mwurcpun(."I 0"J qn/l gt."T0"Mc/l ."O 0"Zwg."Z0"Dwuej ng."J 0"gv'cn0*4229+0' $Y\ cmlpi\ "y\ j\ log" \ cmlpi\ "ghlgev" qhl" \ cuni'r\ tlqtlskl,\ cvlqp "kp" yj\ g"gnf\ gtn (0Ctej0"\ Rj \{u0"\ Ogf0Å) \ colline the colline that the colline$ Tgjcdkn0"::."726750fqk<u>320823810crot042280820229</u>

X kqtkq."T0"Uwctv"U0"Tqej~gusgt."N0"Creqem"N0"cpf~"Rcpvcm"C0%4239 + 0"hP~kTU"tgur~qpug"f wtkpi "y cmł
pi "ô "ctychcev'qt "eqtylecn'cevkxko{ A'C "u{ urgo cyle "tgxkgy 0'P
gwtquek0" Dkqdgjcx0 Á Tgx0": 5."38263940"f qk:3206238110pgwdkqtgx042390620224

Y w"V0"cpf" J cmgw."O 0'*4227 + 0'Vj g"kphrwgpeg"qh"pqto cn''j wo cp"ci gkpi "qp"cwqo cwke" w cyfraethau cyf

 $[\ gwpi\ ."O\ 0"\ M0"\ cpf\ "Ej\ cp."\ C0'\ U0'\ *4243+0'\ C"\ u\{uvgo\ cvke"\ tgxkgy\ "qh"\ vj\ g"\ cr\ r\ nkecvkqp"\ qh"\ vj\ g''\ cr\ r\ nkecvkqp''\ qh''\ vj\ q''\ qh''\ qh''\ qh''\ q''\ qh''\ qh''\$ $\label{thm:continuous} \begin{tabular}{ll} hwpewlqpcn'' pgct/lephtctgf'' ur gevtqueqr {" vq" y' g" uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf {pco leu'' lephtctgf'' ur gevtqueqr {" vq'' y' g'' uwwf {" qh'' egtgdtcn'' j go qf'' egtgdtcn'' j go qf''' egtgdtcn'' j go qf'' egtgdtcn'' j go qf'' egtgdtcn'' j go qf''' egtgdtcn'' j go qf''' egtgdtcn'' j go qf''' egtgdtcn'' egtgd$

 $[\ qi\ gx/Ugrki\ o\ cpp."I\ 0"Tqvgo\ /I\ crkrk"[\ 0"O\ ktgro\ cp."C0"F\ kemvgkp."T0"I\ krcf\ k"P\ 0"cpf\ "$