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..; ArgfÚ zAb ../rgfÚ zAbdf ..; dÚ\pk; u{nfu} aGb5 . o; sf] cy{sg} j:tsf]agf{ elg]x65 . sg}j:t'ljle6g t@j / cjojxخ ldnl ; #rt x65 . log}j:tsf t[j / cjojx¿sf]kUf{of]µg}; Argf xf]. ca\\hl efiffsf]:6\\r' zAb / qkfnl efiffsf]; Argf ; dfqfyl{zAb xq\. sq}j:t'jf s[tsf]; Arqfdf cfwfl/t eP/ cWoog ug{ljlwnf0{; **Argfjfb** elg65 . ; **A**rgfjfbn]sg}j:t'jf $s[tnf0{s[b|agfP/To;sf;;fgfc^aux;sf]-;Argfsf]vf[b]/IjZn[f0fub].$;flxTo ljZn**]**f0fsf ljleGg k4ltdWb]; Argfjfb rlr{t / ljsl; t Ps j:t**j**fbL k4lt xf].; Argfifb ulOft, eflyts zf:qbl/v lileGg; fdflhs zf:qx; tyf dfgljsl nufot efiffzf:q, ;flxTo / snfsf lfqdf klg krlnt xgkusf] axzf:qlo cjwf/0ff xf]. dgfljj 1fgsf Ifqdf dfgl; s cgej nf0{tYo 36gfsf ¿kdf /fv] ; Argfīds lj Zn]f0f ug] hljlj 1fgsf lfqdf jg:kltnf0{dVo s(b| agfP/ To; sf cabx; sf]; ArgfIds Ij ZnifOf ug] dfgj zf:gsf Ifqdf dfgjlo ; #s[tsf lj leGg t[j x¿sf]; Argfīds lj Zn]fOf ug:[efiffzf:qsf lfq]df jfSo / cy&f txdf To; sf ¿kx¿sf]; ArgfTds IjZn]fOf ug{Pjd\cfVofgsf Ifqdf coffet dh k\$fo{¿sf]; Argfīds IjZn]fof ug{sfo{df; Argfjfbl k4lt k\pf]} ePsf]kf0G5.

| I:j; efiffzf:ql kml8gfN8 8]; :o/åf/f kl|tkflbt eflifs; /#rgfsf] k\(\phi\) u\(\psi\) u\(\psi\) [Jsf]al; f\(\psi\)ztfAblsf]bf] f\(\psi\)bzsdf \(\z\); l\(\z\)kj fbl c\(\psi\)off Enflbld/ k\(\psi\)k - 0=; \(\psi\) (\(\psi\)* (\(\psi\)*) if \(\psi\) f\(\psi\) f\(\psi\) dfg fg c\(\psi\)ogdf k\(\psi\)fil \(\psi\) k\(\psi\)fly u/\(\psi\)f \(\psi\) k\(\psi\)fly c\(\psi\)ofgsf] c\(\psi\)ogdf k\(\psi\)fly u/\(\psi\)flys c\(\psi\)og k\(\psi\)flys c\(\psi\)og k\(\psi\)flys c\(\psi\)og k\(\psi\)flys c\(\psi\)og k\(\psi\)flys c\(\psi\)og k\(\psi\)flys c\(\psi\)og k\(\psi\)flysfsf] c\(\psi\)og u/\(\psi\)f \(\psi\)flysfsf] c\(\psi\)og u/\(\psi\)fliff bl k\(\psi\)fliff \(\psi\)flysfsf] c\(\psi\)og u/\(\psi\)fliff bl k\(\psi\)fliff \(\psi\)fliff \(\ps

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r8fdl0f aGwsf] **glffnl nf\$;flxTo** -@)%*_ gfds k!tsdf glffnl nf\$;flxTosf lj leGg klfsf]rrf{ug{s\ddf glffnl nf\$syfsf cWbog k4ltx¿ / s\ll nf\syfsf] gd\gf ; d\tauk\taul/Psf] 5 . nf\syfsf] jul\s\0f u/l clekfosf]cWbog / kflksf]; \(Argfj \) fbl k4lt nufot cGo k4ltsf af/\glf klg rrf{u/\shf 5g\. o; k!tsdf 8f\delta\nuflet lePsfn]k\ranglett zf\delta\nuflet glDt o; k!tsn]klg dx\(Li \) k\(Li \) fo; sf]; \(Argfaf/\] hfgsf/l ePsfn]k\ranglett zf\delta\nuflet glDt o; k!tsn]klg dx\(Li \) k\(Li \) fof \(Li \) k\(Li \) fof \(Li \) for \(Li

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nf\$syfsf]; Argfīds :j¿k o; df cfpg g; s]klg ; Argfjfbl k4ltnf0{s[b| agf0{cWoog ePsf]of]dx[jk0f{sfo{xf].}}

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>lk| fb | 13ld/jh| æ/fd\\$fk | Ih\nfdf | k|r\nt | nf\\$syfx\cdotsf]; a\\$ng / lj Zn\\$f0f\[-@\)^\$_ zlif\\$sf\] :gftsf\[/ txsf\] zf\\$\df | /fd\\$fk | Ih\nfdf | k|r\nt | nf\\$syfsf\]; a\\$ng u/l ; \[/ rgfsf \ cf\wf\df | \tagsf\] lj Zn\\$f0f\ u/\\$f \ 5g\. 8f\\$\]h\ nf\\$syfsf\] ij Zn\\$f0fsf \ s\df \ p\\$t \ zf\\$\kqaf6 ; \ xof\[/ k\]f\\$f\}.

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tly/(fh hfzln] x8føl lhNnfsf nf\$syfsf]; a\$ng/E -@)^^_ zlif\$sf] :gftsf]t/ txsf]zføldf hDdf !\$ j 6f 8føjhl nf\$syfsf]; a\$ng u/L syftTj sf cfwf/df ltgsf]lj ZnjfOf u/\$f 5g\ p\$t syfx¿sf]lj ZnjfOf ; Argfjfbl k4ltsf cfwf/df ul/Psf]geP klg 8føjhl nf\$syfsf]; a\$ngsf søldf pQm zføkqaf6; xofij kUf\$f]5.

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dfilnfn k/fhhlsf] **glfnl nfisyf NI; 4fGt / ljZnjf**0f -@)&!_ gfds k!ts glfnl nfisyfsf l; 4fGtsf cfwf/df yk}nfisyfsf]ljZnjf0f ul/Psf]Ps dxljkUf{s[t xf]. o; k!tsdf b; j 6f glfnl nfisyfsf]; Argf klg klxNofOPsf] 5 . glfnl nfisyfsf clekfosf]af/dlf ljzjf hfis lbOPsf]o; k!tsdf 8fijnl nfisyfx¿sf] rrf{geP klg nfisyfsf tlj / ; Argfaf/] lj:tt hfgsf/lePsfn]k|tt zfivsf lglDt o; n]dxljkUf{; xofij k/ofPsf]5 .

df[loglsdf/s]nsf]jfbl; dbfosf]nf\$hljg -@)&@_ df klZrdf~rndf /x\$f jfbl; dbfosf]; fdflhs /; fFs[ts hljgsf]lrq0f 5 .; fFs[ts klfdf pglx¿sf]; dbfodf krlnt \$j6f nf\$syf klg; dl[6Psf 5g\. nf\$syfsf] ljZn]f0f geP klg glkfnl nf\$syf cWb]fsf lglDt of]dx[jk0f{sfo{xf}}.

kOffigGb cf\(\) rf\(\) uf\(\) vfkq -@)&\$; fpg M k\(\) k\(\) sf] .8f\(\) h\(\) nf\(\) syfsl Irgf/l\(\) gfds n\(\) df 8f\(\) h\(\) nf\(\) syfsf] ; I^a\(\) hKt kl/ro lb0\(\) Pp6f nf\(\) syfsf] dhkf7 pbfx/0f ; d\(\) k\(\) t't u/\(\) f 5g\(\) o; nf\(\) syfnf0\(\) klg o; z\(\) wdf ; df\(\) \(\) ul/Psf]5 .

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xfn; Dd sg} klg 8fjjhl nfssyfx¿sf] lj Znjf0f ul/Psf] 5jg . o; } l/Qmtfsf] kltfnf0{Wbfgdf /fvl k|tt zfjv ul/Psf]5 .

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8fojhl nf\$syf 8fojhl nf\$; flxTosf] Ps dxEj kOf{ljwf xf]. kf%flOfs / ; [i6; E ; DalGwt syfx¿nfO{ldyslo syf, 8fojhl k/Dk/f tyf Oltxf; / jl/rl/q; E ; DalGwt syfx¿ cg>ltdhs syfsf ¿kdf / kzkIfl, etlkzfr, jf\$; l cflb; E ; DalGwt syfx¿ cGo syfsf ¿kdf ToxfFk†Int 5g\. o:tf df]vs syfx¿ ToxfFkfoh; f]k; kGwb]v df3 dlxgfel//flt ca]; Dd cugf j l/kl/; a} eħf eO{cfuf]tfkb}; gfpg]/; Gg]k†ng 5 . 8fojhl df]ns nf\$; #s[tsf]hugf{ xb] hf8f]dlxgfdf nfdf]/ft latfpg ; xh xb] kfrlg lj Zjf; x¿ ; Gg kf0g]/ dgf]-hg xb] ePsfn]klg 8fojhl nf\$syfsf] cfkmb}dxEj /x\$f]5 . To; sf/Of gkfnl nf\$; flxTos}Pp6f klfsf ¿kdf /x\$f]8fojhl nf\$syfsf]; a\$ng ul/g' cfj Zos / cflrTokOf{/x\$f]5 . o; sf ; fy}xfn; Dd ; Argfsf cfwf/df gkfnl nf\$syfx¿sf] oyilo clloog xb g; s\$f] cj:yfdf k|tt zfivsfo{dxEj kOf{ ePsf]5 h; n]ubf{o; ; E ; DalGwt efjl cg; Gwftf Pjd\clloog stf\$f lglDt klg k|tt zfiv pkofill ePsf]5 .

!=^ zflysf]; ldfa\sg

k|tt zfw 8fol Ifonsf nfssyfsf]; Argf klxNofpg]sfo@f slbt /xsf] 5 . o; df 8fol lhNnfsf]; flj ssf u8;]f, lg/fonl, d@fsfk8l, b\kldf8fFkrgfnl / d8e/f uf=j=; =df k\rlnt nf\ssyfsf b0\{k\sf/-ufpg]//fpg] d\wo]ufpg]syfsf] dfq ; a\sng ul/Psf] 5 / ; a\slnt syfx\z d\wo]!)j 6f syfx\z sf] lj Zn\fof \llfont f\slight ftf\sqrt{f} b\Enflbld/ kf\sf] nf\sfVofgsf]; \text{Argfj fbl k4ltsf cfwf/df ul/Psf]5 .

!=& zfyljlw

ktt zf $sfo{; DkGg ugsf nflu lgDgfg; f/sf]; fdu<math>rall$; asng lj lw /; fdurall lj Znrallf0f lj lw ckgf0Psf]5 M

!&≓ ;fdu| ;asng lj|w

k|tt zfivsf nflu cfjZos kgi; fdulsf]; asngsf s\df; jkyd 8f\d lh\nfdf u0{:ynut sfo\dff IoxfFk|rlnt nf\syfsf b0{k\sf/-ufpg]//fpg] d\b]ufpg]nf\syfsf]/\\$8{; asng ul/Psf]5 . ; aslnt syfx\zsf]ljZn\dff fofsf lglDt Enflbld/ kf\sf] nf\sf\ofgsf]; \text{Argfj fbl } ; 4f\df; \overline{u} ; Dal\w\text{wt} ; fdul\x\z -k\text{ts, n}\df, zf\df, sfo\df cflb_sf]; asng k\text{tsfnolo sfo\f cfwf/df ul/Psf]5 .

!=&=@ ljZn**j**fOf ljlw

; asInt ; fdulsf] Ij Zn]f0fsf nflu Enflbld/ kf[ksf] nfsfVofgsf]; Argfjfbl k4ltnf0{cfwf/ agf0Psf]5 . o; sf]; }fflCts :j \(k \) bf] f]kl/R5\)df lb0Psf]5 .

 $k|t't zfi] ; d:of albf k|xnf] / bf] fi] fi] fi /xsf 8fi] If fi] df k|r|nt | ldyslo / cg>|tdhs nfsyfx; / cGo -ldyslo / cg>|tdhs afxs_nfsyfx; sf] ; Argf k|xNofpgsf | lg|Dt k|fsf] ; Argf fb| k4|tnf0{ cfwf/dflgPsf]5 . o; ; d:ofsf]; dfwfg t] f] k|/R5] df ul/Psf]5 .$

!=* zflyka@vsf]¿k/lyf

k|t't zfw sfotfof(;; atl7t Pjd\Jojl:yt ¿kdf k\text{kfwg ug\f nflu lgDglnlvt kfF cWofox\text{if ljefhg ul/Psf} 5 / tl ; a} cWofox\text{tnf0}{cfjZostfcg; f/ kgMzlif\f, pkzlif\fx\text{tnful\fof u/L Jojl:yt ul/Psf} 5.

-!_ klxnf]kl/R5B M zfW kl/ro

-@_ bf] [[kl/R5] Mnf\$syf / ; Argfjfbsf]; }flGts kl/ro

- -\$_ rf**y**f]kl/R5**b** M;f/fæ / lgisif{/

cGodf kl/lzi6 , ; Φ{fdu} ; L/xf]5 .

bf] [[kl/R5]

nf\$syf / ; Argfjfbsf]; }flGts kl/ro

@! ljifokl/ro

Nff\$syf Nff\$ / syf b0{zAbsf]; df; af6 ag\$f] zAb xf].; #st Jofs/Of cg; f/ nf\$[bz@]wftdf 3`ktjoo nfu] nf\$ ZfAb aGb5.kj*Lo bz@sf IjIjw uQyx;df nf\$ zAbsf]cfcfkng}cy{nufOPsf]5.CUj bdf nf\$ zAbnfO{ hgM zAbsf kofosf; kdf InOPsf]5.Ij leGg pklgifb,; ktf, lg;Om afXd0f uQyx;df nf\$ zAbnfO{hut, aXdfO8, Oxnf\$, k/nf\$ cflb elgPsf]5. >ldb&uj t\ultfdf nf\$ zAbnfO{hg; fwf/Ofsf] lglDt k\u00fbu ul/Psf]5.gkfnl aXt\zAbsf\u00e4df; #f/, hut, blgof, aXdfO8sf]sg}Ps efusf]kofosf; kdf cYofOPsf]5.nf\u00e4jftf{\u00e4lj dz}{gfds k\u00e4tssf]eldsfdf th; l lbj; n]efiff, ; #s[t, k]f, hflt, wd{ ekl/lw cflb s\u00e4l efl\u00e4ts / cefl\u00e4ts; dfgtf ePsf ; fdfGo dfG5\u00e4f]; d\u00e4nfO{nf\u00e4s} eg\u00e4f 5g\u00e4\u00e4l uf\u00e4hldf nf\u00e4s zAbsf lglDt km\u00e4s zAbsf]k\u00e4flv ePsf]5, o; sf]cy{uf\u00e4hflt jf uf\u00e4lOf hut\u00e4c\u00e4g]xG5.ctM nf\u00e4 / km\u00e4s zAb; dfgfyl\u00e4f izkdf k\u00e4flv x\u00e4b}cfPsf 5g\u00e4

syf zAb sy\wftdf cf^a \ / 6fk\k¶oo nfu] aGb5 . o; sf] cy{syf, sxfgl, slNkt syf, jQfGt, cfVofgoSt uBdo /rgf cflb eGg] xG5 h; dWo] ztky afXdOf uQydf syfsf] cy{cfVofg eg] u/\$f]kfOG5 . o; }cfwf/df syf zAbsf]k\phfI\u20e4 klg w]}k'fgf]xf] eGg ; lsG5 . kl5Nnf]; dodf cfP/ syf zAbsf cufl8 jl/, gllt, nf\u22e4, kf}flOfs, cfwlgs, ldyslo cflb kj kb hf[\u22e48P/ jl/syf, glltsyf, nf\u22e4syf, kf}flOfssyf, cfwlgssyf, ldyslosyf cflb leGfleGg cy{/; Argf ePsf syfx\u22e2 Jojxf/df cfPsf 5g\. oldWo] nf\u22e4syf hg; fwf/Of\u22e4f/f Jojxf/df NofOPsf]cfVofgdhs uB /rgf xf].

gkfnl efiffsf] **nf\$syf** zAb cuthlsf] **knf\$61**; sf]; dfgfyl{ zAb xf]. gkfnldf nf\$syf, syfsy*all, bGosyf, eGg\$yf, lxGbldf sxfgl, kfZrfTo hutalf ldY; \-kf}fl0fssyf_, lnh18; \-cg>ltsyf_, kmf0/l 61; \-kl/syf_, km1n]

-glltsyf_, clg hd@df dfv{}; fh]cflb gfdn]lrlgg]ol nf\$syfx¿nf0{8f}hl zAbdf .aft() cyjf .aft() klg eGg]ul/G5 . Psn]eGg]/ csfh]; Gg]clg xEf/yKb}ubf{s/f eGg]jf aft dfg{g{ePsfn}klg o; nf0{8f}hldf aft}elgPsf]xf].

@@nf\syfsf]kl/efiff / :j \ k

 $\label{limits} $$ \fished for the proof of the proof of$

kjlo nfs; flxToljbx; sf skl kl/efiffx; o; ksf/ 5gW

- -!_ @sfNklgs syfj:t'ePsf]dgf]~hg / lzIff k\pfg ug{sfNklgs of ; fxl; s
 cfVofgoSt uBdhs snfNds df]\vs sfJo g} nf\syf xf]
 -zSnf, !(^& M@@^_ .f
- -@_ ænf\$hljgsf; V bMv, /lltl/jfh, cf:yf ljZjf; / k/Dk/fnf0{cleJoSt ug} ; fxl; s ; f\$bo{\$t syg k}ffnldf cfa4 syfnf0{ nf\$syf elg65 -zdf{!(@_.fk}
- -#_ æsyf dfG5[hlt g}k/fgf]5, eGg]; gfpg]k/Dk/fdf ljsl; t syf g}nf\syf xf] -lqkf7L, @)\\$(M@#%_ .

- -\$_ æljzjftM sNkgfsf] w/ftndf cl8Psf hg>ltdf cfwfl/t k/fkj &fnbjv Psgf; k!tfjk:tf dvdv}rnj cfPsf syfxz g}nfjssyf xg\-yfkf / ; j jbl, @)\$! M#\$^_.Æ
- -%_ ænf \hlight df \hligh k/Dk/fdf x:tf \tl/t x \hligh cfPsf syfx \tligh g \tligh nf \tligh syf x \tligh \quad -a \tligh \\\ e^* \\ _.\flace{k}
- -^_ ædfNvs jf >ltk/Dk/fåf/f ;DkNift c1ft /rgfsf/sf];laNfkt, ;f/ule{t Pj+;flj {s cfVofgfIds uB ; Argfnf0{ nf}syf elg65 -zdf{ / n06jh, @)^# M#&@_.NE
- -&_ æk/Dk/fb[]v nf\\$; dbfon]; fdlks ; Tosf ¿kdf :jlsf/ ub\{cfPsf, sfNklgs syfj:t' ePsf, dgf]\~hgkUf\{ |z|ffk\b, uBdhs, sNkgfTds df]\vs nf\\$fVofgnfO\{nf\\$syf elg\G5 -k/fhhl, @)\&! M!*_.\f

nf\\$syfsf pko\{t kl/efiffx\notinf0\{c\loog dgg ubf\{nf\\$syfnf0\{o; /l kl/eflift ug\{; ls\65 M nf\\$dfg; sf ; \vb\loop, cf:yf / lj\Zjf; nf\0\{cleJo\\$t ug\}\\ pkb\\\$dh\s Pj\d\dgf\]\~hgk\Of\{nf\\$f\vofgnf\0\{nf\\$syf\ elg\65 . of\]cf\wlgstfaf\669f /x\65 . dgf\] 1fg jf egf\dgf\\$fjgfn\]el/Psf\]of\]lj\wf\cf\kn\df\{/:jt\q\limeq\frac{1}{3}}

@# nf\$syfsf ljzjtf

Nff\$syf nf\$; flxTosf] Ps k\$V ljwf xf]. o; n] j0f\$flds sygåf/f nf\$; dbfonf0{dgf]Ghg k\$fg ub\$. nf\$syfdf nf\$; dbfosf; VbMv, j}flo, rnfvl, axfb/l, al4dfgl cflb ljljw cgelt / cgejsf]hljGt lrq0f ul/Psf] x65. of]dflvs k/Dk/fdf hlljt /x\$fn]ultzln / kl/jt&zln x65. nf\$syfdf sNkgfdo cb&t cnflss 36gfsf]; eflhg ePsf]x65. nf\$syfsf]lj:ttlffq x\$J x\$J xbf o; sf ljzjftf klg olt g}5g\eGg ufxf]5, tfklg s}l ljåfgx;n]nf\$syfsf t@j, u0f / wd\$f cfwf/df ljleGg; dodf leGg leGg ljzjftfx; kf|tt u/\$f 5g\

pko@m lj z]ftfx: nf0{dgg u/L nf}ssyfsf lgDglnlvt lj z]ftfx: lgwf{0f ug{; lsG5 M

- != >It:d[tdf cfwfl/t nf\stVofg ePsf]
- @= nflss, cnflss kl/j}sf]lrq0f,
- #= zlStzfnl dfgj / dfgj]/ rl/qsf]k\pfi\p,
- \$= cfVofgdf \(\) 9t[j sf]clwstf,
- %= j 0fgffds, ; /n, ; xh efiffzħlsf]kφfμ,
- ^= dgf]~hg, stkn Pjd\pkb\zdhs ljifoj:t'cflb.

o; /l lj:tt lfg xg]nfssyfdf sNkgfdo cb&t, cnflss 36gfsf]; eflyg ePsf]xG5 . >lt:d[tdf cfwfl/t nfsfVofg ePsf ol syfdf dgf]~hg, stkn Pjd\pkbtdhs ljifoj:t'; dfjt xg]ePsfn]nfssyf nfssf]dgsf 9s9sl agsf xg\

چ\$ nf\$syfsf ; Ars t@x¿

Pp6f ljwf jf; Argf tof/ xgsf nflu cfjZos kg[ljleGg cjoj jf; Ars 36sx; To; sf tEjx; xg\ o; /L g\nf\syfsf]klg l; Ef]; Argf lgdf\(0\)f xg cfjZos kg[tEjx; g\nf\syfsf tEjx; xg\. tl tEjx/nfO\nf\syfsf cjoj,; Ars 36s,; Ars pks/Of klg elgG5. uBf\(0\)fgsf; a\range; Argf syf, pkGof;, lgaGw, nf\syf cflb lj\(0\)fdf clgj fo\(0\)p:t\tEjx; cfjZos k5\(0\)\ t/ nf\syfdf ol jfx\\$ k\(0\)frlg $\ 2\$ yt\(0\)j x\; cGo nf\s\(0\)f\(0\)syfdf ol jfx\\$

 $\label{limits} $$ \for $g \simeq f \in \mathbb{R}_{1} = \mathbb{R}_{2} . $$ for $g \simeq f \in \mathbb{R}_{2} = \mathbb{R}_{2} . $$ for $g \simeq f \in \mathbb{R}_{2} = \mathbb{R}_{2} . $$ for $g \simeq f \in \mathbb{R}_{2} = \mathbb{R}_{2} . $$ for $g \simeq f \in \mathbb{R}_{2} = \mathbb{R}_{2} . $$ for $g \simeq f \in \mathbb{R}_{2} = \mathbb{R}_{2} . $$ for $g \simeq f \in \mathbb{R}_{2} . $$ for $g \simeq f \subset \mathbb$

syfgs, rl/q, kl/j½, p2½o, efiffzħl cflb nfssyfsf ti xg\-zdf{/ n06ħ, @)^# M#&%_ .

o; }u/l dftlnfn k/fhhlsf cg; f/ syfgs, clekfo, kfq÷rl/q, kl/jt, syfksyg, å6å, p2to, zml / efiff cflb nfssyfsf tljx; xg\. Nffssyfsf; Ars tljx; sf af/tlj ljle6g ljåfgx; sf cfcfkmg} wf/0ffx; eP tfklg uBfVofgsf cfjZos tljx; Ifyf nfssyfsf nflu nfstljx; klg cfjZos kgt xbf o; sf stlyk tlj xg':jefljs g}xf].

@\$=!=syfj:t+syfgs

Nff\$syf klg cfVofgoSt ljwf ePsfn] syfj:t' o; sf] k¢V t©j xf]. nf\$syfsf] lj ifj:t' oltdfq 5 eg] ls6fg ug{; ls6g . nf\$syfsf] lj ifoj:t' kf}fl0fs, P[txfl; s, ; fFs[ts, sNkgflds, :j}sNkgflds, h]j s, kfs[ts cflb lj ifo; E ; DalGwt xb; S5 . o; sf] lj ifoj:t' oyfy{f eGbf sNkgf / lj Zj f; ; E a9L glhs /x\$f] xG5 . sfNklgs lj ifo; E ; DalGwt lj ifoj:th] / ; GbeE nf\$syfnf0{cem/fdf~rs / dfld\$ agfPsf]xG5 .

kfloh; f] Nff\$syfsf] lj ifoj:t' lj:t‡ / Jofks xb] ub\$. sb} syfdf $36gfsf]z^n$ vnf; / cflb, dWb / cGTo efudf $6l^a$ vP/ Psz^nvlnt syf ag\$f] xG5, eg] sb} syf låz^nvlnt / sb} axz^nvlnt syfgs ePsf] xG5, o; nf0{ s\$\psiz\$M Psz^nvlnt syf, låz^nvlnt syf / axz^nvlnt syf elgG5 . o; /l syfdf 36\$f 36gfsf cfwf/df o; sf] lj ifoj:t' lgwf{Of xG5 . syfgssf] plrt Joj:yfkgn] g} syf /f]rs / z^nvlnt aGb5, To; \hat{h}] nf\$syfsf nflu syfgs clgj fo{t©j dflgG5 .

@\$=@= kfq÷rl/q

rl/qlagf nf\$syfsf]sNkgf ug{; lsFg . nf\$syfdf 36\$f 36gfs\psinf0{cufl8 a9fpg]sfo{kfqn]ub\psi_0\. nf\psyfdf o:tf kfqx\text{\dfgj, dfgj\psi_\, b\]lb]tf, etlkzfr, olf u6we{lsGg/lsGg/l, ; hlj, lghl\f lj leGg lsI; dsf x\psi]ub\psi_g\ syfdf cfPsf leGg leGg rl/qn]q}syfgssf]klg \text{\text{\kl/jt\psi_ u/fp\psi_ ultzlntf}}

Nff\$syfsf]csf]; Arafids t@j kfa÷rl/a xf]. sb}kla kfa jf To; sf]

syldl clPsl lelig lelig rl/qn]g}sylgssf]klg ¿k kl/j tg u/lpb, ultzlntl klpfg u/lpb. nf\syldl o:tf kfqx¿; fwf/0fzlSt elbf klg a9l c; fwf/0f jf lbJozlStoSt kfq g}xg]ub\syll o:t loglx¿n]rdTsf/k0f{sfo{ub\syll o: /l nf\sylfn]ult lng kfqn]dx[j k0f{eldsf vh\sf]x65.

@\$#= kl/j**}**

nf \syfsf] 36gf 36 \sf]7fpFkfqsf]lqmofsnfkn] I; h \sf f u/ \sf f|kl/I:ylt, 36gfsf]; do tyf Ioxf \sf f] jftfj/0fsf] emnsn] syfsf] kl/j \sf nf0{ aemfp \sf . nf \sf syfdf nf \sf ; dfhsf] /lltl/jfh, rfnrng tyf ef \sf f]ns cjI:ylt Io; sf] kl/j \sf x \sf . syfdf 36 \sf 36gfsf]:yn, ; do, cflb Io; sf]afXo kl/j \sf x \sf eg] kfqsf] lqmofsnfkn] I; h \sf f u/ \sf f kl/I:ylt **cfGtl/s** kl/j \sf x \sf . nf \sf syfdf nf \sf ss / cnf \sf ssba}y/l kl/j \sf ; dfj \sf ePsf x \sf 5g\ Io; \sf 1kl/j \sf 2 g}syfsf] kfq / syfgssf]cfwf/:yn x \sf 1ePsfn]of]klq nf \sf 5syfsf]clgj fo{t \sf 1.

@\$⇒\$ syf**∦**syg

syfdf syfksygsf dfWbdaf6 b0{ kfqx¿sf alrdf s/fsfgl xb] jf dfgl; s efjgfx¿ cfbfgkbfg xb]ub\$g\ o:tf syfksygn]sb}7fp&f /x:odo s/f JoSt ePsf]xG5 eg]sb}7fp&f kfqx¿sf dgf&fjgfx¿; fl6Psf xG5glkh:t} dhkf7sf]klxnf]syfdf /fhf / p; sf l; kfxl l; sf/ v¶g jg hf&f /ft k5{/ ca vfgf agfpg]tof/lsf nflu l; kfxlx¿ Pscfk; df eG5g\M

sf() ef0 c/ I50fl /]Id0fl sf() ef0 Nofo kft, sf() ef0 nfu /fhfsl ;] f sf() ksfo eft .

of]syg ; b]kl5 ; a hgf cfcfkmbf sfddf nfu}sf 5g\. syflksyg sb}7fplff ; j:fbsf :kdf klg cfPsf]xG5 . nf\\$syfdf cGo syf / pkGof; h:tf]; fdfGo jf k\[olf ; j:fb geO{c; fdfGo / ck\[olf jf s; j\])yfxf gkfpg]u/l ; [f] ul/Psf] ; j:fb klg xG5 . Ps kfqn]csf[kfq; [f] ; j:fbsf dfWodaf6 cfkmbf]sfd kmTt] ub\[olf g\ o:tf ; j:fb jf syflksygn]nf\\$syfnfO{/f]rs agfpg dbt u/\\$f xG5g\ To; \[olf h]; j:fb jf syflksyg klg nf\\$syfsf]csf[dx[j kUf{; }:fs t[j xf].

@\$=^ p27o

p21/o klg nf\$syfsf]clgjfo{t/; id t[j xf]. p21/o elgfn]pkofill b[i6 jf sg}s/fsf]k\phflhg elg]x65 . nf\$syf klg p21/o; lxt /rgf ePsf x65g\. nf\$syfsf] syg>j0fsf] p21/o Pp6f dfq geP/ ljifo; lbecg; f/dgf]-hg, ctl\(\hat{p}\kb\rangle, \lz\) lzIffblIff cflb k\hat{p}fg ug[/x\ranglef]x65 . w]\(\hat{p}; f]\) nf\(\hat{p}\syfsf] k\hat{p}\lambda\rangle eg] dgf]-hg lbg' g}/x\ranglef]x65 . o; sf cltl/St ljifocg; f/; fdflhs nf\(\hat{p}\syfn]; fdflhs /xg, ; xg, hljgkl4lt cflbsf]hfgsf/L lbg]p21/o lnPsf]x65 eg]P[\txfl; s nf\(\hat{p}\syfn]P[\txfl; s ljifosf]1fg lbg]p21/o lnPsf]x65 . kf]fl0fs, wfld\(\hat{p}, kzklflsf nf\(\hat{p}\syfx\angle cflbdf g[\talts tyf wfld\(\hat{p} \cdot ctl\{pkb\rangle lbg]p21/o lnPsf]x65 . o; /L ljifofg; f/ nf\(\hat{p}\syfsf]56\lambda\forall 56\lambda\forall p21/o /x\ranglef]x65 .

@\$=& efiff÷znl

 $\begin{tabular}{ll} nfsyfsf]sygsf]dfNbd efiff g\}xf]. nfsyfsf]efiff dfNys, cf~rlns $$/:yfglo xG5.;/n,;xh/;DkNo efiffdf cleJoSt xb]nfsyfsf jfSox;; eSt/ ld> kflo xENgg\. o; df k\phfNu ul/g]efiff cgfNxrfl/s xb]eP klg:jefljs cn[f/sf]k\phfNu ul/Psf]kfOG5.; do /:yfg cg'; f/ nfsyfsf sylotf kl/jt\hat{g} xb] ePsfn]Io; sf]\(\alpha k \) efiffdf klg s\(\alpha k \) t\(\hat{g} \) tyf kl/j\(\hat{g} \) x\(\hat{g} \) ePsfn]Io; sf]\(\alpha k \) efiffdf klg s\(\alpha k \) kl/j\(\hat{g} \) tyf kl/j\(\hat{g} \) x\(\hat{g} \) hfG5.$

nf\$syfsf] syg ug{ 9fFf, snfnf0{ z}nl elg65 . nf\$syfsf] syg j 0ffgfds z}nldf ul/65 . sylotfn]sygsf ; dodf xfpefp ; lxt k|tlt ug{

tyf kfqsf syfksygnf0{h:tfsf]t:t}eGg sf];; ug[xbf of]o; df; j+fbsf] klg k\psi ePsf]kf0G5. w]\h; f]nf\syfx\colon syfksyg w]\ePsf rDk\colon hlsf klg xG5g\. loglx\colon nf\syfotfn] ufP/; gfpg] ub\colon g\. nf\syfsf] p7fg Psfb\colon df=af6 ul/G5 eg]; Gg\hf0{; gsf]dfnf, eGg\hf0{knhsf]dfnf=h:tf cleJolStdf cGt xG5.o; /L nf\syfsf]z\hl ld7f; kUf{ ag\sf]xG5.

@=\$=* clekfo

klg s[0fb] pkfllofo / dftlnfn k/fhhln] o; nf0{ nfsyfsf] clgj fo{ tlj sf kldf : yflkt u/sf 5g\. pkfllofosf cg; f/ Nffsyfsf] clgj fo{ tlj sf kldf : yflkt u/sf 5g\. pkfllofosf cg; f/ Nffsyfdf k/Dk/fut ¿9 cy{ cleJoSt ug[tlj clekfo xf]h; sf]kefj syfgsel/ bllv65, -pkfllofo, 0=! ((@ M !\$!_. o; n]syfgsdf ult lbg] df\$ pkdf\$ Nofpg] rl/qnf0{:ki6\stpg]/ /ffrs agfpg] sfd klg u5{. of] nfsyfnf0{ kefj klff agfpg] l:y/ tlj xf]. of] nfsyfdf k6sk6s bfxfl/P/ cfpg]n3Qd tlj xf]. kfrlg dfgj n]cgej u/sf cfBlaDax¿nf0{ nfsyfdf clekfosf ¿kdf ln0C5 . k/dfldf, b] tf, /flf; , etkt,afs; l cflb cdt{lj ifo cfBsNkgfsf dfg; laDa xg\k/fhhl, @)%\$ M!*_. clekfon]nfshlj gsf o:t}cfBlaDanf0{; ft ug[xbf nfsyfdf o; nf0{clgj fo{ tlj sf ¿kdf ln0Psf]xf].

 $pkoQmljleGg; \mbox{\it Ars cjojsf cfwf/df nf}ssyfsf]lgdfQf ePsf]xG5.oltl[jx]sf cltl/Qm s; n] b[i6ljGbhf0{ klg nf}ssyfsf t@jsf zkdf lnPsf] kf0G5.t/ b[i6ljGbhf0{ uf} t@jsf zkdf /fVg; lsG5.dVotof syfj:t; kfq+rl/q, kl/j\rb, syfksyg+; j+fb, p2\rb, efiff+znl, clekfo cflb g} nf\ssyfsf; \mbox{\it Ars t@jxz}xg\ log}t@jxzsf]; effngaf6 nf\ssyf lgld\rb xG5.$

@%;4flGts cfwf/

; as Int ; fdulsf] Ij Zn fofsf nflu Enflbld/ kflksf] nfsfVofgsf] ; r fbl k4ltsf]k ϕ flu ul/Psf]5 h; sf]; la ffXt kl/ro o; k\$f/ 5 M

@%≓ ; ArgfjfbL k4lt Mkl/ro / kl/efiff

sg}j:t'jf s[tsf]; Argfdf cfwfl/t eP/ cNbog ug[lj lwnf0{; Argfjfb elg65.; Argfjfb :6sr/lnHd canhl zAbsf]gkfnl ¿kf6t/0f xf].; fdf6ofy@ff o; n] sg} Joj:yfsf jfXo ; Argfsf] ljZnjf0f ug{To; sf] cf6tl/s ; Argf; E ; Da4 lgod tyf l; 4f6tnf0{hgfp5. o; n] sg}j:t'jf s[tnf0{s]b|agfP/ To; sf ;; fgf canx¿sf]-; Argfsf] vfhl / ljZnjf0f ub\$.; flxTo ljZnjf0fsf lje6g k4ltdNb]; Argfjfb rlr{t / ljsl; t Ps j:tjfbl k4lt xf]. dgfNj 1fgsf lfndf dfgl; s cgej nf0{ tYo 36gfsf ¿kdf /fv] ; ArgfIds ljZnjf0f ug[hljlj1fgsf lfndf jg:kltnf0{dVo s]b|agfP/ To; sf canx¿sf]; ArgfIds ljZnjf0f ug[lefiffzf:qsf lfndf dfgjlo ; #s[tsf lj le6g tEjx¿sf]; ArgfIds ljZnjf0f ug[lefiffzf:qsf lfndf jfSo / cy&f txdf To; sf ¿kx¿sf]; ArgfIds ljZnjf0f ug[lefiffzf:qsf lfndf c0fet dh k\$fox[¿sf]; ArgfIds ljZnjf0f ug[lefiffsf] k4lt kpfN ePsf] kf065. ; Argfids ljZnjf0f cjwf/0ffsf ¿kdf ljsl; t ePsf] xbf o; nf0{; 6be¢g; f/ effts zf:qb]v

ljleGg; fdflhs zf:qx; tyf dfgljsl nufot efiffzf:q,; flxTo / snf, Oltxf; cflbsf kl/k]fdf cfcfkmg}9Ën]cYofQPsf]kfOG5.

; Argfjfbsf]ljifolfqut Jofkstf / c; lldttfsf sf/0f o; nf0{ljleGg ljåfgx;n]ljleGg ; dodf cg\$ lsl; dn]kl/eflift ub{cfPsf 5g\. tldWb] Snfp8 nle:6kp; sf]egf0 p4t ub{jf; b] lqkf7ln]sg}j:thf0{xq}{bti6sftf ; Argfjfb xf]eg\$f 5g\. :6kp; sf]o; egf0df ; Argfjfb sg}ljifo jf j:t'eGbf j:thf0{xq}{bti6sftf jf aemf0 xf]. æ; Argfjfb ulOft, efts zf:qbtvljleGg ; fdflhs zf:qx; tyf dfgljsl nufot efiffzf:q, ; flxTo / snfsf lfqdf klg krlnt xgku\$f]axzf:qlo cjwf/0ff xft-lqkf7l, @)\$(M%%_. o; egf0n]klg ; Argfjfbnf0{hxfFklg pkoOm xg; Sg]lalwsf ; kdf kl/eflift u/\$f]5.

 $Vfu[bk|fb n06] sf cg;f/ &sg}j:t', s[t jf ljifosf]; Argfdfly s[bt e0{Io;sf]j:tut / j]flgs 9En]ljZn]f0f ug[k4ltnf0{; Argfjfb elg65&-n06], @)^@ M!$)_. o; kl/efiffdf klg; Argfjfbnf0{j:tut tyf j]flgs cWoog k4ltsf <math>\geq$ kdf k|tt ug{vf]hPsf]kf065.

; Argfjfb ; DaGwl dfly k|t't ; a} lsl; dsf lj rf/x; nf0{ dgg ubf{ ; Argfjfb lj leGg sfnv08df lj leGg kl/ro / kl/efiff kfkt u/] cl3 a9f] kf7s[bl| / a9l j:tjfbl cWoog k4lt xf]. o; n]sg}j:t'jf lj ifosf]afXo jf cfGtl/s ; Argfsf af/df cWoog ubf.

@#@; #rgfjfbl k4ltsf]; laNfkt ljsf; qnd

; Argfjfb Ozfsf] al; fFztfAblsf] 5%fFbzsdf :yflkt dfGotfsf ¿kdf b]vf k/\$f]Pp6f k4lt xf]. o; sf]k/IDes cjwf/OffnfO{vf]Nb}hfFf sfn{dfS;, l; Ud08 kmo8 / cfOG:6fOgsf outGtsf/L s[tdf klg kfKt ug{; lsG5, tfklg o; sf] alheld cfwlgs efifflj 1fgsf hgssf ¿kdf ; Ddflgt l:j; efiffzf:ql kml8fgfN8 b ;:o/sf] efiff; E ; DalGwt l; 4fGt xf] . ;:o/sf] jOffgfTds efifflj 1fgaf6 kl/t eO{Ozjlo al; fFztfAblsf] bf] f] bzsdf leofg ; Dkbfon] ; j k/yd ; ArgfjfbnfO{ kfl/eflifs zAbsf ¿kdf kþfl u/\$f] xf] . o; } sf/Of

; :o/nf0{al; ffztfAblsf]efifflj 1fgdf; //rgfjfbsf kf/Destf{xg]>} ldn\$f]5 . logsf efiffj flgs dfGotfn]/l; ofnl \ge kjfb, ; ftj 1fg, kmG; fhl; //rgfjfb tyf lj lgdf@fjfbnf0{; dt kf\neq k kbfg u/\$f]b]/G5 .

Enflbld/ kfkn]/I; ofnl nf\$syfsf] cWoog u/l ltgdf bl\Psf clgj fo{ Pj d\I:y/ k\$fo\{\geqsi}sf] lgwf\{0f u/l ; g\!(@* df \dkmf\ff\fl\l :sf\Hsl\ gfds u\) k\$fzdf NofP . of] nf\\$syfsf]; \text{Argfids lj Zn}\ff0f ul\Psf] klxnf] s\[t xf]. ; \text{Argfj fbl cfVofgzf:qlo ; dfnf\ranglegfsf] yfngl u/l ; \text{Argfj fbsf] lj sf; df o; n] 7\ff]eldsf lgj f\{\text{u/\\$f]}5 .

0:jlsf] al; fFztfAblsf] t] f] rfyf] bzslt/ gj; dfnfjrgfn] klg kf7 ljZnjfOftkm(pGdV /xl s[tsf]j:ttf / ; Argfk|t ljzjf rf; f] /fv\sf] 5 . km[c; jhl ljåfg\ afnln] ; :o/sf] jOfgfIds efifflj 1fgnfO{ ; flxTo; dfnfjrgfdf leq\text{bf} / u\} ; flxITos ; Gbe\text{df} eP klg zjhl lj 1fgsf] hGd lbP . csf{km[c; jhl ; f+s[ts dfgjzf:ql Snfp8 n\text{el} l:6kp; n]; f+s[ts dfgjzf:qsf lf\text{df} f] ; :o/sf] ; ArgfIds jOf\text{df} flds efifflj 1fgsf]k\text{ef} j u\text{tof u/l ; fdfIhs ; Argf / wd{ snf cflb j jj\text{bkf}; f+s[ts lf\text{qsf}]c\text{bog lj ZnjfOf u/l o; }; dodf pgsf].:6sr/n PGyfkf\text{hf\text{hf\text{l}} flx lif\text{qsf}]c\text{bog lj ZnjfOf u/l o; }; dodf pgsf].:6sr/n PGyfkf\text{hf\text{hf\text{l}} flx lif\text{qsf} k\text{ts ; g\!(\(\text{df k\start} \text{tof] o; n] klg ; Argfjfbsf] lj sf; df dx\text{lj kOf{eldsf lgjfk u/\text{bf}] ctl\text{knlg\text{gfN8 b} ; :o/sf] efiffj jffgs l; 4f\text{ct, knu\text{efifs; jhc df dy[j fb, ; [yg lj 1fg cflb gj cj wf/Ofdf cfwfl/t eP/ knfC; jhl ; Argfjfbsf] hGd !(^) sf]bzsdf eof]. dh\tm\text{knfC; jhl ; ArgfjfbnfO{g}; Argfjfb eGg] ul/G5 . o; n]s\text{sklg flxITos s[tsf]; ft / k\text{efj sfl/tfaf/]5fglag ug\text{gkg} s[tsf]P]txfl; s kl/k]fdf klg Wbfg lbg'gkg} n\text{ysklt a]f:tf ug\text{stleqsf]; ArgfIds kf\text{k}knfO{Wbfq lbg' kg}; [yq jf

kf7sf laDak()ffnL, j)rfl/s ¿knf0{Nofg lbgkg[h:tf cfkngf lghl dfGotf:jlsf/u/of] / dfgjzf:qb[v ; flxTosf ljleGg ; dfnf]rgfTds lfqnf0{ cf]u6] o/f]k, cd[/sf / cGo dhsx¿df klg Ps lsl; dsf]cfGbf]ngs}¿kdf knjng kUof].

 $; g\!(^***^(lt/; Argfjfbn] k0f\{; Afflits dffotf kfPsf] Ps bzs gkSb\}pQ/fQ/ ljsf; sf s\df of]pQ/; Argfjfbsf \(\) kdf s\(\) lj sf; sf s\df of]pQ/; Argfjfbsf \(\) kdf s\(\) lj fg / s\(\) gj lg b\(\) b\(\) 6sf\(\) f lnP/ kl/j t\(\) x\(\) kU\(\) f5 . o; nf0\(\) s; \(\) njgj; Argfjfb / s; \(\) nj; \(\) zf\(\) wt ; Argfjfbsf]; \(\) f lbg\(\) u/\(\) f\(\) kf065 eg\[\] s; \(\) njo; nf0\(\); dfKt ePsf\[\); d\(\) eg\(\) f5\(\) ljjfbf:kb jfbsf \(\) kdf rlr\(\) f .$

@%#; Argfjfbsf dfCotf

kfZrfTo ; dfnf]rgfsf] lrGtg k/Dk/fdf Ozfsf] al; fJFztfAblsf] kJffw@ff hGdl pQ/fw@ff cfkmgf cjwf/OfnfO{Jofks lfghdf :yflkt ug{; kmn l; 4fGtsf \geq kdf ; ArgfjfbnfO{lnOG5 . o; n] hljglk/s ; dfnf]rgf, ; dfhk/s, glltk/s cflb afXo j:thutnfO{ / ; i6f ljziJfnfO{ sJblaGb' dfGg] ; dfnf]rgfTds kUffnlx \geq sf] eGbf leGg} s[tljziJfnfO{dfq sJb\$ dfGg] cjwf/Off /fV5 . kio\$ s[tsf]Ps lglZrt Joj:yf xG5 / tl lglZrt lgodx \geq af/f ; Art ePsf xG5g\ s[tleqsf] Joj:yfnfO{k9|kl5 kf7sn] Io; af6 ; fybofgelt kfkt ub\$. Io; in] s[tsf]; fybo{Joj:yf g}Io; sf]; Argf xf]eGg]dfGotf ; Argfjfbn]/fVb5 .

; Argfjfbn] x/\$ s[tnf0{ t7:y 9En] lj Zn]f0f ug[{5{ elg] dflotf af}\$fn] o; nf0{j}flgs tyf oyfy@hs k4lt dflg65 . o; n] s[tlj z]fnf0{ :j od\df k0f{7fg] Io; \\$f] JofVof lj Zn]f0f u5{. s[t jf kf7 aflx/sf]; fdflhs, ; f\\$[ts, P][txfl; s ; Gbe{\&\&\} / hljgl lj z]fnf0{ x\\$j] k/Dkl/t dflotfnf0{ c:jlsf/ u/l s[tleqs}; du\tfnf0{x\\$j] n]\snf0{elbf kf7snf0{a9l dflotf lbg] ; Argfjfbsf]csf[vf; dflotf xf]. o; n] s[tsf cfltl/s / afXo ; Argfsf tx tyf ltgsf 36s / 36slo ; x; Da6wsf >[flx\aa\&tm(b[i6 lbg]sfd u5{. kf7sn] s[tut ; Argfsf] lj u7g / k\\$M ; a\\$6g u/l v]\n v]\n/x65g\elg] cj wf/0ffdf o; n] lj Zj f; /fv\\$f] kf065 . of] s\\$} klg ; Of / cl:t[j nf0{ gdfg]} lj z\\$

est nfsflofgsf lfddf; Argfjfb

@%% knsf]; Argfjfbl cWbog k4lt

l:j; efiffzf:ql kml8gfN8 b;:o/af/f kltkflbt eflifs; Argfsf] k\epsilon j u\times0zfsf]al; f\rightarrow ztfAblsf]bf] f\rightarrow zsdf \(\psi; \lambda \) \(\psi \) kjfbl cWb\rightarrow f Enflbld/ kf\rightarrow -0=; \(\psi \) (\(\epsilon \) k_1 \(\psi \) f\rightarrow dfgj zf:ql Snfp8 n\rightarrow l:6\rightarrow ; \(-0=; \Rightarrow (\mathbb{k})_{\psi} \) cfVofgsf] cWbogdf k\rightarrow f\rightarrow u/\rightarrow f 5g\. log\rightarrow] cfVofgdf k\rightarrow f\rightarrow u/\rightarrow f flk\rightarrow k4ltnf0\{ cfVofgsf]; \(\text{Argfj} \) fbl k4ltsf \(\psi \) kdf \(\text{InOPsf} \) 5 . kf\rightarrow n \\ \psi \) kf\rightarrow f\rightarrow gf\rightarrow df \(\text{Norfologiya} \) skazki gfds s\[\text{t} \) k\rightarrow fzg u/\] . ; g\\ !(\mathbb{*} \) df \(\text{o}; \text{sf} \] c\rightarrow f\text{b} \\

Morphology of the folktale gfdaf6 k\rightarrow flzt eof].

¿kt[j cWoog, ¿kj]flgs cWoog h]eg]klg kf[ksf]cWoog k4ltnf0{ klg; Argfjfbl k4lt leg}cGtet ul/Psf]5. kfksf]cWoog dhtMkf7sfbt blv65 . ¿kt@j -dkmfttl_ zAbsf]cy{¿ksf]j}tfgs cVbog ug{eGg]xG5 . jg:klt lj1fgdf ¿v / la¿jfsf efu jf cjoj tyf ltgsf]Ps csf{@sf] ; DaGwaf/\$f] cWoog g}; ktflEjs cWoog ePh:t} kflksf cg; f/ nf\$syfsf] Ij ZnjfOf, cNbog egsf]syfdf k\psif\undarkg x\psi]kfq, kl/j\undarkg / k\undarkgf\undarkgf\undarkg for f0{sj\undarkgf} syfsf] ; Argfsf]:j \(\) b\(\) fpg' xf]. oxfFk\(\) fo{eGgfn]To:tf] sfdsf] af\(\) xG5 h; af6 cfVofgn]ult kfp5 . kfo\$ kl/syfsf]; /rgf lglZrt lgodåf/f Jojl:yt x65 / Tof]Joj:yf sfod ug{lglZrt **k\$fo**\$f]eldsf dxEj kUf{xG5 eGg]logsf]dfGotf /x\$f]5 . ol k\$fo \hbar f0{k \hbar n]jlhfIf/ -; a\$t_ lb0{syfsf]agf \hbar b \hbar fPsf 5g\. vf; u/L kl/syfsf]jfXo; Argf b]vfpg]sfo@f of]k4lt; km dflgPsf]5. kfkn]kl/syfx¿sf]lj Zn**]**f0fsf nflu #! k\$f/sf k\$fo{{ن -; ˈˈqx¿_ / !@! k\$f/sf pk; $qx \le sf$ $gy = f^a y/n$ $gy = f^a y/n$ Dfn ; \(\dagger \ '\) pk; \(\dagger \ \u/\) u/L hDdf !(! k\(\shrok\); ePsf] b\(\dagger \frac{1}{2} b \(\shrok\) fPsf 5g\-k/fhhL, @)&! M!@!_ . logsf lj rf/df ol k\$fo{¿ ; fj efd xg\cyft\ol ; +f/sf ; a} syfx¿sf]ljZn]f0fsf lglDt pkofJul 5g\. ol k\$fo{¿ nf}ssyfsf sfo{¿ xg\. pgsf cg; f/ kfqx; knl/G5g\t/ k\$fox; pxl xg\aGw; @)%* M&%.

j<u>lhflf/</u> j<u>0f**g**</u>

- lpha introduction -kl/ro_ kl/j f/sf ; b:o / gfossf]kl/ro lb065 .
- I. β Absentation -cgkl:ylt_ kl/jf/sf] Pp6f ; b:o cfkm x/fp5 jf
 cgkl:yt x65.
 - β 1 kl/kSj k'tf x/fp δ jf cgkl:yt x δ 5.

- $\beta 2$ of $\beta c g' k 3/aflx/hf$ cleef $\beta c g' k 3/aflx/hf$ cleef $\beta c g' k 3/aflx/hf$
- β 3 ojf k'tf 3/aflx/ hfG5 jf cgkl:yt xG5 .
- II. γ interdiction -lgif $\sqrt[3]{f1f}$ gfosnf0{lgif $\sqrt[3]{sf}$]cf1f lb065.
 - $\gamma 1$ sg}sfd ug{jf hfg k||ta6w ul/65.
 - γ2 cfb≱ lb065 jf sg}sfd ug{lgb≱g lb065.
- III. δ Violation -pNn^a\(\mathbf{S}g_\) lgif\(\mathbf{y} \) cf1fsf]pNn^a\(\mathbf{S}g_\) x\(\mathbf{S} \) .
- IV. εReconnaissance -ellh1f; f_ vngfosn]ell hflg]sfl;; u5{.
 - vngfosn] sðfsðl tyf axdNo j:taf/] hfgsf/l kf/kt ug[sf]; ; u5{.
 - ε2 gfosn] vngfossf af/df hfgsf/L kf/kt ug{ cg'; ωfg u5{.
 - ε3 c¿åf/f cg¦ Gwfg ul/G5.
- V. ζ Delivery -e**l**j1fg k**|**||Kt_ vngfosn]cfkmgf k||tåGålsf af/**j**lf ; l*gf kfp**5**.
 - vngfosn] cfkmgf] lh1f; fsf af/glf hfgsf/L kfkt u5{.
 - ζ2 gfosn]vngfossf af/ð/f hfgsf/l kf/kt u5{.
 - ζ 3 cGo; fwg jf df\lbdaf/f hfgsf/L kf\lkt xG5.
- VI. η Trikery -5nsk6_ vngfosn]gfos; & ePsf]; fdfg kfkt ug{wf\$f

```
lbg]sf];; u5{.
              η1
                        vngfosn]ljgDf‡fjf;HhgkgbJvfpБ.
                        vngfosn]hfbdo zlStsf]k\psi]u/l sfd u5{.
              η2
                        vngfosn]wf\sf lb\f cGo ; fwg jf df\bdsf]k\psi_\u00e4
              η3
                        u5{.
VII. θ
            Complicity -ssddf; fembf/L wfsfdf k// clgR5fkfs; ghf0{
            ; xof u5{.
              θ1
                        vngfosn]dgfpg vfflbf gfos /fhl x65.
              θ2
                        gfos hfbsf]j:tåf/f km5.
              θ3
                        vngfossf]wf\$fkUf\sfo\$f]gfosn]; dy\u00e4 u5\.
VIII.
            Lack-cefj_kl/jf/sf]; b:o; E sg}j:tsf]cefj xG5 cyjf sg}
                        j:tsf]rfxqf ul/G5.
                        Ps bhxlsf]cefj dx; '; ul/65 .
              a1
                        hfbdo kltlqlw if; xoflulsflcefi dx; ' ul/65.
              a2
                        cfZrofigs j:tsf]cefj dx; ; ul/65.
              a3
              a<sup>4</sup>
                        hfbsf]c08f jf cGo j:tsf]cefj dx; ', ul/G5.
```

cGo cefj x¿.

k}fsf]cefj jf cl:t@jsf]cefj dx; ' ul/G5.

a⁵

a⁶

- A Villainy - $vn\mathbb{I}$, $bl6tf_vngfos kl/jf/sf]; b:onf0{ xflg k/\delta fp5}.$
 - A1 vngfosn]JolStnf0{ckx/0f u5{.
 - A2 $vngfosn]hfbsf]; fwg jf; xoflunf0{x/0f u5{.}}$
 - A" vngfosn]hfbdo; xoflllnf0{anhkmt x/0f u5{.
 - A3 vngfosn]afnlgfnlnf0{gi6 u5{.
 - A⁴ vngfosn]lbpF}rf]l u5{.
 - A⁵ lj leGg lsl; daf6 ckx/0f jf rf/[L xG5 .
 - A^6 $c^a ve^a vul/65 jf xftuf ff sfl665.$
 - A^7 alkOf if nflk xb]sd a95.
 - A^{vii} hfbsf]k ϕ f]uåf/f kTglnf0{la; (5 .
 - A^{8} x:tfGt/Ofsf lglDt dfu ul/G5 jf cfsif@f ul/G5.
 - A° vngfosn]s;)nf0{lgisf; g u5{.
 - A_{10} vngfosn]s; n_{10} f0{; db|jf kfgldf km n_{10} f n_{10} g cfb n_{10} t
 - A11 vngfosn]sg}dflg; jf j:tdfly hfbdlqsf]kφflμ u5{.
 - A₁₂ g\$snl k||tlglw b||v65.
 - A₁₃ dfg[cfb] b005.

A14 xTof ul/G5.

A15 s) ul/65, kls(5) jf gh/a6bdf/flv65.

A₁₆ ljjfxsf nflu bjfj jf wDsl lbOG5 .

Axvi gft\foralff/sf alrdf ljjfx ug{wDsl lb065.

A17 g/elf0fsf nflu wDsl lb065.

Axvii gft\forallff/x\; sf alrdf g/elf0fsf nflu wDsl lb065 .

A18 vngfosn]/flqdf kl8f lb65.

A19 04sf]3f]f0ff ul/65.

IX. B Mediation -DMb:ytf ug{ befl/o yfxf x65, gfosnf0{hfg lb065 jf k7f065.

B1; xoflusf nflu cfx) fg ul/65 / lb065 klg.

B2 gfosnf0{rnfg ul/65.

B3 $56sf/f \div labf0$.

B⁴ lj leGg ¿kaf6 lj klTt xg]3f**]**f0ff ul/G5 .

 B^{5} gfosnf0{b}-7fpFlgsfnf ul/65.

 B^6 d[ob08 kfPsf] gfosn] uffJo 1 kdf 5 1 sf/f kfp 1 af 1 F5 .

 B^7 Ij nfk / zf $$k0f{ult}$.

X. C Counteraction -k||tlqmof cf/De_ vf||hstf{vf||h ug{; xdt x65 jf ...

- XI. ↑ Departure -k|yfg_ gfos 3/af6 k|yfg u5{.
- XII. D 1st Doner function -bftfsf]kyd sfo{ gfossf]k/Llff x65, hfbk0f{dfWbd jf ; xfos kfKt u5{.
 - D1 bftfn]gfossf]k/Llff ln65.
 - D2 $ftfn]gfosnf0{clejfbg u5{/ k}g /fV5}$.
 - D3 $dg{nfu}f]kf0fln]sg}sfd ug{cg/f}v u5{.}$
 - D^4 s\hline\delta lg|\delta kf\noting f u5{.
 - D⁵ gfos; Ei bofsf lglDt cg/fl/ ul/G5.
 - D⁶ ; DklQ lj efhgsf nflu cg/fj/ ul/65 .
 - d⁶ gfosn]cza68fsf nflu kxn u5{.
 - D' cGo cg/fl/x2.
 - $^*D^7$ klxnf]cg/fN c:jlsf/ePkl5 bf]f]cg/fN ul/G5.
 - d⁷ bftfsf]cg/fjv c; xofjul cj:yfdf kulkl5 ;]f lkmtf{ lng]; Defj gf x65 .
 - D* b'dgn]gfosnf0{lj gfz ug{k\psi Tg u5{.
 - D° b':dgn]gfosnf0{o4df ws¶5.
 - D¹⁰ hfbsf] ; fwgnf0{ lj lgdosf \geq kdf /fVg k|tfj /flv65 .

- XIII. E Hero's reaction -gfossf]k||tlqmof_ sfo||k||t gfossf]k||tls ϕ f b]/f k5{.
 - gfosn]bftfåf/f lb0Psf sl7g sfo{sf]; fdgf u5{jf ub{}}.
 - E2 gfosn]clejfbg kmsfpE jf kmsfpE j.
 - E₃ gfosn]dg{nfuff]dflg; n]egff]sfd u5{jf ubfg .
 - E4 gfosn]s\$Inf0{dlSt u5{.
 - E⁵ gfosn]lgj \$snf0{bof u5{.
 - E^6 gfosn]; DklQsf lglDt emu8f u/f dflg; nf0{ ldnfp5 .
 - E^{vi} | $Ij kIflnf0{gfosn}wfff lb65$.
 - E^7 gfosn]cGo sfo $\{i \le sf\} k \not = u5 \{ cg'f \not = k0f \{ u5 \} \}$ wfld $\{i \le sfo \} \{ u5 \} \}$
 - E* gfosn]cfkmhf0{xflg xgaf6 hflufp5.
 - E^{9} gfosn]cfkmgf]k||tåGålnf0{k/flht u5{jf ub{g}}.
 - E^{10} gfos j:t' n ϕ b ϕ ug{tof/ xG5 t/ kI5 bftfsf la \geq 4df k ϕ f ϕ 1 u5{.
- XIV. F Receipt of agent -hfbsf]j:t'kfkt ug{ gfosn]hfbsf]j:t'kfkt ug{ gfosn]hfbsf]j:t'kfkt ug{ gfosn]hfbsf]j:t'
 - F1; fwg k $\c log$ kdf x:tf $\c log$ t/s.

f1 cGo dNojfg j:t'pkxf/kf/kt ul/G5.

fneg gfossf] gsf/fīds k||tlqmofaf6 ; fwg x:tfGtl/t xEg .

 F_2 ; fwg kQf nfU5.

F3; fwgsf]tof/L ul/65.

 F^4 ; fwg allr65 / Islg65.

F⁵ gfossf]xftdf; fwg k5{.

 F^6 ; Denf): f cg; f/; fwg pTklTt xG5 jf cfp5.

 F^{vi} k $\c vi$ l aflx/af6; fwg cfp $\c b$.

 F^7 ; fwgx¿nf0{vf065 jf lk065.

 F^{8} ; fwgx \geq nf0{xft kfl/G5 jf sAhfdf lnOG5.

F° lj leGg kfqx¿ cfkm' gfossf] cwlgdf a:g d~h/ ub{5g\

f° ; xofluln]hltv// rflxof]pltv// pTklQ xg]ljZjf; lbnfp5 .

- XV. G Spatial change $-gfossf]:yfgflt/0f_gfossf]:yfgflt/0f_xl5$.
 - G_1 gfos xfj fdf p85.
 - G2 hldgdf jf kfgldf ofqf u5{.
 - G_3 gfosnf0{kyk\pz\(g \) ul/\(G_5 \) .

G⁴ gfosnf0{k\yfgla6baf6 nlo; Dd kUg]af6f]bVf065. G⁵ s/fsfglsf nflu gfosn]crn dfllbdsf]k\psif\u03ab u5{. /utsf]6f6f]jf cGo j:tsf lrGxx;n]af6f]b]/fpБ. G⁶ XVI. H Struggle -dNno4_ gfos / vngfossf]kijolo dNno4 x65 . H1 vNnf hldgdf n8f0Fx65. H₂ gfos / vngfossf alrdf klt:kwf{xG5. pglx¿ tf; v**]**5g\ Нз H⁴ $xf/lhtsf]dNof^a$ sq xG5. XVII. J Branding -Irl(xt xg' gfosnf0{Irl(xt ul/65 -sg)8fdsf]Irgf] nuf065_. J₁ gfossf]z/L/df sq}lr(x -lgzfg_ nuf0(5 . gfosn]cf]H if tflnof kfkt u5{. J₂ XVIII. I vectory -lj ho_ vngfossf]xf/ x65. vNnf o4df vngfosnf0{lkl665. 11 axbfosdWb] Ps gfos n\$5 / csfth] lj ho kfkt 11 ub\$. k|t:kwf@f vngfos k/flht xG5. 12

hjf v¶bf vngfos xf5{.

l3

- I⁴ dNof^asgdf vngfos xf5{.
- lj gf o4 vngfosnf0{dfl/65 .
- I⁶ vngfosnf0{lgisfzg ul/65 .
- XIX. K Liquidation -beflosf]cGo_ kf/lDes beflo jf cefjsf]cGo xG5 .
 - K_1 z|St / rnfvlsf]k ϕ f ψ af6 vf ψ lsf]j:t'x8lk ψ 5.
 - K2 w//s; xof/μln]Ps); dodf sfd kf/ nfpБg\
 - K3 dfofjl r/f]jf dgdf}ks j:taf6 sfd kmTt]ul/G5.
 - K^4 kj { ultlj lwx ¿sf] glthfcg'¿k \lor fjh\$f] j:t' kfkt x65 .
 - K^{5} hfbdo ; fwgsf]k ϕ f ψ åf/f \vee fh\$f]j : t'kfKt xG5 .
 - K^6 hfbdo; fwgsf]k ϕ f ψ åf/f ul/al x6f065.
 - K^7 vf[hlsf]; fwg; dfltG5.
 - K^8 6 $gfdgf e^a N x G5$.
 - K^{9} sfl6Psf]df65jh]kghl $\int g kf kt u5{$.
 - K^{10} kfgl cflb j:t'kfKt u/] kghlg kfKt u5{.
 - K^{10} aGblaf6 dISt xG5.
 - Kf $f = \frac{1}{2} t^2 \int \frac{d^2y}{dy} dy$ hfbsf j:taf6 beffosf]cGo xG5.

Kf1 cg', Gwfg $ug\{$; fwg :yfgfGt/ xG5 .

Kf2 cg', Gwfg $ug\{$; fwg e[/665 .

XXI. Pr Persuit -lk5f ug{ gfossf]lk5f ul/65.

 $Pr1 gfossf]lk5f ub{p8}b'.$

Pr2 gfos; & bfifl JolSt eflg'.

Pr3 hgfj/df ¿kf6t/ e0{gfossf]lk5f ug{.

 Pr^4 $nffofpffj:tdf \ge kfGt/e0{gfossfkl5 nflg'}.$

Pr⁵ gfosnf0{; dfKt kfg**{**k\$p\$Tg ug{.

Pr⁶ gfosnf0{dfg**{**kφ**I**g ug**{**.

 Pr^7 gfosnf0{; vaf6 km\(f\) fg]k\(\phi f\); uI/\(G5 \).

XXII. Rs Rescue -dlSt_ gfosnf0{kl5 nfllg}; af6 dSt ul/65.

Rs1 $gfosnf0{xfjfdf p8fP/ p4f/ ul/65}$.

Rs2 gfosn] vngfosnf0{ 5**\\$**g sf0**\bar{6}**f] lgufnf] cflb

hfbdo j:t'kmfN5.

Rs3 gfos efl/5 / c/n]lr/g g; Sg]j:tdf/x65

Rs4 gfos efl5 / n\$5.

 Rs^5 $sfdln]gfosnf0\{nsfp5$.

Rs⁶ gfos hgfj/jf 9^n Nfdf $\geq kfCt/xC5$ / afR5.

Rs⁷ vngfosn]kþflet xb]:j¿k ln65 t/ gfos To; sf] kþfledf kmbg.

Rs⁸ vngfos -/flf; ,hgfj/_ sf] cfxf/faf6 gfos af**R**5.

Rs° gfos cfkmg}kopf; af6 afR5.

Rs 10 gfos csf1 $\stackrel{\cdot}{\cdot}$ vdf xfd km 10 5 / d 10 5 .

XXIII. Q Unrecognized arrival-c1ftfudg, c1ftk\pf0f_ gfos c1ft ¿kdf 3/ cf0kU5 jf cs{b}df kU5.

XXIV. L Unfounded claims -cfwf/xlg bfjl_ 5b\d gfos cfwf/xlg s\f k\t\t u5\{.

XXV. M Difficult task -sl7g sfo{; Dkg'_ gfosnf0{sg}sl7g sfo{ug{ lb065}

XXVI. N Solution -; dfwfg_ sfo{; DkGg xG5.

XXVII. O Recognition -cle1fg_ gfos Irlg65.

XXVIII. Ex Exposure -ell vNg' 5bbl gfos jf vngfossf]ell vN5.

XXIX. T Transfiguration -¿kfCt/_ gfosnf0{gofF¿k kfKt xG5.

T1 ; xoflulåf/f ul/Psf]hfbsfoff/f gfosn]gofEk kf/kt ub.5.

T2 gfosn]cfZroftgs b/j f/ agfpb.

T3 gfosn]gofFsk8f nufpb .

 T^4 gfos xf:ooSt olSt; aut \geq kdf \geq kfGt/ xG5.

XXX. U Punishment -b08_ bl6nf0{b08 lb065.

Uneg 5b\dgfos jf vngfosnf0\b08 lb065.

XXXI. W Wedding -ljjfx,/fHof/f $\$ 0f_ gfossf]ljjfx x65 / p; nf0{/fHo kflkt x65 .

ljjfx W*

/fHof/fxt0f W*

ljjfx tyf /fHof/f3k0f W**

ljjfx ug{afrf ug{ W1

ljjflxt gfosn]>ldtl udfp δ / sfo $\{$; Dk δ g u/k δ l δ k δ Mk δ Kt u5 $\{$ W2

 $sfo{; DkGg u/}fkmt \ge k}fff cGo kbfy{alS; ; kfOG5 W^o -k/fhhl, @)&! M!@!-!#) _ .$

kflksf egf0df o:tf k\$fo&¿sf] lgwf{0f ePkl5 qmdsf] lgwf{0f ug{; ls65 . k\$fo&¿ /]vlo qmddf cfpБg\cyft k\$fo{a kl5 b cfpБ, c kl5 b cfpБg . sg}klg syfdf #! j6}k\$fo{gcfpg; S5g\. s}l; lldt k\$fo&¿ cfpБg\elgPsf]5 . t/ syfsf]lj Znjf0f ubf{k\$fo{c kl5 b klg cfpg; Sg] b]vof]. ax' zflvnfids syfx¿df cl3s}36gfh:t}¿kx¿ w]k6s bfkfl/Psf x65g\. To; jh]kfq / k\$fo{yf]}le6g k\$f/n]cfpg; S5g\t/ c kl5 b cfpБ} gcfpg]rflxFxflyg . o:tf nfsyfx¿ sg}Pszflvnfids, sg}låzflvnfids / sg}axzflvnfids x65g\ tl syfx¿sf]jlhflf/¿k To; /Lg}b]vfpg'kg[x65 .

@^ lgisif{

Nff\$syf nf\$; flxTosf] Ps kdV ljwf xf]. o; n]j0fqffds sygåf/f nf\$; dbfonf0{dgf]Ghg kbfg ub\$. nf\$syfdf nf\$; dbfosf; VbMv, j}flo, rnfvl, axfb/l, al4dfgl cflb ljljw cgelt / cgejsf]hljGt lrq0f ul/Psf] xG5. of]df]vs k/Dk/fdf hlljt /x\$fn]ultzln / kl/jtqzln xG5. nf\$syfdf sNkgfdo cb&t cnf]ss 36gfsf]; ef]hg ePsf]xG5. kf[ksf cg; f/ nf\$syfsf] ljZn]fOf, cWbog eg\$f]syfdf kbfil xb]kfq, kl/j½ / k\$fohf0{shfP/ syfsf] ; #rgfsf]:j¿k b]vfpg'xf]. oxfFk\$fo{eGgfn]To:tf]sfdsf]af]v xG5 h; af6 cfVofgn]ult kfp5. kfo\$ kl/syfsf]; #rgf lglZrt lgodåf/f Jojl:yt xG5 / Tof]Joj:yf sfod ug{lglZrt k\$fo\$f]eldsf dxTj kUf{xG5 eGg]logsf]dfGotf /x\$f]5. ol k\$fohf0{kf[kn]jlhflf/-; a\$j_ lb0{syfsf]jgfb b]vfPsf 5g\. vf; u/l kl/syfsf]jfXo; #rgf b]vfpg]sfoqff of]k4lt; km dflgPsf]5. kf[kn]kl/syfx¿sf]ljZn]fOfsf nflu #! k\$f/sf k\$fox{¿-; dx¿- / !@! k\$f/sf pk; dx¿sf]lgwf{Of u/}sf 5g\. logsf lj rf/df ol k\$fox{¿: fj efpl xb\cyft\ ol; #f/sf; a}syfx¿sf]ljZn]fOfsf lglDt pkofill 5g\

k|tt zfwdf nfssyfdf k\psi ePsf]pko\t kfksf]; Argfjfbl k4ltnf0\{ cfwf/ dfgl 8f\psi nfssyfsf]; Argfsf]:j\times k klxNofOPsf]5.

t][[K1/R5]) 8f]|L lf]|df k|r|nt nf]|syfsf]; /rgf

#=! |jifok|/ro

8font nfs; fixTosf lj leGg lj wfx¿dWb]nfssyf klg dxEj kUf{lj wf xf]. cGo nfssyfh:t}8font nfshlj gdf dflys k/Dk/fdf hllj t /xb}cfPsf syfx¿g}8font nfssyf xg\ glkfnldf nfssyf, syfsynul, bGTosyf, eGgsyf, lxGbldf sxfgl, kfZrfTo hut\df ldY; \-kf}flOfssyf_, lnh[8; \-bGTosyf_, kmfO/L 6f]; \-kl/syf_, kmln] -glltsyf_, clg hd\df dfv[]; fh] cflb gfdn] lrlgg] ol nfssyfx¿nfO{8font zAbdf .aft\df cyjf .aft\df klg eGg]ul/G5 . Psn]eGg]/csf[h]; Gg] clg x\starf{/} ylb}ubf{s/f eGg]jf aft dfg[kg]ePsfn]klg o; nfO{8font efiffdf aft]elgPsf]xf].

8fol Ifqdf krInt nfssyf dVo u/l b0{lsl; dsf 5g\M-!_ ufp6o}aft}-ufpg]syf_ / -@_ /fp6o}aft}-ufpFfg]syf_ . kf}fl0fs k| aul; t ; Dal6wt, ; [i6 ; Da6wl, kfrlg 8fohl k/Dk/f; E ; Dal6wt, jl/rl/q; E ; Dal6wt, c; fwf/0f zlSt ePsf b]lb]tf, /fhf, jl/k½if /flf; , et, lkzfr, kzklfl, cflbsf k| a\l \l \l \text{t}; t ; Dal6wt syfj:t' ePsf ufpg] dfhvs syfx½ g} ufpg]syf -ufp6o}aft} x\l \l \text{t} \text{ } \text{

xf]. o:tf]¿kk/s ; Argf k4ltaf/]kl/R5\$ Psdf pNny ePsf] 5 . k|tt kl/R5\$df 8f\$ldf k|rInt ufp6o}aft}nf\$syfx¿sf]¿kk/s ; Argf klxNof0Psf] 5 .

#=@ 8find nfssyfsf]; Argfids lj Znjf0f

k|t't kl/R5\$df nf\$syfdf k\phf\$\phi ePsf]kf\psf]; \textit{Argfj fbl k4ltnf0{cfwf/dfgl 8f\phi}\lnf\psyfsf]; \textit{Argfsf]:j\times k|xNof0Psf]5}.

#=@!=.sGtf /]d}fsl aftl) syfsf]; ArgfIds ljZnjj0f

Pp6f ufp@f Ps hgf srf]a]rlavg u/L uhf/f ug]sr}p9f]lyof]-kl/efiff Mkl/ro, jlhflf/ M α _. p; sl b0{lajflxt 5f]L ly0g\ srf lnP/ Ps lbg a9f cfkmgl 5f]Lsf 3/lt/ k|yfg u5 ϕ \-kl/efiff Mk|yfg, jlhflf/ M \uparrow _. Aff6f ϕ f uf}fsf]j t ug]j tfn' e ϕ \s / uf}fsf]k|fbsf \downarrow kdf dlxnfn]nfpg]bawfuf\$f]

/x:o yfxf kfpb, -kl/efiff Meb1fg kflkt, jlhflf/ Mz³. Af9f]5f7lsf 3/df kU5 / uf/fsf]af/df; a}s/f e6b5. h7L 5f7L s6tf j t ug{tof/ e0{3/ kf1g]df6f] Ing hfG5g\.-kl/efiff M gfossf]k||tlqmof, jlhfIf/ M E _ . Dff6f]vGbf af3sf aRrfx; RoflkP/d5qV af3n]sftf/p; sl q6bnf0{vfq vfflbf sftfn]cfkmyf] 5f[f lbg]; t(df 5b] 3/ cfpEg\\ -kl/efiff M k\rangled bef{losf} cGo, ssd(df ; fembf/L, jlhflf/ M K, θ _ . s; infO{geGg]; t@f sGtfn]af3nfO{cfkminf]aRrf lbG5] -kl/efiff M lgiffyf1f, jLhfIf/ M γ _ . 3/df cefj dx; ; xG5, -kl/efiff M cefj, jlhflf/ Ma1_.sGtfn]aRrf lbPsf]s/fsf af/df af3n]; a; E}eGb5g\kl/efiff Mlgif $\sqrt{1}$ fsf]p $\sqrt{1}$ p $\sqrt{1}$ g, jlhf $\sqrt{1}$ f $\sqrt{1}$ g, jlhf $\sqrt{1}$ ff]s rnfvL u/L 5f/f lkmtf{NofpF5g\ kl/efiff Mbef{osf]cGo, jlhflf/ MK1 _ . sGtf ca uf/fsf]jt ug{tof/ xlG5g\-kl/efiff M Gffossf]kl|tlgmof, jlhflf/ NE⁷ _ . sGtfsl alxgl 5rl xgfn]ufpFf; l; ann]; DemfpEgV dtfsf 3/df uf/f khf ug/ tof/L xG5 -kl/efiff M bftfsf] k\vdsfo{ jlhflf/ M D _ . d\text{fn} yfxf kfPkl5 sGtfsf 5f7fx; nf0{dfq1hfn /Rq]sf1;; u51-kl/efiff MvnEj, jlhfIf/ MA^o... 5nsk6 u/L sGtfsf 5f7fnf0{/flt dfg{hfG5]t/ uf}fsf]; tn]sGtfsf 5f7fx; ; tsf 7fp@f p; sf cfkmg}5f/fx; kbsq\/ d5g\-kl/efiff M 5nsk6, bl6tf, jlhflf/ $M \eta_1$, A_{10} . EffnkN6 dffsf cfkmg5fffx \neq d/fsf]s/f yfxf xG5. dffsf] eb vN5 -kl/efiff Mcle1fg, eb vNg; jlhflf/ MQ, Ex_. sGtfsf 5f]f; szn IdNb5g\kl/efiff Mbeffosf]cGo, jlhflf/ MK '* _ .

.sGtf /]dfsl aft()syfsf]; Argfids lj Znff0f tflnsf

; ≝; ≠	dhsyfsf]; f/	kl/efiff	jlhflf/
	Ps ufp@f Ps hgf srf]a]rlavg u/l	kl/ro	α
	$uhf/f ug[shapf]lyof]. p; sl b0{$		

	lajflxt 5f]L ly0g\		
XI.	stf InP/ Ps lbg a9f cfkmgl 5f7[lsf	k yfg	\uparrow
	3/lt/ k yfg u5 g \		
V.	Af6fdf uf}fsf]jt ug{jtfn'eð5 /	e ∮1fg k¶Kt	ζ³
	uf}fsf]k fbsf ¿kdf dlxnfn]nfpg]		
	bäwfuf\$f]/x:o yfxf kfpБ.		
XIII.	Af9f]5f][lsf 3/df kU5 / uf]fsf]af/djf	(ffossf]	E
	;a}s/f eGb5 . h] l 5f] l sGtf j‡	kltlqmof	
	ug{ tof/ e0{ 3/ kf]g] df6f] lng		
	hfG5g\		
XIX.	Dff6f] vGbf af3sf aRrfx; RoflkP/	kyd bef@osf]	K
VII.	$d5$ (\sqrt{a}) af3n]sGtf / p;sL gGbnf0{	clio, ssd(df	θ
	vfg vf¶bf sGtfn]cfkmgf]5f∏f lbg]	; fembf/L	
	; t(df 56] 3/ cfp 5 g\		
II.	s; hf06 gelig]; t(df sltfn] af3nf06	lgz¶f1f,	γ
VIII.	cfkmgf] aRrf lbG5] . 3/df cefj	cefj	a 1
	dx; z xG5 .		
III.	sGtfn] aRrf lbPsf] s/fsf af/df	lgzWf1fsf]	δ
XIX.	af3n]; a; G } e6b5g\. To; naf3n]	pNn ^a Sg,	K 1
	; t{xf/\sfn]sftfn]rnfvl u/l 5f]f	beflosf]clTo	
	lkmtf{Nofp15g\		
XIII.	sftf ca uf/fsf]j t ug{tof/ xlf5g\	(ffossf]	E ⁷
		kltlqmof	
XII.	sGtfsl alxgl 5tl xgfn] ufpJf; l	bftfsf] kyd	D
	; aḥ]; DemfpБg\/ dţfsf 3/df uf}f	Sfo{	
	khf ug{tof/l xG5 .		
	d}fn]yfxf kfPkl5 sGtfsf 5f]fx;nf0{	VfnTj	A ⁹
	dfg{hfn /Rg]sfl;; u5{.		

VI.	5nsk6 u/l sGtfsf 5f]fnf0{/flt dfg{	5nsk6,	η1
	hfG5]t/uf}fsf];tn]sGtfsf5f]fx¿	bl6tf	A 10
	; tsf 7fplff p; sf cfkmg} 5f]fx;		
	kb\$g∨ d5 g ∖.		
XXVII.	EffnkN6 d}fsf cfkmg}5f7fxz d/\$f7	cle1fg, e	Q
	s/f yfxf xG5 . dfsfe vN5 .	∨Ng'	Ex
XIX.	sGtfsf 5f]f ; szn ldNb5g\	bef@sf]cGo	Kix

ال $\mathbb{I}[f]$ syfsf]j lhfIf/ خ $\mathbb{I}[h]$ الم $\mathbb{I}[h]$ خ $\mathbb{I}[h]$ الم $\mathbb{I}[h]$ الم

.sGtf /]dfsl aftl syf klg ; Argfjfbl k4ltcg; f/ nfssyfsf k\$fo&¿ s¢a4 tl/sfn]k|tt ePsf]Psztwint syf xf]. o; syfdf ktksf]cWoog k4ltdf k¢fl ePsf ; ¢; asfdWo]- kl/ro, jlhflf/ M α , k|yfg, jlhflf/ M \uparrow , eb1fg ktkt, jlhflf/ M \uparrow , gfossf]k|tlqmof, jlhflf/ ME , kyd beftosf]cGo M K, ssd&f ; fembf/l, jlhflf/ M \ni , lgzlyf1f, jlhflf/ Motay, cefj, jlhflf/ Ma1 , lgzlyf1fsf] pNna3g, jlhflf/ Motay &, beftosf]cGo, jlhflf/ ME7, bftfsf]kydsfo{jlhflf/ MD, vnīj, jlhflf/ MA9 , 5nsk6 M otay1, bl6tf, jlhflf/ MA10, cle1fg MQ, eb vNg; jlhflf/ MEx , beftosf]cGo, jlhflf/ MKotay3 k\$fo&¿ ksf]k¢fly ePsf]5, h; df k-beftosf]cGo_tlgk6s / E-gfossf]k|tqmof_b0k6s afx\$ c¿ s\gamma\$ k\$fo&¿ bf\structtree{theta}/Psf 5\gammagg\.wi{}}36gf pk36gfn]syfdf df\structtree{theta}/structtree{t

#=@@= .96]dh\$l aft() syfsf]; ArgfIds ljZn]f0f

Ps sGy]gfdsf]dh]-6k/f] cfkmgl lbblsf]3/df a:bYof]-kl/efiff Mkl/ro, jlhfIf/ M α _. sGy]h]Ps lbg df; sf /fGl vfg]0R5fcg; f/ lbbl; E cg/fJv ub \S

-kl/efiff MGffossf]kltlqmof, jlhflf/ ME _ . lbbln]ljleGg axfgf agfP/ p; nf0{ df; ∨f¶g k7fpБ]-kl/efiff M bftfsf]k\vd sfo{jlhflf/ M D₁ _ . lbbln]km\/ $axfgf u/\sqrt{p}; nfO{9bf}-wfg sbbf lg:ssf] whf] sf]/fbl agfP/ nibm ebb}$ e/afaalf kmin5]. /fol v;] tn le/af6 jge|Fl ePsf 7fp|Eff kU5, /fol; EjsGy] klg n8/ Tot}kU5 -kl/efiff Mbef{osf]cGo, gfossf]:yfgfGt/0f, jlhfIf/ MK7 G_2 . c; xfo sGysf] cfuxdf eFln] cfkm; E}/fV5q\. bf] f] lbq eFln] sGysf] ; //Iffsf nflu cfkmgf]; asf]afF/L agfP/ lbG5g\-kl/efiff M bftfsf]k\vd sfo{ jlhflf/ M D_ . sfkl bldg cfpbf dfq of]ahfpg'gq gahfpg'eg/ eJFl rg{ $hfG5g\kl/efiff\ Mlgiff\fff,\ j\lhflf/\ M_{Y}\ _.\ sGy\h]Psk6s\ /x/n]afF'/\ ahfp5\ /$ eFl; a}cf0kU5g\. eFln]ca wf\$f gxf]\egl hfG5g\-kI/efiff M lgiffwf1fsf] pNn^a 3g, $jLhfIf/M\delta_...bf]$ (\$\delta 6s eg]/fhfsf I; sf/L cfP/ sGy) $hf0{n}_hfg vf$)hfg vf) p; n]afF/L ahfp5 t/eFL cfpFgq\p; nf0{nlu65, p; n]cfkmgf]Pp6f cfFf sf6] /ut rkfpF}hf65 -kl/efiff M vnIj, :yfgf6t/0f, jlhflf/ M A1 G6_ . EfFl] /utsflyfkf kR5\dfp\begrearressfy\hf0{y\hf0{y\hf0{y\hf0}/df cf0kU5qV eIsfpq yfN5q\ -kl/efiff MdlSt, jlhflf/ MRs _ . EfFl /f\$g ; a}cfp5g\t/ s; in]g; skl5 s6y] cfp5 / ; fDo kf5{-kl/efiff MGffossf]k|tlqmof, jLhfIf/ ME_.sGy]crfqs wqL xG5, p; nfO{ cfwf /fHo alS; ; ldN5 / /fhsdf/Ll; t ljjfx xG5 -kl/efiff M خ kfGt/, alS; ; ,lj j fx, j lhf lf/ MT, W° ,W* _ .

syfsf]; Argfids lj Zn]f0f tflnsf o; k\$f/ 5 M

.96]dh\$l aft()syfsf]; Argfīds ljZn]f0f tflnsf

; ≝; ҙ	dhsyfsf]; f/	kl/efiff	jlhflf/
	Ps sGy] gfdsf] dh] -6x/f] cfkmgl	kl/ro	α
	lbblsf]3/df a:bYof].		
XII.	sGyjh] Ps lbg df;sf /fjl vfg]	bftfsf] kyd	D ₁
	OR5fcg'; f/ lbbl; Ei cg/fly ubto .	sfo{	

XIII.	lbbln]lj leGg axfgf agfP/ p; nf0{df;	Gffossf]	E
	∨f¶g k7fpБ].	k tlqmof	
XIX.	lbbln]kml/ axfgf u/]/ p; nf0{9bf]wfg	beflosf]clTo,	K ⁷
XV.	s6Nf lg:s\sf]whf]sf]/f\dagfP/n\dagfP	gfossf]	G_2
	eGb}e/oxfaotf kmfN5]./fjolv;] tn	:yfgfGt/0f	
	le/af6 jgeFl ePsf 7fpEff kU5,		
	/f] l; []s(y]klg n8] Tot}kU5 .		
XII.	c; xfo sGysf]cfukdf eFln]cfkm; E)	bftfsf] kyd	D
	/fV5g\	sfo{	
XIV.	bf]f]lbg eFln]sGy\$f];/Iffsf nflu	Hffbsf]j:t'k¶Kt	F1
II.	cfkmgf] I; asf] afF/L agfP/ lbG5g\.	ug <u>{</u>	γ
	sfxl bldg cfpbf dfq of]ahfpg'gq	lgz¶f1f	•
	gahfpg'eg] eJFl rg{hfl5g\		
III.	sGyjh]Psk6s /x/n]afF/l ahfp5 /	lgz]vf1fsf]	δ
	eFl ; a} cf0kU5g\. eFln] ca wfsf	pNn ^a 3 g	
	gxf] \egl hf65g\		
	bf] ¶k6s eg] /fhfsf I; s/L cfP/		
	sGyjnf0[njnfg vfljbf p; n] afF/L	vn€j,	A 1
XV.	ahfpБ t/ eFl cfpFgg\. p;nf0{	:yfgfGt/0f	G ⁶
	nluG5, p; n] cfkmgf] Pp6f cffnf sf6]		
	/ut rkfp b }hfG5 .		
XXII.	Eff[] /utsf] yff[f kR5&fplf] s6yfhf0{	dISt	Rs
	yg] /fv\f] b/af/df cf0kU5g\ /		
	eTsfpg yfN5g\		
XIII.	Eff[/fs]g ; a} cfp5g\ t/ s; h]	(ffossf]	E
	g; skl5 s6y]cfp5 / ; fDo kf5{.	kltlqmof	
XXIX.	sGy] crfgs wgl xG5, p; nfO{ cfwf	¿kfGt/,	Т

XXXI.	/fHo	als;;	IdN5	/	/fhsdf/ll; t	alS;;,	Wo
	lj j fx	xG5 .				lj j fx	W*

 $= Mff syfsf = M\alpha D^1 E K^7 G_2 D F^1 \gamma \delta A^1 G^6 Rs E T W^0 W^*$.

.96] dh\$l aft() syfdf nf\$syfsf kfo k\$fo{¿ gbf}ff/0 k|tt ePsf] Pszf\nt syf xf]. o; syfdf kf\sf] cWoog k4ltdf k\pfi\ ePsf ;\phi;\alpha\s\deltaf\] kVlog-kI/ro, jlhfIf/ M\alpha, Gffossf]k\phi\lqmof, jlhfIf/ M\E, bftfsf] kVlog sfo{jlhfIf/ M\D1, bef\losf]cGTo M\K^7, gfossf]:yfgf\text{Gt}/0f, jlhfIf/ M\G2, bftfsf] kVlog sfo{jlhfIf/ M\D1, lgif\ranglef1f, jlhfIf/ M\py, lgif\ranglef1fsf] pNn\alpha\s\g, jlhfIf/ M\delta, vnTj, :yfgf\text{Gt}/0f, jlhfIf/ M\D2, dISt, jlhfIf/ M\Rs, Gffossf]k\phi\text{lqmof}, jlhfIf/ M\E2, \geq kf\text{Gt}/ M\T2, alS; \geq M\W^0, ljjfx M\W^* u/l h\text{Ddf} \ranglef1\frac{1}{2} k\sqrt{1}\ranglef1\frac{1}{2} k\sqrt{1}\ranglef1\frac{1}{2} k\sqrt{1}\ranglef1\frac{1}{2} k\sqrt{1}\ranglef1\frac{1}{2} k\sqrt{2} \ranglef1\frac{1}{2} k\sqrt{2} \ranglef1\

#=@#=afg\hjp8l\u00ed syfsf]; Argfids IjZnjj0f

Ps ufp&f Ps hgf ul/a a:bYof]/ p; sl Ps ljjflxt lbbl ly0g\kl/efiff M kl/ro, jlhflf/ M α _ . Dff3sf] dlxgf rjhla&lsxfF; jh/f&l lnP/ hfgkg{ rngcg'; f/ pm klg lbblsxfFhf65, -kl/efiff M k|yfg, jlhflf/ M \uparrow _ . af6f&f /fit cf&f/df af; a:5 / Pp6fet; & kl/ro x65, etn]p; sf]ul/al aen k} f xllg]afvf|]lbP/ k7fp&5, -kl/efiff M hfbsf]j:t'kfkt ug{jlhflf/ M F _ . k} f xllg] afvf|\$f af/&f ; gkl5 p; sl lbbln] cfkm&f] afvf] & ; f6] To; sf af/&f hf6g] k\phf; u5{\frac{1}{3}} -kl/efiff M e\phlh1f; f\ddot bl6tf, jlhflf/ M ϵ 1,A2 _ . s\phred{f}fn]afvf\sf af/\phred{f}f et; & eg\kl5 etn]km\phred{f} hfbsf]nf\rangle{f}f/\$f \rangle{f}f lb65 / Tof]lnP/ 3/df k\pred{f}f / cfkm\phred{f}f afvf\frac{1}{3} \kms{\frac{1}{3}} -kl/efiff M hfbsf]j:tkf\kt ug{jlhflf/ M ϵ 1 _ . Affvf]lnP/ ul/a s\phred{f}f \rangle{f}f M kms{\frac{1}{3}} +kl/efiff M kms{

af/df yfxf kfPkl5 x8kg / p; nf0{dfg{vflJ5g\kl/efiff MvnTj \div bl6tf , jlhflf/ M A⁵ _ . p; n]hfb\$f]nf}f]/ 8f]L k\pfl\ullet u/L ; //llft a:b5, -kl/efiff M befl\ullet osf] cGTo, jlhflf/ M Kf _ . Hffb\$f]; fwgaf6 Ufl/a wgL aGb5 / ljjfx u/] a:5 - kl/efiff Mul/aL x6\ullet, ljjfx, jlhflf/ MK⁶, W* _ .

syfsf]; Argfīds lj Zn]f0f tflnsf o; k\$f/ 5 M

.afg\hip8l\u00edsyfsf]; Argfids ljZnijf0f tflnsf

; ≝; ≠	dhsyfsf]; f/	kl/efiff	jlhflf/
	Ps ufp@f Ps hgf ul/a a:bYof]/	kl/ro	α
	p;sl Ps ljjflxt lbbl ly0g\		
XI.	Dff3sf]dlxgf rjhlajblsxfF; jh/fjbl InP/	k yfg,	\uparrow
XIV.	hfgkg{ rngcg; f/ pm klg lbblsxfF	hfbsf]j:t'k¶Kt	F
	hf65 . af6fdf /flt cfBf/df af; a:5	ug{	
	/ Pp6fet; & kl/ro x65, etn]p; sf]		
	ul/al aem] k}f xUg] afvf[] lbP/		
	k7fpБ .		
IV.	k}f xllg]afvfsf af/df; glkl5 p; sl	e) lh1f; f,	E 1
	lbbln] cfkmgf] af∨f] Œ ; f6] To; sf	bl6tf	
	af/d/f hfGg]kφf; u5.[.		A 2
XIV.	søfn] afv¶sf af/øff et; E egkl5	hfbsf]j:t'k¶Kt	F ₁
	etn]kml/ hfbsf]nf}f]/ 8f]L lbG5 /	ug{	
	Tof] InP/ 3/df kU5 / cfkmgf] afvf]		
	k¶Kt ub§ .		
XX.	Affvf]InP/ ul/a sðf]3/ kms(5 .	kms&'	\downarrow
	ufp&f amp]p; sf]afvfsf af/df yfxf	vnīj ÷bl6tf,	A ⁵
XIX.	kfPkl5 x8Kg / p; nf0{dfg{vf] 5g\.	beflosf]cGo	K f
	p; n] hfbsf] nf]f] / 8f][l k\pf][u/l		

	; //IIft a:b5 .						
XIX.	Hffbsf]; fwgaf6	Ufl/a	wgl	aGb5	/	beflosf]cGo -	K _e
XXXI.	ljjfx u/] a:5 .					Ufl/aL x655_,	W*
						lj j fx	

#=@=\$=.lagfafv/lsl aft\(\) syfsf]; Argfids lj Zn\(\) for

Psfb½df b0fhgf alxgl \ge khl / enkhl a:blyg\-kl/efiff M kl/ro, jlhflf/ M α _ . \ge khlsl cfdf d/l; s\$l ly0g\ Ps lbg \ge khlsf afa' s}l lng xf6ahf/lt/ k|yfg u5 \S \-kl/efiff M k|yfg, jlhflf/ M \uparrow _ . 3/sf cGo ; fdul / \ge khln]eg&g'; f/ p; sf nflu Ps hfb\$f]lagfafv\[lsg]\ 3/ kn\[S\[5g\-kl/efiff M k\[S\[5g\-kl/efiff M kn\[S\[5g'\]]; t' khlns \S \[; jlhflf/ M \downarrow _ . hfb\$f]lagfafv\[\end{bhlnf0}\[khlnf0\[lb0G5 -kl/efiff M Hffb\$f]j:t' kf\[t ug\[jlhflf/ M F _ . \end{bhlnf0}\[khlnf0\[kh

k β f \(\text{khln} \) \(\text{vfPsfsf/0f pm df} \) \(\text{fPsf} \] \(/ x : 0 \) \(\text{kTt nfUb5}, \ - \text{kl/efiff M e} \) \(1 \) \(\text{fgkKt}, \) \(\text{jlhflf/Mz} \) \(\text{.} \)

lagfafv | lag

; f]: d] alxgl enkhln] dgdf 8fx u5[/; xg g; sl ¿khlnf0{ dfg{ 5nsk6lt/nfl5]-kl/efiff M5nsk6, jlhflf/M η i_. Ps lbg ¿khlsxfFku] /fglsf nuf slt; kfp δ eGb}lbblnf0{kmsfP/ 0gf/df nul 5fofFx]fFeGb}lbbl ¿khlnf0{sj fdf w\$sf lbP/ df5[-kl/efiff M ν nTj ÷bl6tf, jlhflf/M Δ io_. cfkm'/fgl ag\$l enkhl 5b\dgfossf]eldsfdf /fhf; E a:5]/ cfkm'g}¿khl ePsf] cfwf/xlg s/f u5[-kl/efiff M cfwf/xlg bfjl, jlhflf/ML_. ¿khl c1ft¿kdf /flt/flt cfkm\df 5f]f b\dw r\fpg cfp δ] zf\deltak0f{ult aHb5 / 9f\deltafx}cfkm\dwlapha\deltafy\del

.lagfafv/lsl aft() syfsf]; Argfīds lj Zn]f0f tflnsf

; " ; +	dhsyfsf]; f/	kl/efiff	jlhflf/
	Psf b≱df b0∱gf alxgl ¿khl /	kl/ro	α
	enkhl a:blyg∖. ¿khlsl cfdf		
	d/l; s \$ l ly0g\		
	Ps lbg ¿khlsf afa' s x l Ing	k yfg	↑
XI.	xf6ahf/lt/ k yfg u5 g \		
XX.	[khln]خ 3/sf c6o ; fdul	kms g '	\downarrow
	egch; f/ p; sf nflu Ps hfbsf]		
	lagfafvl lsg] 3/kmls(5g\		
XIV.	hfbsf]lagfafvlj ;khlnf0{lb065 .	Hffbsf]j:t'k¶Kt	F
		ug'{	
IV.	¿khl cfhef¶n df∳fPsf]/x:o hf@	ellh1f; f	E 2
	enkhlnf0{; &}k7f065 .		
V.	Hffbsf] lagfafvl[n] k\bar{g}f xllg] / ; f\bar{x}L	e ∮ 1fgk¶Kt	ζ
	k\brace{k}f \gegin{align} k\brace{k}ln] vfPsfsf/0f pm df\brace{f}sf]		
	/x:o kītf nfUb5 .		
VI.	lagfafvl nf0{aßgjfsf6gnuf065.	5nsk6	η
XII.	dgfnfu\$f] lagfaf∨l[n] ¿khlnf0{	bftfsf]kyd sfo{	Dio
	cfkmgf]df;'gvfge65/x88dx¿		
	<pre>Uff8] /fVg cg/f]v u5{ h; n] ubf{</pre>		
	khlnf0{kl5 ; xoflا kl/5 .		
XIII.	¿khln]afvfsf x88lx¿ Uff8]/fV5].	Gffossf]k tlqmof	E 3
XXV.	¿khln]x88lx¿ Uff8]/fv\$f]7fp@f	-gfossf] k/llff_	M
	; gsf]∨Daf ag] pldøf]. /fhfåf/f Tof]	sl7g sfo{; Dkg'	
	; gsf] vDaf pv¶g nuf065 . s; ﴾]		
	klg g;s k l5 ¿khlnf0{ af i hf065 /		

	p √] g nf065 .		
XXVI.	khln sfd kmtt] u5{/ c;nl	; dfwfg,	N
XXVII.	gfossf]klxrfg xG5 .	cle1fg	Q
XXXI.	tl sdf/l;@ /fhfn]ljjfx u5 g \/	ljjfx,	W _*
	/fhf ¿khlnf0{/fgl agf0{/fHo rnfP/	/fHof/f¾0f	
	a:5g\		
VI.	; f}gl alxgl enkhln]dgdf 8fx u5{	5nsk6	η¹
	/ ;xg g;sl ¿khlnf0{ dfg{		
	5nsk6lt/ nfU5].		
	Ps lbg ¿khlsxfFku] /fglsf nuf	∨nīj ÷bl6tf	A ¹⁰
	sit ; kfp5g\eGb} lbblnf0{ kmsfP/		
	Ogf/df nul 5fofF x/ffF e6b} lbbl		
	khlnf0{s j fdf w\$sf lbP/ df5] .		
XXIV.	cfkm'/fgl ag\$l emkhl 5bblgfossf]	cfwf/xlg bfjl	L
	eldsfdf /fhf; & a:5] / cfkm'g}		
	khl ePsf]cfwf/xlg s//f u5.		
XXIII.	khl c1ft¿kdf /flt/flt cfkmgf/	c1ft cfudg,	0
IX.	5f]f bw r;fpg cfp5] zf\$k0f{ult	dWb:ytf	B ⁷
	aHb5 / 9f≸fx¿ cfkm}∨Nb5g\		
IV.	/fhf o; sf]/x:o kTtf nfpg Ps lbg	Ef þ lh1f; f,	E
V.	khl /flt/fltغ 9f\$fsf]k5fl8 n\$5gV	e ∮1fg k¶Kt	ζ
	cfpg]u/\frac{sf}yfxf kf0{; df15g\		
XXVIII.	5b\dgfossf] e\b vN5, gfos	e l) vNg;	Ex
	Irlg65 .	cle1fg	
XXX.	5bagfosnf0{ b08 lb065 / /fhfn]	b08	U
XXXI.	khl/fglkgMkfKtu5g\	kgMIjjfx	W ₂

 $\eta^1 \, A^{10} \, L \, O \, B^7 \, E \, \zeta \, Ex \, U \, W_2$.

 $syfsf]bf]f]z^{\text{N}} nfdf-5nsk6, jlhflf/ M \eta^1 , vnīj \div bl6tf, jlhflf/ M A^{10}, cfwf/xlg bfjl, jlhflf/ M L , c1ft cfudg M o, dWb:ytf, jlhflf/ M B^7, Eflhlh1f; f M E, elh1fg kflkt, jlhflf/ M \(\zeta\), elh vNg;cle1fg, jlhflf/ M Ex, b08 M U, kgMljjfx, jlhflf/ M W2 u/l hDdf !)j6f k\(\shfo\)_ksf]k\(\phi\)_l ePsf]5, o; df klg sg\k\(\shfo\)_\zeta\(\zeta\)_bf\(\shfo\)_\zeta\(\zeta\)_ syfdf /fhfsf]\(\zeta\)_khl; \(\varEll\)_jfx u/l Pp6f 36gfsf]cGTo eP/ enkhlsf sf/Of s\(\zeta\)_l ; dosf nflu \(\zeta\)_khl udfPsf /fhfn] kgMkf\(\xeta\)_t ubf\((\zeta\)_sf klg k'f ePsfn]syf l\(\zeta\)_\zeta^{\text{N}}\(\xeta\)_lnt\(\zeta\)_36gf klg k'f ePsfn]syf l\(\zeta\)_\zeta^{\text{N}}\(\xeta\)_lnt\(\zeta\)_36gf klg k'f ePsfn]syf l\(\zeta\)_\zeta^{\text{N}}\(\xeta\)_lnt\(\zeta\)_\zeta\}_\zeta\(\xeta\)_lnt\(\zeta\)_\zeta\]$

#=@%=.da*nl /fptsl aft() syfsf]; Argfīds lj Zn]f0f

Ps ufp@f danl /fpt / p; sf lhh8l /fptnufot ; fpf ; ft ef0 lyP -kl/efiff Mkl/ro, jlhflf/ M α _ . lhh8l /fptnufot ; fpf ; ft ef0n]cfkmh] kl5 danl /fptnf0{ cz lbgk5{ e6b}clxn]g}yf}]lbP/ cnu /fVg]s/f u/]-kl/efiff M5nsk6, jlhflf/ M α _ . Tof]s/f danl /fptn]yfxf kfP/ leqaf6 wfgsf]lap lnP/ cfof]. ; fpgl cfdfn]rfn kf0g\-kl/efiff M6ffossf]k|tlqmof M

dant /fptsl aft}syfsf]; //rgflds lj Znjf0f tflnsf o; k\$f/ 5 M

.da nl /fptsl aft syfsf]; /rgfīds lj Zn fof tflnsf

; ≝; ≠	dhsyfsf]; f/	kl/efiff	jlhflf/
	Ps ufp@f danl /fpt / p;sf	kl/ro	α
	Ihh8L /fptnufot ; f}:jhf ; ft ef0		
	IyP .		
VI.	Ihh8L /fptnufot ; f}:jhf ; ft ef0n]	5nsk6	η
	cfkmh] kI5 da%nl /fptnf0{ cz		
	lbgk5{ eGb}clxn]g}yf]}lbP/ cnu		
	/fVg]s/f u/].		
XIII.	Tof] s/f danl /fptn] yfxf kfP/	Gffossf]	E ⁸
V.	leqaf6 wfgsf]lap InP/ cfof].; f}gl	kl tlqmof,	ζ ⁱ
	cfdfn]rfn kf0g\	Eff)1fg kflKt	,
	ca dant /fptnf0{dfg{hlst nf065 .	vnīj	A ⁱ⁴
V.	da%nlsl :jf:gln] cfkmgf] nfljgjnf0{	Eff)1fg kflKt	ζ2
	5nsk6 u/l df/ţsf]s/f yfxf kfpБ].		
IV.	Kfl5 da&nlsf] 5f]f] hGd] 7hf] xG5 /	Ef l h1f; f	E 2

	cfkmgf]afasf af/df vflhva/ u5{.		
V.	; filyk5 ubf{ cfkmgf aj fnf0{ 5nsk6	Eff)1fg kf Kt	ζ2
	u/L df/sf]s/f p; n]yfxf kfpБ.		
XXX.	lf15 da∛nln] lhh8lsf ; Gtfg /	b08,	U
XXXI.	5nsk6 ug{ ; 3fpg] legfhhufot	/fHof/f] t0f	W _*
	; ajnf0{dfb\$ / cfkm'/fHo rnfp5 .		

الز $k \ M \alpha \eta \ E^8 \zeta^1 \ \epsilon_2 \zeta^2 \ U \ W_x$.

.da%nl /fptsl aftl) syfdf nf\$syfsf kflo k\$fo&¿ gbf}fl/O k|tt ePsf] Pszf\nt syf xf]. o; syfdf kfl\sf] cWoog k4ltdf k\pfl\ ePsf ; \phi; \alpha\s\dagger\dagger\nt kl\ro, jlhflf/ \mathbb{M} \alpha , 5nsk6, jlhflf/ \mathbb{M} \eta , \text{offossf}kl\tlq\mof \mathbb{M} \text{Efb}1fg kfl\kt, jlhflf/ \mathbb{M} \alpha i , \text{offossf}kl\tlq\mof \mathbb{M} \text{Efb}1fg kfl\kt, jlhflf/ \mathbb{M} \alpha 2 , \text{Efb}1fg kfl\kt, jlhflf/ \mathbb{M} \alpha 2 , \text{bfb}1fg kfl\kt, jlhflf/

#=@^= ./lgenfs/L aft()syfsf]; /#rgfīds ljZn]f0f

dWb:ytf,Gffossf]k||tlgmof, ilhflf/MB4,E7_.kb||zaf6 ba}ef0 3/km|s65g\kl/efiff M kms $(j; j lhflf/ M \downarrow ... / lgsf ba)ef0 ldn<math>(j)$ d(j)hfb(j)pnf0(j)rf(j)vs(j)k/(j)ufp\(\bar{1} \) osf\(\cdot \cdot \) osf\(\cdot \cdot \cdot \) osf\(\cdot \ /lgnufot p; sl :jf:ql 3f6df qxfpq hfbf dhfbbn]rfn kfp5 / hfblsf]e1fdf kl5 nfl5, -kl/efiff Mkl5 nflg; jlhflf/ MPr _ . dhfbhn]egcg; f/ 3f6df /lgn] :gfg ljlw ckgfp5 -kl/efiff Mgfossf]kltlqmof, jlhflf/ MC_ . lar 3f6af6 afn'i f Nofpg nf065 / lng hff /lg 8a7 d5{ p; nf0{lng hff ef0 klg 8A5 clg dinfbip /lgsl :jf:gl InP/ hfG5 -kl/efiff Msl7gsfo{; Dkg; vnTj, jlhflf/ MM, A 14 _ . 3/df/lgx _ sf]vf[hl xG5 . ptf/lgsl >ldtlsf]k]df p; sf]aRrf x65 / dinfbip ToflaRrfnf0{gbldf kmNg tof/ xbf Pp6f bdf0n]rfn kfp5 / cfkm'; xofiju ul/lbg]eGb}aRrfnf0{InP/ uffjo ¿kdf /lgsl cfdfsxfFk/bfp5 kl/efiff Mbl6tf, dWb:ytf ug{jlhflf/ MAio,B6 _ . /lgsf]5f]f ; fla /fpt 7hf] x6hf65 / kl5 Tof]bdf0&f6f /lgsf]dTosf]af/ddf yfxf kfp6 -kl/efiff MEfb VNg; jlhflf/ Mex_./lgsf]5f]fn]bdf0\barefi};xof\barefi lnP/ d\barefibpnf0{df/\df]-kl/efiff M b08, jlhflf/ MU _ . ; fla /fptn]v; l; & /fHo ; fdfn/ a:of]/ bdf0Fif0{alS; ; lbof]-kl/efiff M/fHof/fx0f, als; ; , j LhfIf/ MW Wo _ .

syfsf]; Argfids lj Zn]f0f tflnsf o; k\$f/ 5 M

./.lgenf's/L aft() syfsf]; ArgfIds Ij Znjjf0f tflnsf

q ⊯; ≠	dhsyfsf]; f/	kl/efiff	jlhflf/
	Ps ufp@f Ps /lg /fpt / Ps enas/L	kl/ro	α
	/fpt b0{ef0 a:by]. pgsl cfdf dfq		
	ly0g\		
XXXI.	/lg /fpt ljjfx u/] akf/L 3/df	lj j fx	W*
XI.	cfdf; & 5f\$L cfkm' ba} ef0{ wg	k yfg	\uparrow
	sdfpg kb≱ k¦yfg u5 § \		•

	To; } ufp&f]; fdlGt Ps hgf dinfbip	bl6tf	A 2
	sf∰/fnf /lgsl :jf:gldfly cf\f nfpb		
	/ p; nf0{xft kfg [sf] ; ; u5{.		
VII.	/lgsl :jf:gln] clgR5fkj; wfsfdf	ssd&ffemDf/L	θ1
	k/] zqhf0{; xof] u5].		
IX.	/lgsl cfdfn];f]s/f yfxf kfPkl5	dWb:ytf,	B ⁴
XIII.	cfkmgf 5f]fx¿nf0{ 3/ kms(g lr7l	(ffossf]	E ⁷
	k7fp6]/ pglx¿ cfpg tof/ x65g\	kltlqmof	
XX.	kb≱af6 ba}ef0 3/ kmls€5g\	km/sg'	\rightarrow
XIX.	/lgsf ba}ef0 ldn] djnfbjpnf0{rfiys[kyd bef@osf]	K 1
	k/∄ ufp&f6 n∨∳\$g\	clio	
XXI.	Ps lbg /lgnufot p; sl :jf:gl	lk5f ug{	Pr
	3f6df gxfpg hflff dilnfbilipn] rfn		
	kfp5 / hflulsf]e]fdf kl5 nfll5 .		
XXV.	dinfbipn]egitg; f/ 3f6df /lgn]:gfg	sl7gsfo{; Dkg;	М
	ljlw ckgfpБ . lar 3f6af6 afn j f	vn€j	A i4
	Nofpg nf0G5 / Ing hflff /lg 8a]		
	d5{ p; nf0{ lng hfFf ef0 klg 8A5		
	clg dinfbin /lgsl :jf:gl InP/ hfG5 .		
Χ.	3/df/lgx¿sf]vf¶hLxG5.	k tlqof cf/De	С
	ptf /lgsl >ldtlsf]kdf p; sf]aRrf	bl6tf,	A ^{io}
IX.	xG5 / dinfbip Tof] aRrfnf0{ gbldf	dWb:ytf ug'	B ⁶
	kmfNg tof/ xlbf Pp6f bdf0n] rfn		
	kfp5 / cfkm"; xofJu ul/lbg] eGb}		
	aRrfnf0{ InP/ uf¶o ¿kdf /lgsl		
	cfdfsxffk/afp5.		

XXVIII	/lgsf]5f]f;f]a /fpt 7hf]x67jnf05 /	Ef l y ∨Ng¦	Ex
	kl5 Tof]bdf0\f6f /lgsf]d[osf]af/\fdf	b08	U
	yfxf kfp5 . /lgsf] 5f]fn] bdf0€}		
	; xoflu InP/ dinfbipnf0{dfbt/5 .		
XXXI.	;f[]a /fptn] v;l; @ /fHo ;fdfn]	/fHof/f ¾ 0f,	W _*
	a:of]/ bdf0Fif0{alS;; lbof].	al\$;;	Wo

 $= \frac{1}{2} \frac{$

./lgemi/lsl aftl) syfdf nf\\$syfsf kf\[o k\\$fo\{\times gbf\}ff]\[/0 k\times true ePsf] Pszf\[^N\] vnij syfdf syfdf nf\\$syfsf kf\[o k\\$fo\{\times gbf\}ff]\[/0 k\times true ePsf] pszf\[^N\] vnij kl/ro, jlhflf/ M\[\alpha\], jlhflf/ M\[\alpha\], jlhflf/ M\[\alpha\], k\[\y\] bef\[\o k\] cos gl\[\times gl\], bl\[\o tf\], jlhflf/ M\[\o h\], k\[\y\] bef\[\o sf\] cos gl\[\o tf\] k\[\o tf\] lhflf/ M\[\o h\], k\[\o th\] bef\[\o sf\] color, jlhflf/ M\[\o h\], k\[\o th\] bef\[\o sf\] color, jlhflf/ M\[\o h\], k\[\o th\] bef\[\o sf\] color, jlhflf/ M\[\o h\], k\[\o h\] bef\[\o sf\] color, jlhflf/ M\[\o h\], k\[\o h\] bef\[\o h\] bef\[\o h\], \[\o h\] bl\[\o h\], \[\o h\], \[\o

#=@-&=.; tIN; a]/fhfsl aft() syfsf]; Argfīds lj Zniff0f

Psfb½df; tlN; a] gfd u/\$f] /fhf / p; sf I; kfxL a:by} kl/efiff M kl/ro, jlhfIf/ M α _ I; sf/ v¶g k|yfg u5 \mathfrak{g} \-kl/efiff Mk|yfg, jlhfIf/ M \uparrow _ . I; kfxL / /fhf cnu cnu af6f] hf65g\. I; kfxLn] /fhfnf0{afofÆkm\$f] af6f] hfg lgif¶v ul/Psf] s/f e6b5g\-kl/efiff M lgif¶vf1f, jlhfIf/ M $_{\gamma^1}$ _ t/; tlN; a] /fhf

 $\label{limited ligitility} $$ \log u / Psf] af6f] hf65 -kl/efiff $$ M \log ifWf1fsf] pNn^a \g, j Lhf1f/ $$ $$ _ / Pp6f $$ bf6bfa -/f1f; _ sf]a:g]3/df kU5 . ; efUn]/fhfsf]e $$ \text{ Iof]/f1f}; $$ is ge0 p; sl $$ \f65 / \f61/ln] /fhfnf0{ nsfP/ /fV5] -kl/efiff $$ $$ kyd befWosf] cGo, j Lhf1f/ $$ $$ _ . o; /L /fhf klxnf]befWoaf6 aRb5g $$$ $$$

/flf; sl 5f]l; ti /fhfn]/flf; sf af/df lh1f; f /fVb5 -kl/efiff Mellh1f; f, jlhflf/ M ϵ_2 _ / /flf; sf af/df ; a}s/f yfxf kfp ϵ_3 -kl/efiff Mellh1f; f, jlhflf/ M ϵ_2 _ / /flf; sl 5f]ln]cfknklt blyfPsf]; xfgeltn]/fhfn]pgl; ti kdl ul5d\cdots-kl/efiff M gfossf] kltlqmof, jlhflf/ M ϵ_2 _ . /fhfn]/flf; sl 5f]lsf; xfotfn]/flf; nf0{dfg{; km x65 -kl/efiff M beflosf]ctio, jlhflf/ M K2 _ . /flf; sl a9ln] yfxf kfPkl5 /fhfnf0{dfg{ hfn /Rg] sf]; ; u5{ -kl/efiff M 5nsk6, jlhflf/ M ϵ_1 _ . 5nsk6 u/l /fhfnf0{df/] ha\cdotsndf hnfpg nlu65 - kl/efiff M vntj, jlhflf/ MA11 _ .

 $\label{thm:limit} $$ \ffnfsf \ l; kfxln] vfhl ubf{/fhfsf} vb&fsf] 5fk -lgzfg_tl /flf; sl 5fflsf habandf v; fnufdf blvgh]-kl/ro M lrl6xt ul/Psf] yfxf kfpg; jlhflf/ M J2_ /flf; sl a9lsf] eb vN5 -kl/efiff M eb vNg; jlhflf/ M Ex_ / syfsf] dfb kl/j tg x65 . habandf affl /xff /fhfsf /utsf yflfn]kgM/fhfsf] z/l/ lgdf@f x65 -kl/efiff M gofF¿k kflkt xg,'jlhflf/ MT _ . /fhfn]b08:j¿k /flf; gl a9lnf0{klg dfbfg\kl/efiff M b08, jlhflf/ MU_ / tl sdf/l; fl /fhfsf] ljjfx x65 clg /fhf To; }7fpflf /flo rnfP/ a:5g\-kl/efiff M ljjfx,/fllof/flf0f, jlhflf/ Mw.*_.$

Kf|tt syfsf]; Argfnf0{tflnsfdf tn o; /L blyfpg ; IsG5 M

..; tlN; a]/fhfsl aft() syfsf]; Argfids lj Zn]f0f tflnsf

; Ϋ; ≠	dhsyfsf]; f/	kl/efiff	jlhflf/
	Psf b≱df Ps hgf ; tlN; a] gfd	kl/ro	α

	u/\frac{s}f]/fhf lyof].		
XI.	I; sf/ vijg /fhf / pgsf I; kfxl	k yfg	\uparrow
	haùnlt/k yfg u5 6 \		
II.	I; kfxl / /fhf cnu cnu af6f]hf65g\	.lgif¶/f1f	1
	. I; kfxln] /fhfnf0{ afofÆkm&f] af6f]		γ ¹
	hfg lgiffy ul/Psf]s/f eGb5g\		
III.	; tlN; a] /fhf lgzŊ ul/Psf] af6f]	lgifl/f1fsf]	δ
	hfG5 / Pp6f bfGbfa-/flf;_sf] a:g]	pNn ^a 3 g	
	3/df kU5 .		
IXX.	; ofJun]/fhfsf]e) Tof]/flf; ; ti ge0	kyd bef(osf)	K
	p; sl 5f][l; @ xG5 / 5f][ln]/fhfnf0{	cGo	
	nsfP/ /fV5].		
IV.	/flf; sl 5f][L; & /fhfn]/flf; sf af/df	e lh1f; f	£ 2
	lh1f; f /fV5g\		
V.	/flf; sl 5f][l; & /fhfn]/flf; sf af/df	e þ 1fgk f lKt	ζ³
	; a}s/f yfxf kfpБg\		
XIII.	/flf;sl 5f][ln] cfknk t b]/fPsf]	Gffossf]k tlqmof	E 2
	; xfgeltn]/fhfn]pgl; & k\$ u5\$\		
IXX.	/fhfn] /flf; sl 5f][lsf ; xfotfn]	bef@osf]cCTo	K 2
	/flf; nf0{dfg{; km xG5 .		
	/flf; sl a9ln] yfxf kfPkl5 /fhfnf0{	Vfn@j	A 11
	dfg{hfn /Rg]sf];; u5{.		
VI.	5nsk6 u/L /fhfnf0{ df/] hawndf	5nsk6	ŋ 1
	hnfpg'.		
XVII.	Kf15 /fhfsf I; kfxln]vflhl ubf{/fhfsf]	Irl(xt ul/Psf]	J 2
	v&&fsf] 5fk-lgzfg_ tl /flf; sl	yfxf kfpg'.	
	5f][lsf hawndf v; sf nufdf b][vg'.		

XXVIII	/flf; sl a9lsf]e b vN5 .	eŊ ∨Ng'	Ex
XXIX.	hawndf af l /xsf /fhfsf /utsf	k kfllKt خ gofF	Т
	yfkfn]kgM/fhfsf]z/l/ lgdf@f x65 .	хђ'	
XXX.	/fhfn]b08:j¿k /flf; nf0{dfb\$g\	b08	U
XXXI.	tl sdf/l; @ /fhfsf]ljjfx xG5 / /fhf	lj j fx,	W _*
	To; }7fp@f /fHo rnfP/ a:5g\	/fHof/f¾0f	

 $= Mff syfsf = M_{\star} \wedge \gamma_1 \delta \kappa \epsilon_2 \zeta^3 E_2 K_2 A_{11} \eta_1 J_2 E_X T U W_*^*$

..; tlN; a]/fhfsl aftű syf; Argfjfbl k4ltcg; f/ nf\$syfsf k\$fo& s#a4 tl/sfn]k#tt ePsf]Psz#Nnt syf xf]. o; syfdf k#sf]cWoog k4ltdf k#f# ePsf; #; a\$; dWo]kl/ro, jlhflf/ M α , k#sf] cWoog jlhflf/ M α , k#sf] bef#fosf] pNna\$g ug\$jlhflf/ M δ , k#d bef#osf] cGo xg; jlhflf/ M κ , e#lh1f; f /fVg; jlhflf/ M ϵ 2, e#1fg k#t xg; jlhflf/ M ϵ 3, gfossf]k#tlqmof, jlhflf/ M ϵ 2, bef#osf]cGo, jlhflf/ M K2, 5nsk6 ug\$jlhflf/ M \ast 1, vn#1, jlhflf/ M A11, lrl\$5xt ul/Psf]yfxf kfpg; jlhflf/ M J2, e#1 vNg; jlhflf/ M Ex, gof#2 k#4k#4x x#3 jlhflf/ M T, b08 lb0g; jlhflf/ M U, ljjfx / /fllof/f#60f, jlhflf/ M w#4v/L slDtdf ! $^$ 36f k#6f#6ksf]k#6f#6 ePsf]5, h; df κ -bef#6osf]cGo_ afx#5 cGo s#3 k#6f#6 k#6f#8 syf 6l#Psfn]k#60#6 klg sd b#9 Psf 5g#0; /L o; syfsf]k#6ff(ds:j#8 klg sd b#9 Psf 5g#0; /L o; syfsf]k#6ff(ds:j#8 klg sd b#9 Psf 5g#9 o; /L o; syfsf]k#6ff(ds:j#8 klg sd b#9 Sign syfsf]k#9 syfsf]s syfsf]s sof#6 syfsf]syfsf

#=@=*=:; gs}z/f0 aft() syfsf]; ArgfIds ljZn}f0f

Psfb½df Ps hgf /fhf a:bYof]/ p; sl ; ft /fgl ly0g,\kl/efiff Mkl/ro, jlhflf/ M α _ . ; Gtfg gePsfsf/0f Ps lbg /fhf ufpÆ/ Hof]tifsxfFx]fpg egl k|yfg u5 \mathfrak{g} \kl/efiff M k|yfg, jlhflf/ M \uparrow _ . Hof]tifn] Pp6f hfbsf] 9°\lambdaf /fhfnf0{lbG5g,\-kl/efiff M hfbsf]j:t'kfKt ug{jlhflf/ M F _ . cfÆsf] $\dot{}$ vdf

dWb efudf sf65l /fgl ule(fl ePkl5 cfkm)f]cl:tTj g/xg]eGb}5j6ln] sf65lsf; Gtfg dfg{hfn /Rbl5g,\-kl/efiff M5nsk6, jlhflf/ M η^3 _. tl bldg /fgln]5nsk6 u/l /fhfnf0{sf65ln]s\$/ hf6dfPsf]s/f atfpEgV /fhfn]klg sf65lnf0{xihf u5g,\-kl/efiff Ms\$d(ff; fem)f/l, jlhflf/ M θ^3 _. 5/fglåf/f sf65ln] hGdfPsf /fhsdf/ / /fhsdf/l gbldf auf065g,\-kl/efiff MvnTj, jlhflf/ M A^7 _. sf65lnf0{ kl8f / cefj dx; \xx65, -kl/efiff M cefj, jlhflf/ M a^3 _.

cGTodf dxfb] kfj {l gbldf :gfg ul//x}f ajhf tl auf0Psf afns kmjhf kb\$gV kfj {ln]3/df nul kfngkfjf0f ul5g\, o; /l kyd bef{losf]cGTo xG5, -kl/efiff Mkyd bef{losf]cGTo, j lhfIf/ M κ^7 _ . w]}; dokl5 /fhfn]afa\$f]>f4df ; ajhf0{afjhfp\$gV tl kfj {ln]kfn}sf /fh\$df/ / /fh\$df/l klg ToxfFcfp\$g\ /fhfn]; fj\vfjh ubf{; a}\$s'fsf]e\b vN5, -kl/efiff M e\b vNg', j lhfIf/ M Ex _ . /fhfn] b08:j \k 5cf\$l /fglnf0{ dfb\$g\\ -kl/efiff M b08, j lhfIf/ M U _ . /fh\$df/l vfjh] /fh\$df/sf] ljjfx xG5 / /fhf cfkmyl sfG5l /fgl; lxt /fHo rnfP/ a:f]-kl/efiff Mljjfx,/fHof/fj\0f, j lhfIf/ MW * _ .

.; gs½/f0 aftýsyfsf]; Argfīds ljZn∰0f tflnsf

dhsyfsf]; f/	kl/efiff	j lhflf/
Psf bzdf Ps hgf /fhf lyof]/	kl/ro	α
p;sl;ft/fglly0g\		
; Gtfg gePsfsf/Of Ps lbg /fhf	k yfg	\uparrow
ufpFt/ HofJtifsxfFxJfpg egl k¦yfg		
u5 ()\		
Hof]tifn]Pp6f hfbsf]9ªNf /fhfnf0{	Hffbsf]j:t'k¶Kt	F
lbG5g\. cfksf] ¿vdf 9ªNf] xfg	ug{	
v; \$ f cf k /fglnf0{lbg]s/f eGb5g\	lgif¶vf1f	γ
Hof]tifn] 9ªNf] b0K6s xfGg lgifN		
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/fhf hfbsf]9ª\uf InP/ 3/df kU5 .	kms&'	\downarrow
cfksf]¿vdf 9ªluf]xfGbf ;ftj6f cfk	lgiflyf1fsf]	δ
v:5g\t/ nfkn]/fhfn]kml/ 9ªulf]	pNn ^a 3 g	
xfGbf; a}udfp5g\		
bf] fs /fhfn]; Nnfxcg; f/ g}sfd	e l lh1f; f	E 2
u5 g √ cfk nu] /fglnf0{lblf 5j6l		
/fgln]cfksf af/df hflg vfllbl5g\/		
sf65l /fglnf0{lb0 F g .		
Ps cfk /fhfn vfG5g\/ sfG5l	e ∮ 1fgk¶Kt	ζ³
/fglnf0{klg lblff pgl ule(fl xlG5g\		
To; sf af/df; a)s/f 5 /fgln]yfxf		
kfpБg\		
sfG5l /fgl ule(ffl ePkl5 cfkm/gf)	5nsk6	η³
cl:tTj g/xg]eGb}5j6ln]sfG5lsf		
; Gtfg dfg{hfn /Rbl5g\		
	Psf blzdf Ps hgf /fhf lyof] / p; sl; ft /fgl ly0g\ ; Gtfg gePsfsf/0f Ps lbg /fhf ufplt/ Hof]tifsxfFx]fpg egl k yfg u5g\ Hof]tifn] Pp6f hfbsf] 9ª\uf /fhfnf0{ lbG5g\. cfksf] ¿vdf 9ª\uf] xfg] v; \struct cfk /fglnf0{lbg]s/f eGb5g\ Hof]tifn] 9ª\uf] b0\u00ek6s xfGg lgifi\u00ek /fhf hfbsf]9ª\uf] h0\u00ek6s xfGg lgifi\u00ek v:5g\t/ nf\u00ekn] /fhfn] km\u00ek/ 9ª\uf] xfGbf; a\u00ekdfp\u00eg\u00ek bf] \u00ekkos /fhfn]; \u00eknfxcg\u00ekf f/ g\u00eksf u5g\u00ek\u00ekor cfk nu\u00ek\u00ekn f\u00ekg\u00ekn f\u00ek\u00ekn f\u00ek\u00ekn f\u00ek\u00ekn f\u00ek\u00ekn f\u00ekn f\	Psf bladf Ps hgf /fhf lyof] / kl/ro p; sl; ft /fgl ly0g\ ; Gtfg gePsfsf/0f Ps lbg /fhf klyfg ufpFt / Hof]tifsxfFx]fpg egl klyfg u5g\ Hof]tifn] Pp6f hfbsf] 9ª\f /fhfnf0{ Hffbsf]j:t'kfkt lb65g\. cfFsf] ¿vdf 9ª\f] xfg] ug{ lgifyf1f Hof]tifn] Pp6f hfbsf] 9ª\f e6b5g\ lgifyf ug{ lgifyf1f Hof]tifn] 9ª\f b0k6s xfGg lgify u5g\ /fhf hfbsf]9ª\f lnP/ 3/df klb. kmsg' cfFsf] ¿vdf 9ª\f]xf6bf; ftj6f cfF lgifyf1fsf] v:5g\t/ nfkn] /fhfn] km/ 9ª\f] pNna\f g xf6bf; a\text{a}udfp\f g\ xf6bf; a\text{a}udfp\f g\ bf] fk6s /fhfn]; Nnfxcg\; f/ g\sfd lgifyf lff; f u5g\/ cfF nu] /fglnf0{lb\f 5j6l /fgln] cfFsf af/\f hf\f vf\f yf\f bl5g\/ sf\f lglnf0{lb\f f} 5j6l /fglnf0{klg lb\f pgl ule\f xl\f sg\} e\f lfgk\f kf\f f\f lg\} lo; sf af/\f f a} s\f 5 /fgln] yfxf kfp\f g\ sf\f 5 /fgl ule\f le\f le\f lg\f sf\f ls\f ls\f ls\f ls\f ls\f ls\f ls

VII.	tl b:dg /fgln]5nsk6 u/l /fhfnf0{	ssd(df;fem)f/L	θ³
	sf(5ln]ss/ hf(dfPsf]s/f nfp 5 gV		
	/fhfn]klg sf65lnf0{xjhf u5g\		
	5/fglåf/f sf(5ln] h(dfPsf /fhsdf/	∨nīj,	A ⁷
VIII.	/ /fhsdf/l gbldf auf0G5g\ .	cefj	a³
	sf(5lnf0{cefj dx;; x(5.		
IX.	dxfb] kfj {l gbldf :gfg ul//x}f	kyd bef@osf]	K ⁷
	aḥf tl aufOPsf afns kmḥf kb\$gV	clo	
	kfj {ln]3/df nul kfngkf]f0f ul5{g		
	o;/lkydbef@osf]cGoxG5.		
XXVIII.	w]] ; dokl5 /fhfn] afasf] >f4df	e ∮ ∨Ng'	Ex
	;annf0{afnnfpbgV tl kfjfln]kfnsf		
	/fhsdf/ / /fhsdf/L klg ToxfF		
	cfp5g\. /fhfn];fyvfh ubf{;a}		
	s/fsf]e) vN5 .		
XXX.	/fhfn] b08:jخk 5cf \ l/fglnf0{	b08	U
	dfb\$g\		
XXXI.	/fhsdf/L vflh] /fhsdf/sf] ljjfx	ljjfx,	W _*
	xG5 / /fhf cfkmgl sfG5l /fgl; lxt	/fHof/f] t0f	
	/fHo rnfP/ a:5g\		

cefj, jlhflf/ M a³, kyd beflosf]cGo, jlhflf/ M κ 7, ell vNg; jlhflf/ MEx, b08, jlhflf/ M U , ljjfx,/flhof/flt0f, jlhflf/ M W* u/l slDtdf !^j6f k\$fo{ksf]k\$ffl ePsf]5, h; df sg}k\$fo{; []x¿ bfltfl/Psf 5gg\ w]}36gf pk36gfn]syfdf dflx¿ NofP klg o; syfsf]k\$fof{ds :j¿k ; El7t g}/x\$f]5.

#=@=(=lxl6/]dh\$l aft()syfsf]; Argfīds ljZn}f0f

syfsf]; Argfids Ij Znjf0f tflnsf o; k\$f/ 5 M

.lxl6/]dh\$l aft()syfsf]; /rgfīds ljZn]f0f tflnsf

; ≝; ≠			dhsyfsf]; f/		kl/efiff	j lhflf/
XIV.	Ps	hgf	lxl6/] gfdsf] s∮f]	gblaf6	Hffbsf]j:t'k¶kt	F1

	cdNo j:t'xL/f kfp5 . xL/f b]/kl5	ug{	F4
	Pp6f k;njh]cfkmjyf]k;n/xl/f		
	lsgaj u5{.		
IV.	Pp6f d6qlåf/f /fhfn] xl/f / lxl6/\square	e l lh1f; f	E 1
	af/dfhflg]sfl;; u5{.		
V.	/fhfn]lxl6/\$f af/∯f yfxf kfpБ / xl/f	Ef þ 1fg kflkt,	ζ
VII.	kfKt ug{lxl6/jnf0{kmsfp5, dfg{wDsl	ssd@f;fem_f/L	θ1
	lbG5 / lxl6/] grfx] klg xl/f vf¶g		
	ljjz xG5.		
IX.	lxl6/jh]halandf tlg hgf ck; /f elsh.5	dWb:ytf	B ⁴
XIX.	/ tl ck; /fsf]; xofljin]p; n]xl/f nu]	bef@osf]cGo	K 1
	/fhfnf0{lb65 .		
XII.	ck; /fn] /fhfsf] 5nsk6sf af/dlf yfxf	bftfsf] kyd	D
	kfpБg∨ lxl6/jħf0{/fhfaf6 dlSTf kfpg]	sfo{	
	pkfo I; sfp 5 g\		
XIII.	ck; /fn] eglh:t} u/L lxl6/lh] /fhfnf0{	(ffossf]	E ⁸
XIX.	>f4 u/fpg gbl nUb5 / gbldf cf] fl	kltlqmof,	К³
	knfn]/To; df cfkmgf lktfsf]cgkf/xg){	beflosf]clTo	
	nfp 5 , /fhf 8a] d5{.		
XXXI.	lxl6/jh] tl cK; /f; & ljjfx u5{ /	ljjfx tyf	W _*
	/fHof/f¾0f u5{.	/fHof/f] t0f	

=\\liff\syfsf]j\lhf\lf\/ \\ \k \MF^1 F^4 \epsilon^1 \zeta^6 \text{ B4 K1 D E8 K3 W}_* \\ \text{.}

.lxl6/]dh\$l aft() syfdf nf\$syfsf kfo k\$fo%; gbf}xff)/0{k|t't ePsf} Pszf*\undersdam xf]. o; syfdf kf[\undersdam xf] cWoog k4ltdf k\undersdam f]\undersdam ePsf; \undersdam ; \undersdam ; \undersdam xf]:t'kf\undersdam ug{jlhflf/MF1, F4, e\undersdam lh1f; f, jlhflf/M\undersdam 1, Ef\undersdam 1fg kf|\undersdam k1, jlhflf/M\undersdam x, ssd\undersdam f, fer\undersdam f/l M\undersdam 1, d\undersdam b:ytf M\undersdam B^4, bef\undersdam osf]

#=@=!)= xl/fnfnsl aft() syfsf]; Argfīds lj Znijf0f

xl/f / nfn afn; vf lyP -kl/efiff Mkl/ro, jlhflf/ M α _ . 7hf ePkl5 xl/fsf]ljx\$f]s%f cs{E rN5 t/ ufNo ¿kdf otf nfn xl/fnf0{nu} 6f9f hf65 -kl/efiff M cgkl:yflt, jlhflf/ M $_{\beta}$ ³ _ . pglx¿ Wf}\6f9f Pp6f ufp@f kU5g\-kl/efiff M c1ftk\pf0f, jlhflf/ M o_ . ef\$sf sf/0f nfn xl/fnf0{5f}}\forall cfkm' hf\plsf] ¿k wf/0f u/\forall lelff dfUg lx8\s -kl/efiff M ¿kf6t/, k\pfg, jlhflf/ M T³, \hatarrow _ . lelff dfUg hf\forall ufp\fix)\sh6gl a9ln]nfnnf0{e\psi}\forall / rfdn d\forall p; nf0{ e\psi}\forall agf0{ uf\forall df y\forall b} -kl/efiff M 5nsk6,vnIj, jlhflf/ M\pa_2, A^{i5}_ .

nfnn]yfxf kfp5 -kl/efiff M vnIj , elþ1fg kflkt, jlhflf/ M A₁₁, ζ_2 _ . kfl/csf[lbg 5nsk6 ug{s6bln]nfnsf cfdfafasf]gfd lnP/ tlħsf]vfN8f]agfP ToxfFleq cfdf ajf cfpg]eGb}dgfp5] pglx¿ To; lff kTof/ u5g\-kl/efiff M ssdlff; femlff/, jlhflf/ M θ _ . Iffffn]nfnnf0}Tof]tlħsf]sjfdf ghfg eGb5 t/ nfn hfG5 / 8a] d5{-kl/efiff Mlgz]lf1f, pNna3g, jlhflf/ M γ , δ _ . kfl5 nfn gfudf ¿kfGt/ eP/ cfp5, xl/fn]arfpg]hlSt yfxf kfP/ Tof]tnfp kml/tlħ l3pn]e5[/ nfn kgMhllj t xG5 -kl/efiff MDflSt, jlhflf/ MRs6 _ . To; kl5 pglx¿ cs{b}df uP/ a:5g\-kl/efiff Mc1ftk\phf0f, jlhflf/ MO _ .

xl/fnfnsl syfsf]; #rgfīds lj Zn]f0f tflnsf tn k|tt ul/65.

.xl/fnfnsl aft() syfsf]; Argflds lj Zn ff tflnsf

q ı: ; ≠	dhsyfsf]; f/	kl/efiff	jlhflf/
	xl/f / nfn afn; vf lyP . 7hf ePkl5	kl/ro	α
I.	xl/fsf]ljx\$f]s/f cs{& rN5 t/ uf¶o	cgkl:yflt	β ³
	kdf Ptf nfn xl/fnf0{nu] 6f9f hfG5 خ		P
XXIII.	pglx; \mathbb{f}\end{align}\end{align}\end{align} \text{Pf}\end{align}\end{align}.	c1ftkþf0f	0
XXIX.	ef\$sf sf/0f nfn xL/fnf0{5f\$] cfkm	/kfնt	Т³
XI.	hfylsf]¿k wf/Of u/] leIff dfUg lx85	k yfg	^
Λι.			'
		1 167 64 6	
II.	lelff dfUg hfbf ufpFn}k∠n]cfknk∠	· ·	γ
III.	Pp6l s6gl a9laf6 ql; t ag\$f xgfn]	pNnª 3 g	δ
	Tof]af6f]ghfg cfu‡ u5 g \t/ nfn eg]		
	To; }af6f]hfG5gV wf\$fdf k5 g \		
VI.	Shogl a9ln] nfnnf0{ e) 5] / rfdn	5nsk6,	η2

	d(q) p; nf0{e}f]agf0{uf}df y(b5].	vnīj	A ⁱ⁵
IX.	Wf]}kl5 xl/fn]yfxf kfp5]/∨fjhldf	dWb:ytf ug'	В
X.	hf65].	Kfl tlqmof cf/De	С
XXII.	xl/fn] sbglsf] hfnaf6 nfnnf0{ dSt	DfISt,	Rs
XV.	u5] / Itglx; Toxfaf6 csf] 7fp@fhf65g\	:yfgfGt/0f	G
XXI.	csf] 7fp@f uPsf] s/f sbgln] yfxf	lk5f kg{	Pr
	kfP/ lk5f u5]. Toxf&f /fhfnf0{klg	н	Pr ⁶
	Tof]s/f yfxf x65 / /fhfn]tl ;6b/l		
	xl/fnf0{h;/l ePklg cfkmgf]b/af/df		
	Nofpg söglnf0{k7fp5g\		
	Sh6gl cfP/ xl/fnf0{kmsfp5]. cfknl'knk"	3	A 11
V.	ePsf] s/f ub{ nfnnf0{ cfknh] lb0sf]	- 5	ζ2
	s/f vfg d(q u/) 5f\} hf(5). Tof		
	s/f tf]:fsf dfWbdn] nfnn] yfxf		
	kfpБ.		
VII.	Kfijl/ csf[lbg 5nsk6 ug{ sbbln]	_	θ
	nfnsf cfdfafasf] gfd InP/ tjhsf]		
	vfN8f]agfP ToxfFleq cfdf ajf cfpg]		
	eGb} dgfp5] pglx; To; df kTof/		
	u5 ()\	1 10 00	
II.	<pre>Ifffffn]nfnnf0}Iof]tinsf]sjfdf ghfg</pre>		γ
III.	e6b5 t/ nfn hf65 / 8a] d5{.	pNn ^a 3 g	δ
XXII.	kfl5 nfn gfudf ¿kflt/ eP/ cfpБ,	DfISt	Rs ⁶
XXIII.	xl/fn] arfpg] hlSt yfxf kfP/ Tof]		
	tnfp km// tm/ l3pn]e5{/ nfn kgM	c1ftkþf0f	0
	hlljt x65 . To; kl5 pglx¿ cs}b≱df		

uP/ a:5g\

 $= \frac{1}{5} \frac{$

.xl/fnfnsl aft() syfdf nf\$syfsf kfo k\$fo&¿ gbf&ff/0 k|tt ePsf] Pszf*\nt syf xf]. o; syfdf kf\sf cWoog k4ltdf k\pfi\ ePsf; \dag{\phi}; \da

#**#**= lgisif{

k|t't kl/R5\df nf\syfdf k\pf\df ePsf]kf\ksf]; \text{Argfj fbl k4ltnf0\{cfwf/dfgl 8f\ph\l nf\syfsf]; \text{Argfsf}:j\tik klxNof0Psf]xf]. kf\ksf] egf0 cg\; f/o:tf k\spf0\tik2\sf] \lgwf\{0f ePkl5 s\phsf] \lgwf\{0f ug\{; \substack} \text{k\spf0\tik2} \text{k\spf0\tik2} \text{\substack} \text{\substack} \lgwf\{0f ug\{; \substack} \text{k\spf0\tik2} \text{\substack} \text{\substack} \lgwf\{0f ug\{; \substack} \text{k\spf0\tik2} \text{\substack} \text{\substack} \lgwf\{0f ug\{; \substack} \text{k\spf0\tik2} \text{\substack} \text{\su

 $\hbox{$ \not k wf/0f u/] lelff dfllg lx85, kl/efiff M $\ kwf/0f M j.lhflf/ T kl5 xl/fsf] $$ dWo:ytfdf vflhl x65, dWo; ytf, j.lhflf/ M B . oxfFT kl5 B cfPsf]5 . o; /l $$ syfdf cGo 7fp&f klg 36gfx$$ bflxfl/0{k$fo}{$\ k$fo}{$\ k$fo}{$\ k$}$$ xG5gV nf$syfsf]; $$ Argfdf logsf]lj z eldsf xG5 eGg]s/f o; cWofoaf6 :ki6 ePsf]5 . k|t't nf$fVofgsf]; $$ Argflds :j$ k klxNofP emF cGo nf$syfx$$ sf]klg cWoog tyf lj Zn$$ ug{; lsG5 .} $$$

Rfyf]kl/R5b

; f/fz / lgisif{

%!; f/fæ

k|tt 8f0 lfdf k|rint nf3 syfsf]; Argf zlif&sf] zf0k\a6w kfF kl/R50 / kl/lzi6 v08df; Art 5 . zf0k\a6wsf]klxnf]kl/R50df zf0 kl/ro k|tt ul/Psf]5 . o; qmddf ljifo kl/ro, ; d:of syg, cWoogsf p2\fox2, kj \square f0\square f1; dlff, zf0vsf]cf0rTo / dxEj, ; ldfa\square g, ; fdull ; a\square ng, ; \aff(sts cfwf/ / zf0v k\a6wsf]\ge k/\ge f k|tt ul/Psf 5g\. o; ; \text{Gbe}\text{df} zf0v zlif\square nf0 { ljifo kl/rodf kl/eflift u/l zlif\square / kj \square f0\square f1 clwogsf cfwf/df zf0v ; d:ofsf]lg\ge k0f ul/Psf]5 . To; kl5 lg\ge lkt; d:ofsf cfwf/df p2\forall osf]lgdf\text{0f}, ; ldfa\square g / lj lwsf] rog ul/Psf]5 . kj \square f0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dfl0ft zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dflort zf0v ; d:ofsf]dxEj nf0\{k|tt u/l zf0v sf0\square f1 clwogaf6 k\dflort u/l zf0v sf0\quare f1 clwogaf6 k\dflort u/l zf0v sf0\qu

Nffsyf nfs; flxTosf] Ps kdV ljwf xf]. o; n] j OffgfTds sygåf/f nfs; dbfonfO{dgf]Chg kbfg ub5 . nfsyfdf nfs; dbfosf; VbNV, j }fllo, rnfvl, axfb/L, al4dfgL cflb lj ljw cgelt / cgej sf] hlj Ct IrqOf ul/Psf] xG5 . of]dfNvs k/Dk/fdf hllj t /xsfn]ultzln / kl/j tgzln xG5 . nfsyfdf sNkgfdo cb&t cnflss 36gfsf]; oflyg ePsf]xG5 . kfNsf cg; f/ nfsyfsf] lj Zn]fOf, cNbog egsf]syfdf kbfN xb]kfq, kl/j ½ / ksfofnfO{shfP/ syfsf]; Argfsf]:j k bNfpg' xf]. oxfFk\$fo{eCgfn]To:tf]sfdsf]afN xG5 h; af6 cfVofgn]ult kfp5 . kNos kl/syfsf]; Argf lglZrt lgodåf/f Jojl:yt xG5 / Tof]Joj:yf sfod ug{lglZrt k\$fo\$f]eldsf dxEjkOf{xG5 eCg]logsf]dfCotf

zflwkaGwsf]t]f]kl/R5bdf 8flbl nfssyfsf]; Argf k|tt ul/Psf]5 h; cGtuf 8f6nl nf\$syfsf]kl/ro / kfksf];kk/s ; Argfsf cfwf/df 8f6nl nf\$syfsf] lj Zn]f0f u/L lgisif{ lb0Psf] 5 . 8f3]hL nf\$; flxTosf lj le6g ljwfx¿dWb]nf\$syf klg dxTjkUf{ljwf xf]. cGo nf\$syfh:t}8f@nl nf\$hljgdf dflvs k/Dk/fdf hlljt /xlf)cfPsf syfx; g}8fjl nfssyf xg\. glkfnldf nf\$syf, syfsyall, bliosyf, elq\$yf, lxbldf sxfql, kfZrflo hutldf ldY; \kf}fl0fssyf_, lnh()8; \cg\sltsyf_, kmf0/L 6(); \kl/syf_, km]n] -glltsyf_, clg hdgdf dfv[; fh]cflb gfdn]lrlgg]ol nf\$syfx¿nf0{8f}hl zAbdf .aft)cyjf .aftÚ klg eGg]ul/G5 . Psn]eGg]/ csfth]; Gg]clg xEf/ yKb}ubf{s/f eGg]jf aft dfgkglePsfn]klg o; nf0{8fbhldf aft}elgPsf]xf]. 8fbhl nfsyf dVo $u/L b0{lsl; dsf 5gW-!_ufpGo}aft}-ufpg]syf_ / -@_ /fpGo}aft}-ufpFfg]$;DalGwt, jl/rl/q; & ;DalGwt, c; fwf/Of zlSt ePsf b]lb]tf, /fhf, jl/k¿if /flf;, et, lkzfr, kzklfl, cflbsf klabl; t; DalGwt syfj:t'ePsf ufpg] dflvs syfx; g}ufpg]syf -ufpGo}aft} xg\h; df syfsf w]/k| abx; ufP/ ; gf065 . o; }u/L Psn]k¼g ; f∰g]/ c¿n]pQ/ eGg] g; s]sg}ufp\subsetef]gfd o:tf syfx; ToxfFkfoNh; f] k; kGwbNv df3 dlxgfel//flt ca]; Dd cugf il/kl/; a}einf e0{cfuf]tfkb}; gfpq]/; Gq]krnq 5 . k|tt kl/R5hdf

nf\$syfdf kφfJu ePsf]kfJksf]; Argfjfbl k4ltnf0{cfwf/ dfgl 8fJldf krlntnf\$syfsf]; Argfsf]:j ¿k klxNof0Psf]5.

Igisif{

8fohl nfs; flxTosf lj leGg lj wfx¿dWb]nfssyf klg dxEj kUf{lj wf xf]. c6o nfssyfh:t}8fohl nfshlj gdf dflys k/Dk/fdf hllj t /x δ }cfPsf syfx¿g}8fohl nfssyf xg\. gkfnldf nfssyf, syfsyaWl, bGTosyf, eGg\$yf cflb gfdn]Irlgg]ol nfssyfx¿nf0{8fohl zAbdf .aft δ cyjf .aft δ elg δ . 8fohl nfssyf b0{lsl; dsf 5g\M -!_ ufp δ } aft δ -ufpg] syf_ / -@_ /fp δ 0 aft}-ufp δ 1 syf_ . kf δ 10fs k| aul; t ; Dal δ 0 ; Da δ 0 ; Da δ 0 k δ 1 k δ 1 k/Dk/f; δ 0 ; Dal δ 0 ; Da

; Argfjfbn]sg}j:t'jf s[tnf0{s]b|agfP/ Io; sf;; fgf calux¿sf]-; Argfsf] vfhl / lj Znjf0f ub{5.; flxIo lj Znjf0fsf lj leGg k4ltdWo]; Argfjfb rlr{t / lj sl; t Ps j:tjfbl k4lt xf]. dgflj 1fgsf lfqdf dfgl; s cgej nf0{ tYo 36gfsf ¿kdf /fv]; ArgfIds lj Znjf0f ug{hlj lj 1fgsf lfqdf jg:kltnf0{ dVo s[b|agfP/ Io; sf calux¿sf]; ArgfIds lj Znjf0f ug{dfgj zf:qsf lfqdf dfgjlo; #s[tsf lj leGg tTj x¿sf]; ArgfIds lj Znjf0f ug{efiffzf:qsf lfqdf jfSo / cy{sf txdf Io; sf ¿kx¿sf]; ArgfIds lj Znjf0f ug{Pjd\cfVofgsf

If df cofe't dh k\$fo{¿sf]; Argfīds lj Zn]fof ug[sfo{df; Argfjfbl k4lt k\psi_uePsf]kf065.

I:j; efiffzf:ql kml8gfN8 8];:o/af/f kltkflbt eflifs; Argfsf] kefj ux0f ub{0{jlsf]al; fjztfAblsf]bf] f]bzsdf; l; l; kj fbl cWo]f Enflbld/ kflk - 0=; = (@*_ / kml6; jhl; f:s[ts dfgjzf:ql Snfp8 nel:6kp; -0=; = (%%_ n]; Argfj fbl k4ltnf0{nfsfVofgsf] cWbogdf kpflu u/sf 5g\. logjn] cfVofgdf kpflu u/sf] k4ltnf0{cfVofgsf]; Argfj fbl k4ltsf; kdf ln0Psf]xf]. k|ttzflvdf Enflbld/ kflksf] nfssyfsf]; Argfj fbl k4ltdf s[bt /xl 8f]hl nfssyfx; sf]lj Zn]f0f ul/Psf]xf].

; Argfjfbl ljlzZnjf0f ubf{syfsf]afx\d ; Argfsf]:j\zksf]klxrfg ePsf] 5 . syfdf 36\st 36gfx\zn] s:tf k\sto{/ df\dagger_x\zeta lgdf\dagger_t x\tilde{5}g\/ tl df\dagger_pkdf\dagger_x\zeta n] syfsf]:j\zk s:tf]a\tilde{b}5 e\tilde{g}]s\fo; ; Argfjfbl lj\znjf0faf6 k\dagger_t ePsf]5 . ; fy\ToxfFk\phf\under\dagger_t ePsf k\sto\tilde{\zeta}\zeta sf]; \text{of}\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn] kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn]kf\ngn] kf\ngn]k

k|tt zfwkacw 8fol lhNnfdf k|rlnt nfssyfsf]; Ing, cWoogdf sljbt ePsfn]o; n]8fol lhNnfdf dflvs ¿kdf /xsf nflkfldv nfssyfsf]; Alf0f ePsf] 5, ; fy}cGo glkfnl nfssyfx¿sf]; Argfids lj Zn]f0fsf lglDt klg cfwf/ tof/ ePsf]5 . o; sf pknlAwx¿nf0{alfut¿kdf o; /l b]vfpg ; lsG5 M

-!_ nflkfldv 8flhl nflsyfsf]; AlfOfdf; xoflu ldNg', -@_ ljZjsf cGo nflsyfh:t}loglx\(\)sflklg dfgs\(\)ksflcfwf/ aGg', -#_ ljZjsf nflsyfx\(\)sfl afx\(\); Argf p:t\x\(\)gls'f k\(\)flOft x\(\)', -\\$_ cGo glkfnl nflsyf ljZnlfOfsf nflu klg; Gbe\{fl aGg; Sg',-\\$_ kflkn]eg]h:tflnflsyfdf k\(\)fo\(\)\(\) Pskl5 csfl s\(\)44 tl/sfn\(\)gcf0\{cl3 kl5 -s\(\)e\(\)E_ tl/sfaf6klg cfpg; Sbf /x\(\)g\eGg\ s'\/fsf\(\)kli6 x\(\)g'cflb o; zf\(\)ysfo\(\)f pknl\(\)w x\(\)\

efjl cg; Qwftfsf lglDt 8f@hl nf\syf; & ; DalQwt ; DefJo zf\zlif\x:

- != 8f@jhL nfssyfsf]cfCtl/s; Argf
- @= 8fðjhl nf\$syfdf kфQmeflifs Psf0
- #= 8find nfssyfsf]jfSo9fFf

o; /L 8f hL nf syf; E ; DalGwt ; DefJo pk/f m zf wzLif x df c wbog, cg; Gwfg u/L 8f hL nf; flxTosf]; AlfOf / ; Da4f df f k/f fp ; IsG5 .

kl/lzi6 s

lj Znjjof ul/Psf 8fjjhl nfssyfsf]dhkf7

!= s(tf /]d)fsl aft}

os b½dl os ul/a sRrå8f]a; GYof]. pm sRrf a¶ra/ ckmgl uh/ c2] xgfn]p0sf]gfpFsRrå8f]/fVofYof]. p0sl b0{rjhl lyg4h]/l sGtf /]sfG5l d}f . bb}rjhlnf0{Aof cl/a/ os}ufpEl h]/f 3/ sfG5l /]sfG5f 3/ h]/l lbofYof].

os lbg sRr38f]sRrf afg elga/ rfhlsf ufpFuof]. hfg]afhf afóldf uaff lsgf/gl b0{/flwsf ud/f jt{c2lvnf0{gfpg nflo}/gg\ ltghf0{gfpgf wlsa/ sRrf8f]nfhn]afóf sfvgf' nlsa/ a:of]. lt; }afhf /flwsf ckngf khf c/ghf b0{bghfwfuf nfpglvnf0{tslgygV]os bghfwfuf]pk2 nflof]. /flwsf; Rr kl8g,\of]s; ff pk/ghf] sfynbf0{pk/ghf] sfy ud/f eSt cfof5 ls elga/ lj rf/ c/ghfof]. affhfof; lga/ sRrf8f]cfof]/]eGoffxh/fhfof]. affhfof; lga/ sRrf8f]cfof]/]eGoffxh/fhfof]bghfwfuf]ud/fsf ; tn]pk/ghfs/ghfof]/]of]bghfwfuf]nghfg /]ckngl rghlnf0{lbof, ud/f jt{nf} c/fof elga/ sRrf8ffhf0{lbof]. ud/f jt{s; fh c2ffhff, xd u/la h; f dfG5 xh/fhfff]. /flwsfn]eGof]of]jt{c2lvnf0{t dg eo xffhfG5, wg geo nf}xG5.

/flwsfn] a8&f; a\ud/f jt{c2} lj lw eGof] - ebf] cfpFlsf lbg df6l Nofpg; k8]f 3/ lnkb; bIt] lhpFt nyb; ttlo] la¿8f vflhg; rfyl la¿8f sihfpg; k~rdl lehfpg; ifi6l kvfNg; ; ftdl vtx}wfg, ; fpHdnf0a/ ud/f dl't{ agf0 ; Aa\sf 3/3/ km/f0a/ h/f3/ Nofpg'/]/fVb'. ci6dl khf, ; hl /] ud/f do/tj/f]Jof c2; c7jfnl vyn; jt{c/o}Goh]bafwfuf]klha/ ud/f k; flo dflga/ nfpg; la¿8f k; flo ; ahf0{lbg; rt, w/fdl, dfanf, ehg ufpg'/]hflu/d c2'. 0; ll kGo\sf lbg; Dd vyna/ ud/f la; ho\c2; hfpg'. 0; ll ; bf0Febf\sl ud/f jt{c/a/ dgn]; flofx\bar{g}ksG5. of]lj lw td/l rjhl; a\eGof, c0n hfo eGof]/]

Tof] sRra8f] bafwfuf] nf}nfhf0a/ rihlsf 3/ kSof]. hj/l rihl sttf u/la /] sft5l dj/f wgl 3/ lbo}lyg\. sttf wd\$d{dftgyl, dj/f ckmgf wgsf] 3d08 c2yl . ckmgf af cfof wljsa/ sttfn]efj. v; l dftof]/]xft ; df0 ckmgf 3/ la; fof].

a88fn]af6fdL cfpganf /flwsf lel66of /]ud/f jt{c2lvnf0 bafwfuf] lbo}; Aa}s/8L rhlnf0{; gfof]. sGtfn]xG5 eGof]/]ckmgL gGgnf0{; a\ n\hf0a/ cfpFlsf lbg df6l v6g u0{. df6l v6ganf cf]f8 let/ afuf ; ft 5fpgf df6ln] r($\frac{1}{2}$) afu cfof]/]d($\frac{1}{2}$ f 5fpgf h; fdf t; f0 /fv gt/ t($\frac{1}{2}$ l g(gnf0($\frac{1}{2}$ f)) ecgnflof]. sctfn]ecof] d]f 3/fxg]vl gecg]afrf afjh, d]l gcg hg/xf0, a; d ckmgf; ft0 rhf n0a/lbpAf]. afun]x65 e6of]/]3/ u0a/ s6tfn]ckmgf rhf nof]/]afu lbof]. afun]sctf rinf no)s/8L ufp@L elcof]. sctfsf 3/fxon] ripf lkmtf{gnip]3/x}lgsflNbg() wDsL lbo]. afun]afrf xf/\dar{d}f x\dar{d}fn]sGtfsf rjnf lkmtf{lbgk8\df]. ca sG5f 3/ cf0, 3/ lnKof] lhpfEl nVof] la; 8f vffJof] sinfof] lenfof] km/fNof]/]ud/f ni){. ud/f kHof]/]hi/f 3/ ud/f /fVb];/;Nnfx c2 dffnf 3/ u0{. agln|dgug c/|nf}; an|hff3/ /fVbk8g|lgod xgfn| /fVbk885 eGof]/]dff 3/ sGoff0qL ud/f /fVof]. Ij lwcg; f/ khfkf7 c/af]/]/ft hfu/d c2flvnf0{; a}djnfsf 3/ 1; g uo]. djf 1/zn]d/d/l/j/l . sftfsf rjnf nf}af/f knf6f No/a/dtf 3/uo]. dtfn]dg}dg larf/cl/xfNof]cfh t sGtfsf rhfnf0{/ft df2]df\$f ldNn\text{xf]. 0; f]larf/ c/\text{xf]/]ckmgf rhf e^no\text{yf, sGtfsf} rjhf vf6dl; jbf]. /ft ud/f; tn]vf6 ptfgl e0 /]sGtf rjhf dlg /]d}f dlydl eo]. /ft dffn]sftf rinf xg\elgdffof]/]vf6dl I; of ; Aa}3f6l rinfof]/]df/\df]. efih Aofxfg tsGyl /]ckmgf0 rihf d/\$f, lbblsf rihf lhpgf0F. of]0;f]s;/l eof]lelga/ ¿Gyl /]; an]of]t ud/f lglbf c/\df x\dfn]pg/f; tn]eo}s/8l xf] eGof]. d):fn] sGtf; a dfknl dflof]/]os r]hf] k[Ff] dfuGnfuL . sGtfn] eGof] cGg kFf]xfinf abl wGg kFf]xfinf kt kFf]gOF. 0; Il ud/f; tn]sGtf wgl eO{ df u/la . ; Ggfhf0{; g}dfnf, eGgfhf0{knh}dfnf=

; ft]JoIQmMeful/yl cfenf, &*, lg/If/, u8; If & 8f6l.

@ 96]dh\$l aft}

os sGy]dh]Yof] pOsf Ofhf af gxgfn]ckmgl lbblsf 3/ a; GYof]. lbblsf uf]; afv/f x2Yof]. os lbg ud/f ajhf df; sf /fø ksfo} s/8l pOsf ; a1ln] pO; a1lof) sGy]dhjh]3/ cfOa/ ckmgl lbbl; a1lof ksfpg' k81lof]; asf 3/ t /fø ksfof]eGof]. pOsl lbbln]hf k1lf; vfjhNof /fø vfg[fof eGof]/]; an] la; 8f kvfn1lof u1lof u1lof u1lof vfg[fof eGof]/]. lbbl /fø xfNn nful .

ef0 Mlbbl $\hat{U}/f\phi$, lbbl Mkvkg\dh]t]f legfh0lvg\kfSof] ef0 Mlbbl $\hat{U}/f\phi$, lbbl Mkvkg\dh]ch t kvkg\dh]t]f ef6hfefhllvg\kfSof] ef0 Mlbbl $\hat{U}/f\phi$, lbbl Mkvkg\dh]ch t d0lvg\kfSof]. ef0 Mlbbl $\hat{U}/f\phi$, lbbl Mhf dh]98f]rflnNof.; asf jvnjvn klsa/96f]vf]hn\phif]. 96fsf]/f\phif]ksfof]/]n]dh]/f\phif]5f[\ksefof]/]e/ofE\phi'nf\phif]. 5f[\ksefof]/]96]/f\phif]nf\phi\ksefof]/]n]dh]/f\phif]5f[\ksefof]/]e/ofE\phi'\nf\phif]\text{1} \text{8}\text{1} \text{1} \text{8}\text{1} \text{1} \text{2} \text{1} \text{1}

/ft k8l /]elff ckmgf yf0ll cfo]. bbsl vfn; s\$l, lxnf]k5\f]w\fof]/]
of]sf]cfo\ff]cfh xd/f]lxnf]xfNn elga/ elff crDd k8]. ¿vdl 9b]dh]8/n]
¿finfYof]/]pOsf]cfFsf]tfNkf]os elffsf lk7ldl k8\f]. elff]cuf; tsfYof]t
dh]osn}¿vdl a; \fi]wSof]. elffn]afnfof]cf dh]t sf]x\ft]xd'So\fg c2\ft
elof]/]9b\fl]i\cdot\flof]/]ckmgl; a sfxfgl; \fgfof]. elffn]egof]ls ca
; bfOFolfa; \xd/f]lxnf]k5\flof)bb vf . dh\flata\flof]x65 elof]/]a:of]. elffsf]ag hfg]
a\flataf eof]. ag hfg]a\flataf l/7]/fa\fsl l; \asl af; hl agfof]/]9b]dh\flof\flof\flataf lba/
uo]. sf\flof\frac{f}{f} cfOa/ tf]n\flof\frac{f}{f} vf\flof\frac{f}{f} f\flataf light follow|
elof]elff ag uo].

eff ag uPkl5 96dhn]wfof]af; hl s; /l al25 e6of]/]ahfof]. af; hl ahl - dfp eff l/7]/faff t/ff]l/Ty]af6gl k8af]. eff bs8]/ cfo, dh]t a; /lsf]wSof]. shf0 ahf0 e6of]/]- dh]t s; /l al25 elga/ ahffofxFe6of]. effn]e6of]ls ca sf() cfoa/ df0/ ahfo}gt/ hg ahfo}e6of]/]eff ag ulu]. eff uPkl5 /fhfsf l; sf/l cfo]/]96dh]vl hfpFe6of]/]nhf6nfu]. 96]dh]

af; hl ahfpGYof]t ca sjhf0 cfpGy]eJFf, culsf0 h; Jl vfnl ahfP xf]eGof]/] /ft cfo]. eJFf cfo]/]96Jhh]t nJhf0xfNof]. 96Jdh]h0 af6f nJhfGy]af6f af6f ckmg' ufbfsf] kmf6f] lr2} kmNn} c/ofYof]; lSsPkI5 ckmg} sfG5l cfpFif] bfJEn sfl6a/ /st Rjfpg}lx6&}cl/a/ /fhf 3/; Dd kSofYof]. kfOnf]; Dbf; Dbf eJFf /fhf 3/ ks]/]b/jf/ pbf2 nfu].; a nf $\$ n:s/ nfu]/]sGQJg\yfdl; Sof]. /fhfn] eGofYof]ls hGg]log\eJFf yfdl; Sof] pOnfO{cfwf/ /fHo /]rjhl lbgJxF. 96Jh] afjhfof]/]pGg]eGof]- dfp eJFl, l/7]/fa $\$ f tJf]l/Ty]d}xF. pGg]OIIt eGgHofF eJFfn]/fhfsf]3/ pbf2 5f8\fmathbf{g}]. 96JdhJhfO{/fhfn]ckmgl rjhl lbof] cfwf /fHo nf} lbof]/]pm wgl e $\$ f/ a:of] eJFf nf}g}58\fmathbf{g}]; a $\$ fNof].

96dh\$l lbbln]0; /l 3f0f'aHof; Gof] ef0 chihsf]lt; f]/fhf eo}s/8l; Dhl/] nfhn]p; }7fp&l bGthla sf6\forall f]/]d/l.; Ggihf0{; g\forall fnf} =

; **f**]:JolQmM:**j** od\

#= afg\hj\8L

os ufpēl os nf6f]Yof]. p0sl cfdf dfīt/ yl, lbblsf]Jof c/bf Yof]. os lbg nf6fn]ckmgl cfdf; a\eGof]- cfdf cfdf d lbblsf]3/ hfG5; af6f]nfd' 5, /fif xflNbo /]njhf0a/ hfG5'. p0sl cfdfn]kfF /fif xflNbof]/]nf6f]af6f nfllof]. lx8&f lx8&f af6f /ft k8l /]os 9ª%f cf]f8 ldNof]lt; }j /f8 /ft af; a:of]. ckmgf /fif vfglvnf0{emjhf0gfx}ufl8a/ ujftnfllof] os vfpFls b0{vfpF tlg vfpFls rf/vfpFrf/ vfpFls kfF vfpF. cf]f8 let/ os e't /]p0sf kfF rjhf a; Gy]. nf6fn]/fif ujfof e'tn]; Gof]/]of]t d]f rjhf vfG5'eGg nfllof] ca Io}vl hg\vf0 eGg'k8&f]eGof]/]e't af0/ cfof]. nf6flv eGof]ls a¿ d tfjhf0{kff /]¿Kk]xlbf lagfafv/l lbG5; t d]f rjhf hg vf0{. e'tn]0;l s/8l c/bf ; Gof]/]nf6f]vzl eof] xG5 eGof]/]lagfafv/l njhf0a/ lbblsf 3/ kSof].

nf6f0 lbbln] /ft\rightarrow| Tof] afv/f] ckmgf lsnf0g' /] ckmg' afv/f] p0sf lsnf0g' aflb/fVof]. bf] /f lbg Jofxfg\nf6f]p7\df]/]afv/fvl k\rightarrow| xu\e\text{cf]f8} k\rightarrow| afv/for] k\rightarrow| f xu\forallo| nf\rightarrow| f xlof]. nf\rightarrow| nf\rightarrow| f xu\forallo| nf\rightarrow| f xi\forallo| nf\rightarrow| nf\rightarrow| nf\rightarrow| nf\rightarrow| nf\rightarrow| nf\r

os lbg nf6f 3/ rf] cfo]. nf6fn].afg&fg\hjp8l lk6lk6\nf\$lÚ e6of]/]; ajhf0{aflba/ lk6\kf].; a rf] larn]/]uo]. nf6f]cf0 ufp $\$ }7hf]/]wgl df65 eof].; $\$ Gg]hf0{; $\$ Gg]hf0{;

; f]: JolQm M nIdL/fh e6&, \$), ; fIf/, u8;]/f (8f], xfn M ho; ltf/fd 8]/l, wgu9l .

\$= lagfafv/lsl aft}

os ufpēl b0{; f}ih að a:flyg\ h}lsl rihl ¿khl /]sf65lsl enkhl.
¿khlsl Oħf dl/ulyg\. os lbg ltg/f] af xf6 hfgflvnf0{ al6ðof].; an]
lgsflgsf nufnītf dufof] ¿khln]ckngl Oħfn]; Ogfdl cf0a/ eg\$f]lagfafv/l
dufof]. af xf6 uof] /] lagfafv/l nf} nðf]. ¿khl ca ; bf0Fuf0ðfR5f; a
lagfafv/l nħf0a/ jg hf6yl. ef\$ nfuð/ lagfafv/l~ effs e6gyl /]pm kðf
xu6Yof]k}¿khl vf6yl. 0;]l ¿khl criħ dfðfPsl wðof]/]enkhlsl Oħfn]ckngl
riħl enkhl; a\of]jg s\$]vf6o}ð ljrf/ c/ð\e6of]/]nfof]. ¿khl; a\enkhl nf}
uf0{r/fpg u0{. ¿khln]5fð a0 hfðff xðþfPe6of]/]enkhl lggf0u}. ¿khln]
lagfafv/l~ effs e6of]/]kðf vfof]. p0sl Oħfn]bf] /f lbg t ca hg lggfo}
elga/ nfof]. cfh t hfðff cflyg\bbl e6of]/]a; l. ca ¿khlnf0{ef\$ nful.
a0{xd/f]lagfafv/l t 0; f kðf xu65, s; yl hg e6o}e6of]/]enkhlnf0{nf}
lbof]. enkhln]galet/ el/a/ ny}/]3/ Oħf wðfof].

ca $\fill \fill \$

¿khl /fgl ePsl s/8l; an]hfGof]. ch pOsl; fj.jhl OhfnfO{lggefJu g} e}/]efj; ; dok5f ckmgl rjhl l; sfOa/ ¿khlsf 3/ nfOxfNof]. emkhl ¿khlsf 3/ ksl /]eGof]ls Plbbl t]f t nItf valgsf /\$g\Psa/ d t]f nfpFt d]f nf, sf]/fd8l w[\$sG5]eGof]. bb}agl sjfdl 5fOn tSb ug\/]5fOn tsb]avt ¿khlnfO{sjfdl 3flrfof]/]ckm';khl ea/ /fhfsf 3/ u}. ¿khlsf]¿klN; a /fhsdf/ hGdl/Yof]. /ft/ft ¿khl pO bb Vjfpg, vfg'agfpg /]ufOafR5f Gof/ xfNn cfpg]c/Gyl. cfpg]hfg]avt ufpg]c2yl /]bf/Djfn ckmO pu8\$f xGy]

ckn0 9flsGy]/fhsdf/ pl7a/ bb vfGYof]/]ckn0 l; GYof]. cfpg]/]hfg]avt 0; $\[\]$ L ufpGyL M

pu8lhfg~~ pu8lhfg~~; g\$f s]f8 ef0~~, afn}/fhf~~ ¿klN; a bb}lbg~~ cfof d0F. Aohlhfg~~ Aohlhfg~~ afn}/fhf~~ ¿klN; a, afn}/fhf~~ ¿klN; a bb}lbg~~ cfof d0F. Aohlhfg~~ Aohlhfg~~ uf]f\$f ujf\$l ef0~~, uf]f\$f ujf\$l td"3fF} lbg cfof d0F. wkslhfg~~ wkslhfg~~; g\$f lbo8f ef0~~, afn}/fhf~~ ¿klN; a bb}lbg~~ cfof d0F.

; bf0F¿khl 0;]L cf0a/ vfglkg'nf}cl/a/ hfg() xgfn]kef{sf]vfg'ld7f] xg]a; fsf]gxg] /ft/ft; a}zfCt xg] lbg()ts gxg]s/f /fhfn]cgf]f]dfCof]/] vf[hL c2flvnf0{/ft åf/sf vNnf0g' nlsa/ lj rf/ c/\ddf]/]¿khL cfpCo}s/8L hfCof]/] cfofsf avt kfv8f]; dfof]. 0;]L ckmgL ¿khln]bW kfof /fhfn]; \dgamma\} Sof]/]enkhlnf0{sf[hdL xflna/ df/\df] cfkm'¿khl; a\; vdL a:of].; \dgamma\} ff0{kmhsldfnf===

; ft]JolQmMeful/yl cfenf, &*, lg/If/, u8; If & 8f6l.

% dainl /fptsl aft

os blædl danl /fpt /]Ihh8l h6hfnl /fpt b0{; flænf bfhef0 y].
danl /fpt osn}Yof] Ihh8lsf; a}ef0 Idn]/]of]danl; flægl cfdfsf]rlænf
xf] kl5 /fllosf] nf}efu vflænf] c0No}cæa00ff cl/a/ cnu /flvlbpFeGof]/]
; Nnfxf c/lænf]. c6g, uf0\(\frac{a}{1}\)frsefff; a af0of]. oss}//6of vl af\(\frac{a}{1}\)fl // xlænf].
Ihh8lsf rlænf]xd' l/6of vl sf]d]f]t g}lb6of xflæfof]/]danl /fpt l/; fof]/]
ckmqf 3/ uof].

os lbg lhh8lsf rihf 36% uofsf aihf dant /fpgn]uf] sf uf0&fR5f knlsfof] /]v]tl nf0\bof]. ckngl ; f]t\bold lhh8l cfdfsf 3/ uof]/]af/ldl uf0\bof] ckngl ; f]t\bold lhh8l cfdfsf 3/ uof]/]af/ldl uf0\bold fR5f 5g\ wkfpg'k8of]e\of]. da8l df\offs s;]\land lwfpFe\off]/]td/f rihfn]c\mathbb{z} nf\g\]bof] p\land f]\d\land lwfpFe\off]. Ihh8l a8l ckn0 af/ldl u\bold V]wkfof]. Io\df\sfdl dant lehfofsf wfg n\offs nf\off]/]uof].

a; f0ts lhh8lsf rjhf cf0a/ tsfy]t wfg rfjsf wsof]. log'wfg sfg nsof]e6of]/]danl /fpt cfosl s/8l yf kfof]. ca t o}danl dfbb'k8bf] lo; jl g}xgsf]e6of]/]cfkmgf legfh' va/ c/bf]. ltg/f]legfh' afnfaf0; dx/f cfof]/]danl /fptnf0{kmsfp6o}hlSt c/bf].; anf0{cfh d efh Vjfpg]xF cfof e6of]/]danl /fpt afjhfof]. danl /fpt cfof]/]3/ nshf0a/ lj if xfnsff] df; 'eft Vjfof]/]I; of]. efjh kefs[ts}d/sf]wlSsof].

dand /fptsl:jf0gln]/ft dand /fpt ef\$0}/ofsf;0gf w\$l/]p0sl vfhl c/\dand ;ft lbg kl5 dand /fpt d/\flatfildNof]. ufp\fl ; a}hDdf eo]/] p0sl ;b\dand c/\dand [dand /fptlsl:jf0gl;\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof]/\floof] \text{ aff} \floof]/\floof] \text{ aff} \floof]/\floof] \text{ aff} \floof]/\floof] \text{ bd} \text{ aff} \floof] \text{ aff} \floof] \text{ aff} \floof] \text{ aff} \floof] \text{ bd} \text{ aff} \floof] \t

; **f**]:JolQmM:**j** od\

^= /lg emis/L aft}

/lg /fpt /]em³\$/L /fpt b0{ef0 y]. pg/L cfdf dfīt/ yL, af g}y]. bb} ef0 7hf eo /]/lgsf]Aof cl/a/ 3/ cfdf; a 5fl8u] ckm'bb}ef0 k}f sdfpg kb≹ uo].

os dinfbip sf0/fnf]ufp&f]wql Yof] cvf0 :jfxfql osnl w\$of]ls cf\varPf nf0a/s; //L ckmgL agfpFelgdfGYof]. It; }df\sfdL /lgsf]:jfxfgL osnL w\sof]/] $eNoa/p0; ap7a; c2nflof]. of]s/8l /glsl 0hfn]nf}hfcof]. 0hfn]lr7xl$ n[vdflof]/]; jf]xftfpF/glsfjfFk7fof]. lr7%ldl n[vofYof]-t]f0 vfg]nf8lrp8f nd8[f] vf65, t/f0 | g] vf6dl nd8[f] | g5, t/f| vfq] vfhvh/f nd8[f] vf65,eGof]/]Ir7XL lbof]. ; j fn]Ir7XL k/bf]. Ir7XL k8bf]/]bb}ef0 3/ cf0u]. 3/ kSof wlsa//lgsl;fjxfglctf:;l/]kfglNofpg]ainf5fFsf]kf/f]ninf]/]lbof]. ckmlet/sf0/fnf nsfpg u0{. dinfbip sf0/fnf 8/f0g'nsfof]. ckmlaf0/cfP. /gl em²s/lsf b0{ef0 let/ uo]/]lt; }8/fDdf c8½ nf0a/ a;]. 8/f0g' sf0/fnf] 8/n] sfdGnfYof]. /lgsf efOn]ckmgL cfdf; a\eGof]ls cdf xd/f]3/ sjnfO sfdG5, pOsl cfdfn]eGof]- x/ Ajf Û td'k/b/z uPkl5 t ofFsGqD khfcfhf nf} 0(f) (1/; fox(s)\0)8/f0g's]5 a2 ts;" elga/ $8\% \log ts(y) t s(y)/fnf] ns_{f}(w) of]. /gln] PYF (0g' x) s(y) no[]/] dlygk}$ vgof]. vfuf]cgof wlsa//glsl:jfxfgln]kfglxfNof]/]sfn lgldu}rfw8s] agfof]/]sf\(\right)/fnf To\ufpFx\\wkfof].

os lbg lrgfk/l 3f6sf djhf :jfxfglsf]kfk kvfNnf]k8bf]elga/ gfpg /lgsf b0{ef0 /lgsl :jfxfgl uo]. af6fsf rfj;f/fdl hfjlsf]ejf k}la/ sfjl/fnf a;l/bf]. e6of]ls o}djhfsf]dVo df65 d}xFta}d]ff]gfpFdjhfbjp /fVof xf]. ltgh] p0nf0 g}k5[of]. 3f6 s;]l gfpg' xf] s\$]rf0g]xf] elg/ lt; }hfjll ;fjbbf]. p6g]d; a%}hf0lbpFif]xh/ Û e6of]/]3f6 nJof]. 3f6 hf0a/ - sfnf]af\$]rf065, alr 3f6sf]afnjffFrf065, e6g nflof]. sfnf]af\$]t em²s/l osn}hf0a/ nbf] ca alr 3f6bjsf]afnjffNofpglvnf0{/gl uof]/]lt; }7f}bj' 7hf]df65 l52]edf]

/\$, It; }edf]g'/lg I5of] bf0 g}cfof]elga/ em³s/L uof]/]pm nf}lt; }ed/g' k:of]. /lgsL :j fxfgL nlof]/]dihfbib sfD/fnf] lxl6llof]. /lgsL :j fxfgLsf klog' /lgsf]cf7 dgfsf]u/a Yof]. Iof]hldlkI5 sfD/fnf]ua*f kmfNnlvnf0{tof/ eof]. Iof]s/8L /lgsf k5lof 9fihLn]rfn kfof]/]sfD/fnflv elof]- xh/n]bv c2'g} k8&f]d kmflna/ cfpl5'. hfTs nlhf0/ p0 9fihLsf xft lbof]/]plg]/lgsL cfdf 3/ k/bf].

/lgsl cfdfn]kfNof]tfNof]7hf]agfof]. p0sf]gfpF; fla /fVof]. ; fla k6w| j if&f]eof]/]lt; }arfpg]9fjhl cfof]/]p0sf af /lg /]p0nf0 df2]sfØ/fnf0 ; a s/8l e6of]. ca ; flan] 9fjhl; a\h;]l eon f}tØ djhbø vflha/ df2' k8\hf] e6of]. 9fjhln]hlSt l; sfof]ls uf] f0h0 s lbg ufph1/sf ; Aa\hf0{eflh cl/a/afjhfpg' k8\hf] lt; } df\hfdl sfØ/fnf] nf\cfpg\hff]. /ftel/ d x8\hf]h nfph6f] vjhdfn cnf{. p0cfof a\hf d ultdl ufph6f]/]k\hfdl]to\v\hfdl]v\hfdfn c/\hfl] x8\hfl]. ; flan]x65 e6of]/]; a 6o'tf c/\hfl]. ; a\cfo]/]vjhdfn c/\hfl]. 9fjhln]x8\hfl]h ufof]. ; flanf0{9fjhln]ckmgf g\hflmDef] n\hflof(f0\fof). sfØ/fnf] vjh tSb cfof]/] 9fjhln]ult ufof]-

 $ee[n] phfnf] eof[n] tf]; f[n] sfBn]g knb\af]\hat{0} xhkh' u^a\af aug\aful, tf]; f[n] sfBn]g knb\af]\hat{0} p7\; f[n] \hat{0} hfu\\hat{0}$

; f[]an]; Gof]/]fjhLn]x8sjhL l/6&ajhf sf]/fnf /fd x2nfYof]; f[]an]v5/L xf0of]/]djhfbjþ sf]/fnf]d/\df].; f[]a /fptsf]/fHo eof]/]; a v'; L eP .; Gg]hf0{ ; ddfnf ===

; ffJolQmM:j od\

&= ; tlN; a]/fhf0 aft}

os; tlN; a]gfpFc/\df /fhf Yof]. os lbg; ft hgf l; kf0; a\text{ nl\hf0a/ /gagj (bfag l; sf/ vl\g uof]. ag ks\]/fhf l; of\] l; kf0 eft ksfpg nfu]. /fhf lggfof\]/gp7\]eof\]. 5 hgfn\]eft vfof\]/]; ft\]Faf\[\text{F} 5f8\df\] lr\]\\ n\]of\]/] uo\].; tl:; a\]pl7a/ xf lg\[\text{b}\]\ \(\text{l} \) c2\Yof\] t osn\]. lr\[\text{Nld bf0gf xft}\]\\ t/f af\[\text{f} \] y\[\text{f} \] af\[\text

xf\textbf{ffffcfh\t ofFdg; Iol\g dg; Iol\g ug cf0 sfFxf]< p0sl r\textbf{h}ln]e\textbf{of}- ofFt sf\textbf{g} cfyl, ufp\textbf{f}; a\textbf{tdh}\vf0; \textbf{lsxfNof ca sft}\textbf{df\textbf{ls} cfp\textbf{g}f <

bf]/f lbg kef{}bf6bf{} uokl5 /fhf efg nflof]- cfh t d afF, ; bf6 0; //L slt a; L; shf]. d t td; a \lof c2] dg 5 . a \(\) cfh t() bf6bf{} sf] dfg; lhpg' slt 5 \(\) fof]; fbof . /flf; \} rihln] x65 \(\) eGof]/] ckmgf af ; a \\; fbof]. bf6bf{} n] egof]- ch t ; tlN; a \]/fhf g\hGDof]pm hGd{}/ os l; dnf] \(\) v sf6nf] /] t() \(\) v \lof v \lof x\rightarrow ff \) p8Ggf, os os k \(\) \{ k\Zrd, p\It/, b\If0f hf\Gf os t \]/f b\(\) b\(\) b\(\) b\(\) b\(\) b\(\) f\(\) \(\) \\ \) \(\

; bf0F/fhf I; sf/ vNg hfgf] /fgl vfglkg' cl//fVbl . os lbg os sb{gla8l cf0{/]}æGb}lgsl 5N eGgnful . /fgln]æt sf\(\bar{E}\)l d\(\bar{I}\)l knk"d sf\(\bar{E}\)l t\(\bar{I}\)l

eb}< d]l t knk; k"sflglyg s] elof]. sblgln]elof]ls t g eo}t]f afn] dnf0{ko] lbof xf]. 0;]l s/8l c/\deltaf]/]/fgln]nf}\xfi]hf]k\right}elgdflof]. sblgl a8l /flf; s\rightsf kl/of/ldsl os yl . plg]ca eb\rightyl elof]- P eb\right] cfh t t]f To\right/ffsf]dlg' lhpg' dflof}. /fgln]lt; \right\cap \deltaf]/[fhfn]/flvof tfdf kqdlsf]dlg' lhpg' dflof]/]sblgl a8lnf0{lbof]. /fhfn]bflbf\right\sl d/\right] s/8l; \lbla/ /fglsf nfpg]nTtfdl ckmgf vb\right\f 5fk nf0a/ uof]. tfdf kq nlof]/]sblgln]ha\right\f nl\right\f fl\right\f fl

; f[]JolSt M/Tgfb]L e08f/L, &(j if{ lg/If/, u8;]f (8f]bL.

*=; gs}/f0 aft}

os bald os /fhf Yof]. pOsl; ft /fgl lyg\ ltg/f; (tfg geof y]. os lbg /fhf hfltif x/fpg uof]. hfltifn]os 9ªª'd(t/\df]/]lbof] of]cfdsf \civdl xf0of /]; ft u\bar{g}f cfdsf en\bar{g}f, osos u\bar{g}f]; a}/fglnf0{vfg lbof; (tfg x\bar{g}f e\bar{g}f). /fhf uof]/]\text{Tof]nkmltf]cfdsf \civdl xf0of]; ft cfd en\bar{g}, nf\bar{g}n] \choose \c

5 /fgln]bb}ef0lagf nùù /]I; I; Gemf8 kmfNof]/]cf0g . I; I; gf kmh vfof]/]ltg' afF]. ept lbg kl5 x²lyg t Hogf0 . ch nùù /]tfål emfh/ kmNof] TofFnf} tfåsl lhnl vf0a/ afF]. tøkl5 uf0&f uf7&f0gf nħf0 kmNof]. bb}lbg]uf0{ cfdf û bb}lb0{hfo, j ħf hlt uf0{cfdf û af6}sf6l hfo, eGof]/]uf0ħ]bb lba/ arfof]. It; f 7fpH; g gd/bf xgfn]uf8 nħf0 ufpgk8bf]eGof]/]auf0 lbof]. tlNt/ dfxfb] /]kfj tl gfpGnfy]. gfpg]aħf b0{hfTs aflua/ cfpgf w\$of]/] kfj tln]5flka/ 3/ nùù /]kfNof]. lbglbg}7ħf xgf0 uo]. os lbg ; gs]/fn] dxfb]; E uà/ xd/f]3/ agf0lbgk8bf]eGof]. dxfb]n]rfdnf uðf dGt/bf]/]3/ agf0lbof] 3/ agkl5 ca cfdf]afu-auðf agf0lbg' kðbf]eGof]. cfdsf]afu agfPkl5 df] NoDbo eGof]. rðfrðahl klg agfof, ca 3fðf NoDbo eGof]. 3fðf] nðf]. uhðu/l dxn agfof, cfdsf]afuauðf agfof, df]sf]hfðl agfof, uhfw/ xfTtl 3fðf nðf ca cD; /f jðl sħf0 g}nðf eGof]. dxfb]n]eGof]ls cD; /f aðl rf0g]eP uaðf lsgf/; ft cdv; ft k5fdv /]alrðl cD; /f aðl xGgl, x87 wððhf nTtf v; f0a/ /fvGgl /] nða/ kmsl{gtSo}cfo}. ; gs]/f] uof]/] cD; /faðlsf nTtf nða/ cfpgðhf cfðsf nTtf cfo]ls elga/ kmsl{gtSo}cfo}.

; \(\) \(\

; ftJolSt M:jod\

(= |x|6/]dh\$l aft}

os ufp@l lxl6/]eGg]dh]/]pOsl Ofn aTyy]. os lbg lxl6/]vnnf]vnnf] gbl u05 /]xl/f kf05 . Tof]rlDsg]xl/f 3/ non wsof]/]pOsl Ohfn]eGof]ls - P af \hat{U} of]t xd'h; f u/lan]g}/fvbf, sf0 rf \hat{J} 0 afF nfpGgf, hf hfFx}Noyl t \hat{U} F kmflnof . kmfn'elga/ lxl6/]gbl hfCnfYof]/]os bf\$fGbf/ln]wsof]. pGg]dnfO{Tof] xl/f b]d tfnfO{ckmg'bf\$fg lbG5'eGof]/]lxl6/]; a\xl/f dflof]. lxl6/]3/ kmSof \hat{U} /]bf\$fGbf/ln]xl/f; a\bf\$fg ; f\$o}s/8l eGof]. xd' u/la lttg' bf\$fg s; \hat{U} rnfp\hat{f} eGof]/]bf\$fg g}uo]. bf\$fgbf/ln]Tof]xl/f os dGql; lt alfof]. dGqln] ckmgl rnfllvnfO{t0{xl/fsl xf/ agfOlbof}.

os lbg 7hf]djhf nflu/Jof]. djhf 3Db dGqLsL rjhl, /fhfsL rjhl nf} cf0/Jy]. dGqLsL rjhL xf/ nf0a/ cfo}yL. /fhsdf/Ln]wJof]/]cfkm'/fhf0 rjhL eja/ nf}xL/fsL xf/ g}kfo] dGqLsL rjhLn]sfk}nfof]egof]/]3/ uja/ /fhf; F eGof]. /fhfn]dGqL; F xf/ nJa/ rjhLnf0{lbo}s/8L ; fJhaf]. dGqLn]bfJsfGbf/L; a lsGofxFeGof] bfJsfGbf/Lnf0{; fJhaf]lxl6/]dhjh]lbo}s/8L eGof]. /fhfn]lxl6/jhf0{ afjhfof]lxl6/jh]uant lsgf/ uja/ xL/f kfo}s/8L eGof]. /fhfn]dlvnf0{klg h; JL e]nf}xL/f Nofpg'k8af]gt/ tf]df2JkFeGof].

/fhfsf b/af/ uof]. /fhfn] lxl6/jh] va}¿a; sdf/L No}f05 eGg] hfgLa/ p0 lxl6/jvL ch cvf[xL/f rf0of]h;]L xG5 vf[]hNof eGof].

 $|x|6/] 3/ |cfof]/]/fhfn] cvf[\{xl/f | rf0of] eGo\} s/8l | c/of]. |sdf/ln] of] cff[ln] hf/] df[lag] 5, p0; a, xl/f 5, |bbln] aff[hfof 5 | ega]/| |cf0hfG5 | egof]/] |xl6/] ch |ha\n |uof]. |sdf/ls| |bf]/| agl |nf}tk; ; flsa |xf[tldl ; jf/| ega/| cfpgnflo} wf[of]. |xl6/] |cff[lwf] |sf0f]/| |ckmgl |sf8l | eGof]. |xf[tldl | r8\n |sdf/ln] |nf}hof |c2]; |tell |xG5 | eGof]/] |xl6/] |sf3/| |xf[tl |No]/| |cfo]. |xl/f |nh|f]/| |xl6/] |hfnf0{|bof]. |fhfsf] |nf|/| |ch |a8\n |sdf/l |eGof]. |0; |fl |t]/| |sdf/l |efndl |; |jf/| |cl/a/| |nh|f]/|xl/f |fhfnf0{|bof]. |ca |t |of]/|hfnf]|xl/f |a| |dtf|/| |nf|f]. |sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|/|sh|f|$

os lbg /fhfsf afsf]z/fb cfof]. /fhfn]elof]sl z/fb ldtn]cl/lbo]nf} x65 . of]s%l lxl6/jh]ckngf 3/ ltg}sdf/l; a\elof]. sdf/ln]hflgxfNof]/fhf lxl6/jhf0{df2]pkfo c2nfU5 elga/ . sdf/ln]lxl6/j\l elof]ls /fhf ckngf afsf] z/fb c2 nfnf]/]of]cfJR njhf0/fv, cfJRdl p0sf afsf]5f0n wjsjhf]. lk00f; jhfpg hfgajhf /fhfnf0{ ua\f lsgs/dl hf0a/ cfJRdl p0sf afsf]5f0n wjsslhf]. lk00f | jhfpg hfgajhf /fhfnf0{ ua\f lsgs/dl hf0a/ cfJRdl p0sf afsf]5f0n wjsslhf] | k; egajh /fhfvl td/f]af tdhf0{afjhfpgnf5 elof /]pm ua\f0g' uofajhf let/k; egajh /fhf let/8al65 /]d25 k}td'afFt]xf}.; a s/f; lof]/]lxl6/]uof] /fhf; a\ua\f lsgf/z/fb cb\uakled . h; f]s\underline{\text{bf}}ln]elofYof]p:; \underline{\text{cof}}/]fhf 8laa/d\underline{\text{bf}}lxl6/]afFof]/]/fhfsf]/fHo cknlrnfof].; lgjhf0{; \underline{\text{bg}}fnf ====

; ff]JolQmMefuL/yL cf@mf, &*, lg/If/, u8; Jf & 8f@l.

!)=lx/fnfnsl aft}

os ufpēl os 3/ xl/f, os 3/ nfn os}lbg hGd].; and vinf vinf bb} 7hf eo]. bbil do]kil eff; Yof]. xl/fsf 3/ xl/fsf]cvf{a Vof c2lvnf0{tof/xGnfu] a/Nofe dufof]. xl/f0 /]nfn}efub]; Nnfxf c2nfu]. nfnn]ckmgf afsf] 3f\[
3f\[
\text{Bf}]\[
\text{n\lf} \] /and \text{sf nItf nfof}]/]xl/fnf0{3f\[
\text{Bfdl /flva/ b/ b} \] uo]. -os} /and \text{n\lf nfof} \] /and \text{k\lf f, os} 3f\[
\text{Bf c; }]f/=_

b/ b/ks]/[xl/fn]efs nflu e6of]. la/fgf b/k hflusf]elf k//m/lbfgf elga/ nfn elf]dfluNofp65'e6of]/[uof]. osf 3/ dflof]df65 af0/ g}lgsn] bf]/f 3/ dflof]g}lgsn]t]f/ 3/;fl/mf]0/3/f xb]af0/ lgsl/m/mf]ls d let/k;'egof]. p0 3/f xbfn]e6of]ls xdhf0{g}vfg]e0]dfit/ af0/ lgsl/m/mf]ls d let/k;'e6of]. p0 3/f xb[m]e6of]ls xdhf0{g}vfg]e0]dfit/ af0/ cfpgf5' gt/ 4f/ g}puf8/m/m. lo;f]sl/mf0 e6gf d td'sl/mf0{vfpmf]/]. p0 3/sf xb]e6gnfu]ofFt os sb6gl a8l 5 /]Tof]rfdn d6t/la/ df65nf0{afv/f agf0 vf60}xbfn]xd'0; /l nSofxF. nfn e6gnfllof]d t hfl/ml df65 dnf0{s]c/nl /]hf65'e6of]/]h6hfo Tof]sb6gl sk6/m/m e8gfe0f]/]sb6gl a8l lgsnl . nfnnf0{ws6hf cR5} d6t/mf]/]xfl/ffxfNof]. nfn e8f]eof]/]a8ln]ckmgf uf/minxfNof].

xl/f nfn slts cfnf]/]vfg' vfpfif elga/ x/ $\$ x/ $\$ x/ $\$ ufpEf xg]; f/ $\$ nful, sf0Fd/f nfn w/s/ofls elga/ . ufpEf xg/ $\$ elgf0 [ls xdh]hGhf0 elgf elgf0 [lo}sbGgl a8lsf 3/ uofxf]/]g}cfof] ltGg]k6s cl/a/ /fv/ $\$; f/ $\$ a8lsf 3/ u}/]nfn cfof xf] ls elga/ ; f/ $\$ f/Gnful, nfn uf/ $\$ x}DofDof cb\nflof]. sbGgla8ln]g}cfof]ofFt, elof] ch uf/ $\$ x}EofEof c2nflof]. xl/f elgnflu h; //l eo]nf}d/f]nfn Nof, gt/ tf]d df2 $\$ sbGgln]cIft dGt/\\ aff]/]xfNof]. nfn h; fsf]t; }eof]/]af0/ lgsNof]. xl/f0 /]nfn}Toffx}cvf{7fpFuo}/]a;].

cvf{7fpFu}/; flrGtf xfla/a; hf elgdfGof]. ch ltg' TofFu}/a:o} s/8L s&GL a8Ln]hflgxfNof]. Tof&f /fhfn]nf}va /fd8L hfTsL xL/f /]os nfn cfo}s/8L; Gof]. xL/f va}/fd8L 5 eGg]; lga/ /fhfn]To}xL/f hGg]ofFaflhfOa/

No}Sof]pOnfO{d cfwf; Dklt lbg}FeGof]/]ufpEf; a uo]g} cf0. kl5 sbGgl nfof] hf To}sk6 /] nfn dvfG5, xl/f No\pf eGof]/]a8l xl/fsf 3/ u}. nfn l; sf/ vNg uof df\pf 5fNka/ sbGgl a8l cfOu}. eb}U Dj fn puf8, eGof]. xl/fn] td'sfEl knk"xf}g}k5\pj] d\nabla t knk"gNyg\ eGof]. a8l eGgnful tf]geo}t]f afn]d ko\nabla lbofxf]. xf\nf]k}elgdfGof]/]let/ la; fof]. a8ln]s; f/ sk6 cl/a/ n\pfYof] lbof]/]eGgnful, of]sf]\nhl /fv /]nfn cfo\nabla / lbo}t jg vfo}. a8l uO{ /]Tof]s; /f s\ps' cfof]/]vfof] dggfO df7f]s\ps' dl/llof]. nfn cfof]/]xl/fn]; a s'8l eGof] ch bf] /f lbg nfn uNof]. sbGgl ch cfOu}eb}eGof]/.]g}lbo] s\ps'\n]vfof]/]d/\partition{bf} egof]. n]k}cfh of]tdfv' lbo}eGof]/]lj if xfNof tdfv' t lj ifn'xf]. nfnn]hflgxfNof]g\pfg'eGof]/]knfNbof].

cvf{lbg sblgl cf0 /]nfnsf 0hf afsf]gfpF; fbb}elof]/]xl/fn]lt;}c/bf]. nfn]elof]ls d]f 0hf af sf]gfpFega/t d]f]d2f]cfpg]xf]. xl/fn]g}dflof]/]nfn]cfkmgf 0hfafsf]gfpFelof] 0hf sflngfu af jf; 'gfu . xl/fn]egof]ls dnf0{le6f0lbg'k8bf]. nfn]elof]ls le6b]eo]os sjf]vg, tb sjf]3l /]thn]e/a/t 0hfaf vfg cfpgfxfg /]osn]Nofpg kfl/l let/ hfg'k8b5 . xl/fn]; a s/8l sblgl; a ellbof]. sblgl u}/]/fhfl; t lof]s/8l elof]/]/fhfn]sjf]3l /]thn]e2 nfof]. xl/f /]nfn uo]tsb . nfnn]d hfl5'o}sjf]let/ t 8Ab hglbo}xft; bf0/flo}elof]/]uof].;jf]elgnflof]-

3Bl hfift kfgl kSof]; Dh xl/f Ûnfn,
hfa hfift kfgl kSof]; Dh xl/f Ûnfn,
3f6l hfift]kfgl kSof]; Dh xl/f Ûnfn,

d0f hfinf]kfql k\$of]; Dh xl/f Û nfn=

; j fjh]eGo}s/8L xL/fn]; gg; Go}c/&f]/]nfn t 8lallof]. ca xL/f nfn afjhfpGyL t sfk}cfpGYof]. s6GgL a8L cf0 /]xL/fvL hfpF/fhfn]afjhfof 5, cfwf /fHo lbgkFeGqnf5 eGof]. /]s6GgLn]Tof]s/8L /fhfvL eGof]. /fhfn]os j if{

ksa/k); //L e]nf}Nofpg' k8&/f]eGof]. /fhf ckn0 tSb hfg' k8&f]eGof]/] sjf]uof] os 88"-clha\8_ xfkfFxl/f elga/ cfof] /fhf 8/n]gbl uof]/]xl/f gfpg]aihf s]hfpFeGof]/]j Nt/vl slNnof]. xl/f nf}xfFnfn xfFnfn elga/ cf0 . of]nfn eGgnf5, pm xl/f eGgnf5, eGof]/]/fhf 8/n]uof]. xl/f sjf]glhs u}/]xfkl/fxfkl/f elga/ gfu cfof]. t sf]xeGof]/]d nfn xFdnf0{lhpg' kmsfpg]e]dnf0{3l xfNof So]vfglvnf0 lboa/d h; ft; }xglkF. xl/fn]dfuf daff 3l xfnla/ lvRr8l ksfof]/]lbof]k}nfnn]dlSt kfof]/]h; ft; }eof]. 0; //L dfusf daff; bf0Fckmgf 0hf nf0{nf}lvRr8l ksf0a// lbg]c/af]. xl/f n]nfn lofk}ckmgf klnlsf 7fpFuo]/]a;].; GgihfO{; b0 dfnf, eGgihfO{kmh0 dfnf}==

; ff]JolSt Mefu/yl cf@mf, &* j if{ lg/lf/, u8;]f & 8f@l .

kl/lzi6 v ; Ílnt c‰ 8fðið nf\$syfsf]dhkf7

!!= cN5l rinfsf]efUb pbo eofsf]syf

os ufp@l os gfd'Njf/a; GYof]. p0sf]os}dfTt/rjhf]Yof] pm cN5l Yof]. rjhf]ef};}cN5l xgfn]Njf/nf0{rjhfsf]; fjr nfllofYof]. rjhf]klg af sr\$r\c25 elga/ lbSs dfGgYof].

os lbg cN5l rjhfn]ckmgf afnf0{df2]lg0f6 c/bf]. af af0/ uofsf] wlsa/ rjhfn]aGr/f]knf0a/ e/bfssf 7\$bj'al; /bf]. af rjhf]x/f0llof]elga/ vnfsf l80fldx}8fsf]nfpGnfllof]. let/x}pOsl O[hfn]eGof]ls slt affjnf 5f}< rjhf]7hf]eJof]hflgxfnnf]. af l/; f0a/ eGgnfllof]ls 7hf]eof nf}dlt t p; l 5, lo}os}rjhf]; w/nf]elga/ eGof xF/]ca t Sobj eGg] xF. of]s/8l rjhfn]nf}; Gof]/]pOsf]dg kuNof]. af cfdf t dnf0{dfGg]/\$g\d sjhf0{aflno] eGof]/]aGr/f]/fVof]/]kf0f psNof]. dJf s]uk xGgf eGof]/]os kl00ft ; fjbbf]. pGg] eGof]ls tjh]!@jif{df0t a; g'k88]xf]. t]}c/bf]/]Iof]cN5l df0t a:of].

df0tx}!@ jifk5f 3/ cfpgflv af6f nflof];; //fn]eGofYof]ls cvf&l :jf0gl; a\g}nflb'xf]. lx6&f lx6&f af6fdl os ufp&l /f6 k8l /]Iof]os 3/dl af; dflof]/]a:of]. bf] /f lbg tf&f6f lx6&f]/]cvf{ufp&l af; vflbGnflof]. os 3/dl ossl df-rjbl a; lGyg\. t}ufp&f x/\$ dfG5n] tf&f /fhfsl /fhsdf/l la/fdl xgfn]/ft a/g hfg'k8&]/\$. t}la/fdl s2jbf0{/ft os gfu cf0a/ df2] /\$. 3/sl a8&ln]eGof]ls cfh dJf]kfnf]xf] /fhsdf/l s2] ta}td'dJl rjbl; a\ Aof c/ /]a/ d hfG5'eGof]. t}dhjb]eGof]ls of]s]km fb k8l, d 3/ hfgf0 cfof dfG5 s; Jl Aof c¿, a¿ d hfG5's2 eGof]/]/fhfsf b/af/ uof]. /fhfsf l; kfOn]; fb\df]ls t sf]x}sfFcfof x}elga/. tGg]d /fhsdf/l la/fdl 5g\eGof] /]s'¿jf]xg cfof xFeGof]. tj\df0{vfglkg'Vjfof]/]/fhfsdf/l /fv\sf lglhs}os sfJf w\sfof]. /ft gfu cfp\f5 eGg]hflga/ Tof]gl; os}a:ofYof]. /ft /fhsdf/l

lggfo\sf avt /fhsdf/lsf] gfsaf6f wfuf] h; f] lgsNof] /] gfu a6of]. t}dh] vfgflvnf0{cfof]/]t}dh]h]cdv}v\s/L; df0/f0Yof] sf6\df]/]b0{6\sf agfof].

; ff]JolSt Mafa&N]nkf/, %^ j if{ d8e/f-! 8f6l .

!@pF}5fnfsl syf

os b‡dl os a8f jfdg /\$g\ pg/l os :jfxfgl /]tg ef0 rjhf /\$g\ ufp@l xjhf lkmlHho}/\$ /]jfdgl a8&l d/\$l /\$g\ a8f cN5l xgfn]u/la y]. t; dl a8lsl sfhs@f c2fn]a8fnf0{lemss l/g nflu/yof]. vjtkftl afx\$ cf} cfocfDbfgl Sody Yof].

; ftJolSt Mufkfn ; fsl{ %%, hf/fufpFd8e/f -!, 8f6l .

!#= p66'¿ b\racktern sf e66'¿ /fhf

os ufpēl os /fhf /] p0sl tlg /fgl lyg\. h]/l /] df0nl a]; [) lyg\\ sf65l ; f[hl ; Hhg yl . ; a)/f6 osos ; Gtfg h6Dofy]. /fhf sf65l /fglnf0{atf{ lgsf]df6gYof]. df0nl / h]/l l/; n]d2lyg\ ca xd's;]/l o}sf65l /fglnf0{lglsf] gdf6g]agfpFelga/ ; f[r6nflug\ os lbg os hf[]tiff j fFhf0a/ bb)/h]; /; Nnfxf c/\df] p0vl e6of] ls sf65l /fglsf] r]/hf t td/f dh h6Dof 5 el6bof /fhfvl e6of]/]3/ u//g . /fhfnf0{x}/l To}hf[]tiffjfFnfof]/]h; f]e6o}e6of Yof]p; }e6of]. /fhf 3/ cfof]/]sf65l /fgl /]p0sf]r[hf]bb]/hf0{3/x}lgsfNof].

sf65l /fglsf bb}df-rinf 3/x}uo]/]ps cf7f8a8f a;]. df6l, ¿vsf kft, vf0a/ lbg sf6&nfu]. lbglts hfts vllganf /fhf rnf nf); and x6y]. bb) nflua/p0nf0{osn}agf0a/ckm'lhīty]. 0; f]c2f c2f sf65l /fglsf]rhf]7hf] x[nfllof]. Aof c2]ainf eof]. Ps cw//fhfsl rinl yl . p0sf 3/ hfglvnf0{rf/ sfiff cuf; km6&s xflna/ dfit/ hfg; lSsg]Yof]. p0; aVof c2kgilvnf0{os ; t{-hf]rf/ sfiff cuf; km6&s xflna/ d]f3/ ksnf]p0; a\d Jof c2]kFeG/f0Yof] . Tof]; t{hGq]k/f cl/; Sof]p; h]cw/ /fhfsl rhl Jof c2 kfpq]eof].; an] km66's xflna/ p0sf 3/ hfg]sfl;; c/\df]sGo\df; Sof]. tof]eG6\/]/fhf r\hf] klq uof]/]p0sl cvl{0\hf r\hf; a el6 e}. of]t xd/f]s/f lauf8\hf cfof xf] eGof]/]pOnfO{os sbGgL a8Lsf kmhf kfl8lbof].; a nf\$n:s/ hfgf w\$of]/] sb[qln]p0; fbbf]-log'; a}shf0 cfo]elof]/]/fhfsf rhfn]elof]-log't cw//fhfsl ripl Jof c2 cfof xq\.pGq]0;f]0;f];t{/fVof 5, eGof].s&Gql a8ln]e6of]ls t; bf0Fdnf0{kflNbg]eo]d; a\os dgNr6To}vf6 5, Tof]hlt b/ eo]nf}nhf0lbG5 . eG6/h]xG5 eGof]/]vf6 dfUof]. a8ln]dglrGTo}vf6 lbof]/] eGof]- o\vf6dL a; \(\alpha \) hfFkSb]dg nfUof]p; \\ \rangle fpFkSb\(\alpha \) kS\(\ksi \) lkmtf\(\text{hf eq}\(\alpha \) vf6 d/f 3/ klshf65 . Tof]vf6 n(of]/]uof]e66/].

cw/ /fhf0 rihlsf sfidl kSof]/]vf6 lkmtf{nf0lbof]. cw/ /fhf0 rihl crDd k8l, djn]t; Aa}af6f aGb c/Xf0y]of]t ept anjfg /5 eGof]/]eG6/] a
Jof eof]. Jof c/k15 dlglrGTo}vf6 dufof]/]ckmgl Ohf Noja/ cfof]. vf6 lbGo}

a8l nf}afhfof]/]kfNof]. 0;][l p66'; b]zsf]e66'; /fhf eof]/]a:of]. ; Gg]hf0{
; Gg]hf0{

; f] JolQm M 8/dI; 4\v8fot, pd] && j if{ 8f}_L- u8; If * wfdLufpF.

!\$= slgs]dh\$L aft}

slgs]dh]t}/fhsdf/lsf 3/ hfg]af6f nfllof]. hfgfhfgf af6fdl k\$of]/] aft}la; l/llof]. dlgf0 klNt/ uof]/]os tfngfsf e\$Itf af0/ cfosf /\$g\slgs] dhihf0{w\$of]/]; a}v'¿v'¿ tfngf k;]. p0sf dgdl v'¿v'¿ bfBttl elg]zAb cfof]/]t}; Dhla/ /fVof]. dlgf0 klNt/ uof]/]kmfn xfnttl elg]; DHof]. cfh dlgf0 klNt/ uof]/]os sf}f]sf7dl 9f0 kf8& nfu\$f]w\$of]. p0sf dgdl s7\ sf}f elg]cfof]. ch dlgf0 klNt/ uof]/]vfjhf0g' os ugu8f]w\$of]/]bz kf}f elof]. ca /fhfsf b/af/dl k\$of].

; a\sf] kfnf]; ISsof]/]/fhsdf/ln] t}dh] afihfof]/] nl /fpGo}aft}xfn eGof]. dhih] aft}xfNof] v'¿v'¿ bf\gammaGtl, kmfn xfnGtl, s7\sf\f kfglsf kf\f, p8df w\s]kfgl, aft /fpg ghf\g]d\lambda[l /fgl Sof xf]eGof]/fhsdf/l crDddl k8l /] si\h}g; \g\sl jft\xfNof] of]dh]t af\mathbff]/\sumbea.; \Gammaghff]/\sumbea.; \Gammaghff]/\sumbea.; \Gammaghff]/\sumbea.; \Gammaghff]/\sumbea.; \Gammaghff]/\sumbea.; \Gammaghff]/\sumbea.; \Gammaghff]/\sumbea.; \Gammaghff]/\sumbea.

; f[t]JoISt MrGb/fh hf2tl, ^), d8e/f -!, 8f6t.

!% sflz/fh /fhf /]efalglsl syf

dWb]ft /fhfn]I; o\sf a\hf b\hl; afadl sf\) cf0a/ af6f] 5f8 elgnflof; \(\text{fof} \). \(\text{Io} \) hf\s h\text{Dof} 5 \text{ lbg eof xgfn} / ft efj \text{lgl xf}\)f\]f\] f\[\text{so} \] \(\text{so} \) hf\[\text{so} \) \(\text{so} \) \(\text{lga} \) / \(\text{fhf crDd} \) \(\text{k8\text{of}} \]. \(\text{fhfn} \) \(\text{elof} \] \(\text{lsa} \) \(\text{af6} \] \(\text{so} \) \(\text{so} \) \(\text{so} \) \(\text{lsa} \) \(\text{af6} \] \(\text{lsa} \) \(\t

; f]r k8\df]/]/fhf dgdl os larf/ cfof]. 0; f]enf[k8fd8f]/g]hf[s; a\d ckmgl r]hlsf]\lambda s;][l c\color nf]eGof]/]o\sf]r]hf]0\hfnf0\{k} f lba/ n]\hfg'k8\df]/] df/\hg'k8\df]elga/ p0 :j f0gl; a\t; \eGof]. t]f r]\hf d n]\hf0 k8f0 lbp\hff] tf]\hf0\{k} f lbp\hf kl5 r]\hf]\fof]\eft{phf} eGof]/]p0 :j fxfgln]\Gif/gk5f n]\hfnf k8f0 lbg]eo]eGof]/ /fhf of]s\fof{8l s; }\hfloglnf0\{lbof]. t}:j f0glnf0\{\Gif/g} \fof{9l}\fo

wdwfd c/\deltaf]. cdv\sf ; t\(\psile \text{if ffg} ; \text{ls ffg} ; \text{ls

ca b/af/dlos htf 6fdb]rdf/ cfof]. t}rdf/; aVfhfn]eGof]ls t'efjh kef{ts 3/}a; Ø, d o}dh]t]f 3/ htf 6fDof 5g\elga/ nfphff]/]htf lbo}/] lbp8la/ larf/ c2]avt v5/ln]sf6\bar{b}/]df/\bar{b}eGof]. rdf/ xG5 xh/ Û eGof]/] 3/ uof]. a; f0ts /fhfn]dhjhf0{efjh kef{ts}rdf/sfj fFuo}/]tffvnf0{gfjhf htf 6fd\$f 5g\nfo}/]k}n\bar{b}eGof]. Tof]s/8l /fhfsf]rjhf]let/x}; GgnfYof]. kef{ts}dh]gp7\bar{b}/fhfsf]rjhf]uof]/]; fsl{bf0 htf lbgk8\bar{b}f]eGof]. ; fsl\bar{b}nf} ca /fhfn]nfo\\$f]dh o}xf]elg dfGof]/]t}htf lbof]/]/fhsdf/ htf nfpg]avt sf6\bar{b}f]/]dfl/xfNof]. dgf0 k5f dh]kSof]/]/fhfsf rjhfsl t; l xfn w]sa/ 8/n] larNof]b/af/ /]/fhfvl Tof]s/8l h; fsl t; l ; gfof]. /fhf ctf; ktf; cl/a/ rdf/sf 3/ cf0 tsGYof]t pOsf]rjhf]d/\\$f]w\\$of]. rdf/ ; fj\bar{b}f]/]rdf/n]; a} s/8l eGof]/]/fhfsf vb\bar{b}f0q'k8\bar{b}f].

/fhfn]dgdg}; fflof] DHof] ckmgl a2l lwSsf/ /\$ eGof]/]t}dhinf0{ckmgl rinl lbof] cfwf /fHo lbof]/]/fVof]. eflj gln]h]n[lvYof]To}eof].; Gginf0{====

; $f_{JolSt Mufkin}$; f_{Sl} $hf_{JipFd8e/f-!}$, $8f_{bl}$.

!^= s\h8\aft\

os b½dl s½h8 elg) hf[sl yl . nfdf0 /df xbfn]p0sf]gfpFs]h8 /fVofYof]. p0sf 0hf af, b0{bf0 dWodlsf os nf6f]bf0, os ef0 y]. os lbg ; jhh8 gfpg uf8 uoyl . nf6f]tlNt/ df5f df2nfYof]. gfpn]ajhf s] h8sf /df vl; a/ au]/]nf6fsf df5f df2) hfngf c6s]. nfdf nfdf /df w\$of]/]nf6f cfFf nfu]. /df n\hf0a/ 3/ uof]/]log'/df h\hf xb\lo} a d Aof c2\hfe\fe\fe\fof]. s]h8 cf0 /]log'/df t d\f xb\elof]. nf6fsf 0hf af n]elof]ls log'/df t t\f \f \text{l} aglsf xb s; \f \text{l} Aof c/\nh\hat{l} \text{vf}\nf0{cvl{hf[sl vf]\hfb\f h}b\f nf6fn]lt; \hf\hat{l} t g\hat{l} 2\hfb\f a\hfb\f vfg'\nf0{cvl{hf[sl vf]\hfb\f h}b\f nf6fn]lt; \hf\hat{l} t g\hat{l} 2\hfb\f a\hfb\f a\hfb\f g\hfb\f g\hfb\f h}f \text{l} \text{l

Aof c2lvnf0{lbg\x/of]/]I7Ss c/o}s/8L s] h8vL g}eGof]. os lbg hf sfh'klna/Nof, eGof]/]s]h8 nfof].s]h8 ¿gl sfh'klnl c2nfyl/]sf}f] cfof] sf sf cl/a/ . sf}f] eggnfllof] - sfsf os rf()nf] lkgf bjhnl t d SofpSofpm-aft} s/8l; \(\text{pfpFif}. \) s] h8n]os rf\(\text{nf} \) lkgf lbof]/]eGof]- \(xf \text{t}/ff \) y/kf/nf, t s/s/8L; \(\gamma f \) f] - t/f nf6f e0o}/ t/f/\(\lambda f \) e6of]/] uof]. ca s] h8sf dqdl eof] s of] s/8l t locg]; fFrl c/af] 3/sf xq] Aof $c2lvnf0{tof/e}_1dfG_1', 3/uo}_1/Aof cl/xfNn}_2\ca 0; af6 nSbfk8\df]eof]/]$ ago s l; nanfinldl psnl /] af8af8 l; nanfinl ; sanfinl e6of]/]l; nanfinl cuf; u). efih Aofsf]lbg\cf0Vof] s]h8 vf2nfu]/]I; na8fnldl w\$of]. k}nl p0sf 0(hf ajf]uo]/]afihfp(nfu]- cfih\ajf s]h8 Û nug\$f]aihf r\$of]9fih bdfpF alhu}. s] h8 elignful - cug\$f 0[fif a]f]ch]h\$f ; f; '; ; //f dfrf]f}l td/f dv 187 k8f} le6 hg\xfp . Ohfaf kms{/]uo]. bf0aflh'cfo]/]e6g nfu]cfih\agif s] h8 û nug\$f] aihf r\$of] 9fih bdfpFalhu}. s] h8 eGgnful cug\$f bf0aflp'chip\$f h7lh7fgl dfrftf}\hat{I} td/f dV 187 k8f} le6 hg\xflp . Itq0 kms[/]uo]. ca nf6f]cfof]/]eGqnfUof]- cf[[nl5]ls /f0f Û cvr'ls bvr'. s] h8n]eGof]- cua\$f]bf0 d]f]cr|h\$f]kf0, y0{dfrf]: Û t]f dV 1891ke6 ha

k8f}. nf6f]knSof]. sfG5}sfG5f]efO cof]/]eGg nfllof]- P bl \hat{U} ls t cffhVs d nfhf. s] h8n]eGof]- hf a0 hf ef8dL sfall[5, P bf 5] 8ffL 5, t bl t bl t sfnf t ltn t f t h8n]eGof]- t knlof]/]uof]/]uof]/]uof]/]uof]/]uof]/]uof]/]uof]/]uof]/]uof]/]lbblsf j fFuof]. ch af8 af8 t; nallfnL t s{hf0nfu eGof]/]/gag laGbfag, r8lr8s g}kft kn8ss g}0; f ag ks]/]

I; n^a %fnl lgpItla/ la; fof]. sfnf ltn d(t/of] af\[of\]f]/]sfnf uf0\[of\]fR5f eo]; \[of\]f ltn af\[of\]f]/]; \[of\]f uf0\[of\]fR5f eo]. lt; \[of\]l 3/ tof/ eof]. ca bb\]ef0lagf osnf0\{a;]. ef0 lbglbg uf0\{r/fpg hf(Yof\]p0sl lbbl vfg' lkg' agf0a/ uf0sf] lxnf\[of\]; nf]kl5/fv\[of\]yl.

ef0 agx} uf0{ n]a/ cfof] /] uf] ua/ lbbl \hat{U} uf0 afb\eGof] kf0f nf8f1; nf8f afh] afb\a0 afb\. kf0f ua/ lbbl uf0 afb\eGonfUof] ch uf]

IsnfunipFafin] afb\a0 afb\0;][uf] kf0f c2f c2f0{ySof]/]In; fiftg' 3D6f] kl8a/ /Gnflof]. 3D6f]k8&fk8&f0{lggfof]. kl5 os afGg/}aufn cf0{ tip 3D6f] k8&f wsof]/]afinfof]P dh]Û t sf]x} sinf0 ¿Gnf5} eGof]/]pGg]ckmgl lbbl x/fo}; a sxfgl eGof]. lx6\dh]xdl; t hfpFeGof]/]afGg/n]ckm, a\nJof]. afgg/ agsf kmkmh ¿vx}em8fpgf pm vfg'. 0;][os lbg afGg/}aufn lx6&f lx6&f /fhfsf 3/ kf/l wlSso]. afunldl ckmgf ef0 h; f]wsof]/]s½h8n]/fhf l; sf/l; a\nJobo eGof]. /fhf l; sf/l uo]/]Noa/ cfo]. lbbl; a\le6 e}/]bb} ef0lagf /fo]. bbin]ckmgl ckmgl s/8l; gfof]. ca hfFuo]nf}; a\left{\file6} hfpFif ef0 eGof].

os lbg /fhfn] $cfh\ t\ ;fnf]d;\ ^aV;\ sf/\ v//n\ hfg]xf]eGof].\ ;an]loItg} dh]sfFl; sf/\ v//n\ hfnf]egof]/]/fhfn]g}dfGof]pOnfO{eNo}/\ n/nfOxfNof]. ;fnf]legf kflglt; eGgnfYof]/]kv kv ca eGgfeGgfOFwf/f hlt ;ISsPkl5 os 8f/nf]cfof]/]b ca kfgl vfg/e]vf, eGof]/]3D6f]kl8a/\ kfgl vfg/en//hf 3f/lrfof]/]df/lbof]. /fhf 3/\ cfof]/]s]\ h8n];ff/\ \ h8f]\ efO\ sff\ \ Uof]\ eGof]/]\ pm\ k5f\ \ cfpGnf5,\ eGof].\ x//\ \ x/\ \$

; ft JolSt M:jod\

!&= uf]fnfsl aft}

os uf]fnf]Yof] p0sf tlg ef0 y]. sf65\sf65f]ef0 uf]fnf]Yof]. bf0ef0 kfnf]kfnf]cl/a/ e\mathbf{f} x\mathbf{2} \text{hf(y)}. os lbg nf6f kfnf]cfof]/]nf6f]e\mathbf{f} n\mathbf{h}f0a/ ag uof]. ag /fhfsf lzsf/L lel6\mathbf{k}P . /fhfsf lzsf/L k6f0 df2lvnf0\{af6f0gf al; /\mathbf{y}] nf6f]3f\mathbf{F}sf]la6f]\text{No}\mathbf{k}/ cfof]/]3f\mathbf{F} t\mathbf{h}\mathbf{h}f0\{\flva/ e\mathbf{f} \text{No}\mathbf{k}/ cfp\mathbf{e}6f]\\/\def{h}\mathbf{h}\mathbf{k}/\mathbf{

ch os kmf 1; kf0 nfof] h;]L x65 ToD aflba/ nDcfo e6of]. ch I; kf0sl kmf cf0u0{. nf6fnf0{p0sf bf0n]ag 3fF Nofpg nfofYof]. nf6fn] l/; n]¿v}prBof]/]nDa/ 3/vl kmNof]. ca I; kf0 e6gnfu]/fhfn]afhfof 5, hfpF. nf6fn]e6of]ef\$ nflu/\$, a¿ So}td'nf}vfg]Eof agfp65 .; an]lg; f}]/fDf]vfpFe6of]/]nf6f]lg; f}]xfNn nflof]. lg; f}]/fDf]kmsfpg]ahf /fDf dlg r[kkP/]cfwf I; kf0 d/]cfwf I; kf0 8/n]larlna/ uo]/]nf6f]t eff; alno]5 ca 3/ hfgk8bf]e6of]/]; a}lx6]. af6f dD cfof]/]k}fn]af6f]rNof]. os ¿v cf0a/af6f]sfl6/f0Yof].; a}nfu]/]To}¿v g}kmfln; Sof]. ch ufJfnf]; s65 ls elga/afhfpg uP . ufJfnf]cfof]/]¿v prfof]. ufpEf xb]hf6nfy]/]¿v 5fl8lbof]. ufpEf; a}r[kkP/]d/].; Cg]hf0{; bsl dfnf====

; ft JolSt M:j od\

!*= uf]fnf]a8&f]/]/f\[]etsl syf

os ufpēl os hg'uf0{e}f kfn\sf]uf]fnf]a8\sf]Yof]. pm lspgsf d\gf h\n klg cf\nsf vs{uf0{e}f jfbla/ ckmgl v}l nfpGYof]. lbg\s uf];e\ff r/fpg hfGYof]. a;f keft d\sf aflna/ a;GYof]. ckmgl kf\ngl kf\nl slgsfsf]/f\nlarf]agf0a/ vfGYof].

a8&fsf; f\(\)f\(\)f\(

os lbg lbglts}a8&f]geof alhf /fs]et dltsf 3/ cfP5 . a8&fn] df6lsf yfnldl cfdsf]crf/, 6k/ldl /fsf]/fVofYof]. Tof]ef8f]etn]x]s /]gfg' rfv\$. etnf0{Tof]va}dg k8of]/]vf0a/ uof]. a8&f]a; f0lts 3/ cf0a/ kfsnl vfgf0 tsGYof]t ; a vfnl agfof wsof]. ckm't eft ksf0 vfof]. 0;]l ; bf0Flbglts cf0a/ et vf0lbGYof]. os lbg a8&fn]lbglts 3/ let/ nlsa/ larf/ c/of]. ch ; bf0Fsf h;]l p; \$f]dlt cf0a/ vfgnflof]. ca etnf0{ a8&fn] wkfpg]larf/ c/of].

os lbg /ft a8&fn] os s6f}fdl tjh, cvf@l ; Nnfsf] ln; f] /fVof]. a; f0lts dlt a8f]cfkm'tjh nfpg nflof]. a8&fn]dltnf0{nf}tjh nfpGo}s/8l eGof]. vfjhf0gf a; G5f} 700f leHof xfjhf] tjh nfPa/ lgsf]xG5 eGof]/]e't nf} xG5 eGof]/]tjh nfpg nflof]ckmg'tjh nflof]ls g}elga/ an\$f]xuN6f]; df0a/ x½ nfu]. t; }avt e'tn]eGof]ls dlthl d½f x8 nf}xi/lbo, nflof]ls g}eGof]. dltn]xuN6f]; dfof]/]tslGts ln; f]; NSof]/]e't larNof]. ca td/f 3/ sNo}g} cfpg*Felga/ tfn k:of].; Ggjhf0{; gsl dfnf ====

; ff]JolSt MpQd/fh hf2l, d8e/f -!, 8f6l .

!(= 3ful:ofnsl syf

os ufp@l 3ful:ofn /]la/\ofn b0{ef0 a; Gy]. la:of(\):j fxfglsf]gfpF d\gfj tl Yof]. 3\ull:ofnsf]\of cg/\\}Yof]. os lbg 3f\ull:n]ckmgf bf0; a\eGof]ls - ; ftfsf ; f\ull:nf ef0 sf\ull:l afnf]\v\ull:nfpgf, xd/l t a/f\ull:l g e0{\ull:l}-; ft ; ft ef0 x\ull:l nf\\of e\ull:l nf\ull:l v\ull:nfpg nflu] xd' b0{ef0 e\ull:l}- nf\ch d\ull:l nf\ull:l of eof g\ull:l \ull:l nf\ull:l nf\

posf bfo(h) eGof] is - gfnlel/; g n\hf, kfyle/l k, hfo effor a/fglsl vfh . -; g, k f n\hfoa/ a/fgl hfg' k8\hf] eGof]/] efo sGofsl vfh uof]. vfhof]/]3/ cf0a/ gkfo]eGo nflof]. gfvjf]c5fd 90f] kGb\kft]8f\hfoa\ 90f] pDn 90f]vDn 90f]g\hfoa} kfo]bbf d\hfoat{f} dg nfl\hfoat{bl} a\hfoat{bl} . ; a 7fpFts]/]sf0g kfo] eGof]. $hfoat{bl} gf$ k8\hfoat{h} a\hfoat{bl} gf k8\hfoat{h} gf k8

7hf 3/7hfsl:jfnl,xd':jfnlv;gvf\(\)sslr\(\)hl, uf\(\)l\(\) xd':jfnlsslr\(\)hl, uf\(\)l\(\)

 $xd't ss8f vfg]nh -eh_ xFckn0 h; l vk65, ltg'/fhfsl rjhl xd's;] l c;nf < hg c/eGof]/]l/; f0g\. uf]ln]g}dfGof] d lt; jhf0{Aof c25'eGof]/]p0sf]bf0{cw//fhfsf 3/x} uof].$

cw/ /fhfsl rihln]os; t{/fVofYof]- hf]d; a\hjft]lhtnf]o; }a\d Aof c2]xFeGof]. of]s/8l p0sf bf0n]3/ cfof]/]ef0; a\eGof]/]ef0 hjf]vflg uof]. zf/bf /fjihlsf]bf0gf]xft rNn nfllof] 3fjul:ofnsf]afpFxft dfIt/}rNn] xgfn]3fjul:ofn xf2 nfllof]. xf/k5f glhtGHofFzf/bf /fjihlsf]gfs/ ea/ a; g' k8&]eof]. lbg lbg gfs/ xg hg' /ft /ft 3/ cfpg nfllof]. 3/ cfpg]aihf afhh]3fjul:ofnsf]cgf/f]dv wsof]/]eGof]-

pbf0 hfgf uf] l d]f bb}hlt phnf ll
paf0 cfpgf uf] l d]f r's}hlt lgl; /f ll
Sofpsf]k8\df]uf] l d]f dgdf0sf]; f]r /]l

afh'elg nflug\s xdh]t hlhfo elof xFs]ckmlcl; f/sl vfh elof xFg}dflof elof]/]uf]ln]elof]ls d t h; //l e]nf}lhIt]xF. afhh]cfg; fg'Vj fof].
0; //l cvf{lbg klg uof]. cvf{lbg cw//fhfsf]os dlql Yof]; Ntg]d00fl, p0sfsfldl 3/ 5fpglvnf0{nfof].

3f]L:ofn uof]/]3/ 5fpg nflof]. ch /ft ckmgf 3/ kmSof[. aflnh]ch ; flof] s]eof]uf]LeGof]/]cfh xf/]/]ch 3/ 5fpg'k8\df]eGof].

ca t g}xb]xf]uf]l; and So}lhtg]hlSt njnfg'k8bf]eGof]/]l; sfof]. td'ca hfiplsf eJf hfo /]To}; Ntg]dOOflsf 3/ a; . k}efjh p; jhf6 vJjn hfo eGof]. af/ kfyl 5f/ x8dOf]3; l njnfo, 5f/f 6fnl xSsf oJf}; hfOa/ njnfo, gf} ufFfsf]afFsf]aF]njnfo, p8e; l tdfv'e/njnfo, snfJuj}cfuf]njnfo, os dfg' sfnf]r's xfNnjnfo eGof]/]nfof]. 3fipl:ofn hfiplsl eJf; Ntg]dOOflsf 3/ uof]/] tdfv'p8b;; c2 nflof]. cfuf]3\$fof wJjof]/]; Ntg]dOOfl 3kmgf 3/ kSof]. of] hfipl t cfu nfpg]xf]eGof]/]x6 hfipl eGof]/]hfipln]ufhf, k/fnsl dfrdl r's kfJjof Yof]Tof]dgfO ckmgf 9fdgfdl 3:of]/okof; Ntg\stransf x8dl hjBof]. hfiplsl eJf cw//fhfsf 3/ uof]/]bfOgl lkBldl a:of]/]Tof]p;\stransf 9fdgfdl h\stransf lkBldl a:of]/]Tof]p;\stransf 9fdgfdl a:of]/]Tof]\stransf 9fdgfdl a:of]/]Tof]/\stransf 9fdgfdl a:of]/]Tof]\stransf 9fdgfdl

cfaqal lbof eft daff klvfllog \vfof] d s; al vfpfif<

a]\$ lbof eft d]f kVfNog\vfof] d s;]L vfpFif]<

j vn lbof eft d]f kVfNog\vfof] d s;]L cfpFif]<

v\$\{\delta\left\) lbof eft d]f kVfNog\vfof] d s;]L vfpFif]<

r\\s\{\delta\left\} lbof\] eft d]f kVfNog\vfof] d s; /L vfpFif]<

0;]LefG; f kSof]/]eft vfGnflof]. eft vfOa/ r7g uof] xft dv wf\pf]/] 5f/; f/; a kvflNnof]. k5f; an]k5\[]of]/]of]t; Ntg]d00fl /\partial eGof].; Ntg] d00fl kSof]/]nf}o}3f\[]ul:ofnnfO{r\[]nl lbg'xg\[]of] a\(\)d]f; ft r\[]nf 5g\\c7fpFd 5'eGg nflof]. 3f\[]ul:ofnn]ch zf/bfsf];]f c2f\[]k8\[] nflof].

Sofpgsf]k8\\df]uf] L d]f dqdfosf]; f|r /]\(\hat{U}\)

affn' eGg nflug\ls xdh]t hGhfo eGof xFs] ckm cG; f/sL vffh eGof xFg} dfGof eGof]/]uf] ln]eGof]ls d t h; IL e]nf}lhIt]xF. affnh]vfg'; fg' Vj fof]. 0; IL cvf{lbg ch uof]. cvf{lbg cw/ /fhfsf]dGqL cfof] Vj fDd k/X cl/a/; Ntg]dOOfL .; Ntgjh]l/; dfG/fOYof] 3fJul:ofnsL .; Ntgjh]zf/bf /fftjhL ckmgf /fVbD /]3fJul:ofn df2D hISt ; fftGnfYof].; Ntgjh]/fhf; a\eGof]ls dIf]tNNnf - tlnsfb_ sfb 5of gIL, hf]of]sfb 5}; snf]o; ISf xh/}rjhL zf/bfsf]Aof c¿nf eGof]. eGof]/]/fhfn]xG5 kISeGof]/]3fJul:ofnvL eGof].

ch 3flul:ofn 3/ cfof]. 3/ cfpg]alnf aflnh]3flul:ofnsf]cgf/f]dv wsof]/]eGof]-

pbf0 hfgf uf] l d]f bb}hlt phnf ll paf0 cfpgf uf] l d]f r's}hlt lgl; /f ll

Sofpgsf]k8\df]uf] L d]f dgdfosf]; f]r /]Û

afh'eig nflug\s xdh]t; ihfo eiof xFs] ckm'ci; f/sl vfh eiof xFg} dflof eiof]. uf]ln]eiof]ls cfh t io}; Ntg] d00fln]0; f]0; f]eiof]/]/fhfnf0{e6\sfof]. afhh]iof]stgl s/8l xf]/]bb}ef0 hfo /]tNNof sf\darkappa 5\alpha/cfo eiof]/]vfg'; fg'Vj fof]. 0; /]l cvf{lbg bf0 ef0 bb}uo]. tlnsf\darkappa 5fpg]ahf; Ntg]d00flsf rhfvl td'aftf lbo, xd'kfvfdl r8\sf5'eiof]/]3f\darkapplsf b0{ef0 kfvldf r8].; Ntgh]ckmgf; ft rhfldsf 5 rhfvlaftf lbo, eiof]. p0sf 5 rhf aftf lbinfu]/]dly 3f\darkappl:ofn\rankappa]la/:ofn\rankappa]af/ dgsf]tfs'uf\rankappa f]; itg\sf 5 rhf 5 s06f0gf t\rankappa f(k8].; Ntg\darkappl eiof]ls td/f rhf t; a\rankappa; lu].; Ntg\rankappa]eiof]log' I; o nf\darkappa 5's]eiof]/]cfkm aftf lbof]/]3f\darkappl:ofnn]la/\sofnn]tlnsf\darkappa 5of].

 $tnNofsf \ 5of]/]zf/bfsf \ 3/uo]. \ yf \ 5off; \ Ntg]d00fl \ nf \ kSof]. \\ cw//fhfn]; \ Ntg]v \ ; \ fb \ af] \ ls \ cat \ zf/bfsf]s/f \ c2'k8 \ felga/. ; \ Ntg]h] \\ eCof] \ ls \ o\}; \ Ntg \ 5 \ r \ hf \ k \ d/]; \ tfpFr \ hf] \ 5gf05, ; \ Ntg] \ nf \ 5gf05. \\ 3f \ ll:ofnsf0 \ lbg]eo] \ ltG] \ ch \ tlnsf \ os \ sfd \ c2'k8 \ hf]. \ tlnsf \ 5 \ ff]slt /fd0f]eof] \ lofFos \ 5f/sl \ khfh \ ls \ eoa/len \ s/fd0f]xCYof]eCof]. \ sf]; \ sC5 \ 0; \ f]eCof]/]; \ Ntg \ heCof] \ s \ td/f \ Hj f0F3f \ ll:ofn \ la/Nofn ; \ sCgf, \ ls \ d ; \ shf] \\ xh/' \ ll \ eCof]. \ nf \ k\ of] \ 5f/sl \ khfh \ ls \ Nofo \ / \ k\ zf/bf \ ldNNo \ xf]eCof]. \ ch \ 3f \ ll:ofn \ 3/cfof]. \ 3/cfpg]a \ hf \ af \ hh] \ 3f \ ll:ofnsf]cgf/f]dV \ w\ of]/]eCof]-$

pbf0 hfgf uf] [d]f bb}hlt phnf Û

paf0 cfpgf uf] l d]f r\$}hlt lgl; /f ll

Sofpgsf]k8\df]uf] L d]f dgdfosf]; f]r /]Û

afh'elg nflug\s xdh]t hlhfo elof xFs]ckmcl; f/sl vfh elof xFg}dflof elof]. uf]ln]elof]ls cfh ch Io}; Ntg]d00fln]0; f]0; f]elof]/]/fhfnf0{e6\sfof]. afhh]Iof]stgl s/8l xf]/]os af6\sf]h\p8f]Io}tNsf\sf 3/vl /fv /]kf\h, kf\h\pa/ h; fsf]t; }5fk a; l5 /]; Ntg\hf0{\w}fo /]cfo elof]/]

pbf0 hfgf uf] l d]f ===

afh' eug nflug\ls xdh]t hunfo euof xFs] ckm cu; f/sl vfh euof xFg} dflof euof]. uf] ln]euof]ls cfh ch Io}; Ntg]d00fln]0; f]0; f]euof]/]/fhfnf0{ e6\sfof]. afhh]Iof]stgl s/8l xf]/]bb}ef0 hfo /]0; //l xf xf ledf r8l egh/kf; f k865 /] No\hat{hu}/ cfo euof]/]l; sfof]. 0; //l cvf{lbg bf0ef0 bb}uo]/] ledfr8l No\hat{hu}/ lbof].

thwofsh ledf r8l /fVof]/]zf/bfsf 3/ uo]. yf\$f0 df7f; Ntg]d00fl nf} k\$of]. cw/ /fhfn]; Ntg]v ; fhaf] ls ca t zf/bfsf] s/f c2' k8af] elga/ . ; Ntg]h]eGof]ls o}; Ntg\$f 5 5nf k d/]; tfpFr]hf]5gf05, ; Ntg]nf}5gf05 . 3fJul:ofnsf0 lbg]eo]ltG]ch tlnsfb os sfd c2' k8af]. tlnsfb 50of] slt /fd0f]eof] 5f/sl khfh]b8l e0{slt /fd0f]eof] ledf r8l e0{slt /fd0f] eof] ca ledf r8l s]vf0 afFG5 < Io\$f]vfg]s/f eoIb/ lenss slt /sd0f] xGoIbof]eGof]. sf]; sG5 0; f]NoIeGof]/]; Ntg]h]eGof]-ls td/f Hjf0F3fJul:ofn la/Nofn ; sGgf, ls d ; snf]xh/IeGof]. nfIb/ ofledf r8lsf]rf/f]Nofo /]k} zf/bf ldNNoIb eGof]. ch 3fJul:ofn 3/ cfof] . 3/ cfpg] a]hf afhh] 3fJul:ofnsf]cgf/f]dv w\$of]/]eGof]-

pbf0 hfgf uf] l d]f ===

afh'eig nflug\s xdh]t hibfo eiof xFs]ckmlci; f/sl vfh eiof xFg}dfiof eiof]. uf]ln]eiof]ls cfh ch Io}; Ntg]d00fln]0; f]0; f]eiof]/]
/fhfnf0{e6\$fof]. afhh]eiof]ls ; ft 8f0ff kNt/ os ; ft vfihf ldNn]7fpF7hl
tfn 5, tfnsf 3fff0g'ufh -lkmh_el/of xfihf] ufbf]kf8l nhfo, IofFhfo /]afpF
sf6\text{bf} /]ufbf0g'Iof]lkmh el/i5 /]n\text{pf eiof]/]l; sfof]. 0; /]L cvf{lbg bf0 ef0
bb}uo]/]ledf r8ln]vfg]kmlg No\text{hof}. lbof]. tNNofsf\text{bf ledf r8l /fVof 7fpFuo]/]
/fVof]. IofF\text{zf/bfsf 3/ uo]. yf\text{sf0 df7f ; Ntg]d00fl nf}kSof]. cw/ /fhfn]
; Ntg\text{v} ; f\text{hof}]ls ca t zf/bfsf]s/f c2' k8\text{hof}]elga/ . ; Ntg\text{hof}]eiof]ls o}
; Ntg\text{sf rihf k d/]; tfpFrihf]5gf0\text{b}, ; Ntg]nf\text{5gf05} . 3f\text{ul:ofnsf0 lbg}]
eo]ltig]ch tlnsf\text{b} os sfd c2' k8\text{hof}]eiof]/]ca t o\text{3f\text{ulnf0}{afu xftfpF}
Vj fo dfIt/ x\text{y}\text{f}]elga/ afu Nofpg nfpg\text{b} hlSt c/\text{hof}]. tlnsf\text{b} 50of]slt
/fd0ff]eof] 5f/sl khfh\text{hlb8l e0{slt /fd0ff]eof]. ca Io\sf\text{dl u No}eiof]/]; Ntg\text{hl}]
eo\text{hof} / len\text{ss slt /fd0ff]x\text{so}}of]eiof]. sf]; si5 s\text{z/l afu No}eiof]/]; Ntg\text{hl}]

pbf0 hfgf uf] L d]f ===

affif ecg nflug\s xdh]t hchfo ecof xFs] ckm cc; f/sl vffh ecof xFg dfcof lecof]. uf]ln]ecof]ls cfh ch To}; Ntg]doofln]0; f]0; f]ecof]/] /fhfnf0{e6\sfof]. uf]ln]ecof]ls cfh ch To}; Ntg]doofln]0; f]0; f]ecof]/] /fhfnf0{e6\sfof]. affhh]vfg' Vj fof] /]s½/L afu Nofpco}hlSt I; sfcnful . /gjg lj cbfjg s½/L afu xc5, TofFhfg' k8\slant]xf]ecof]. s;]L 5fkhf]afu t vfnf] ecof]/]affhh]ecof]ls d]f df0t hf0a/ os vI; 5, Tof]Nofo /]To\sfof] dcof]nhfo . s½/L afu vfg cfof ahf afu af0; xft pkm8nf]td't); xft dlNt/ ¿vdl psNof /]afu pkm8\sf ahf Tof]dcof]posf dv\sf xfNof, k}afusf sfg /]vI; sf dcofsf sfg; aa}; dfof /]3f\sf r8\sf ecof].

efin keff[ts}3fi]L:ofn af6f nfllof]./gjg lj6bfjg kSof]/]h;f]afinh] l;sfofYof]p;}c/\df]/]afusf 3finf r8\df].afu hfFifFhfGYof]jfJffFkSof].af/jif{Dd 0;]L 8Nof].3/afin';fir kl8a/ ¿Go}jg uf]L.

af/ j if{kl5 os lbg afunf0{ckmgl wf}lsf sgfn]¿va8f]aflba/ ¿g nflof]. d]l vfhl cfh; Dd sGog c/\df]elga/ cfn:o eofYof]. o}s/8lsf]; Og' 3/ pOsl af\deltahf0{eof]/]la/\deltafn; \text{P\tdh}bf0 e}a/ nf\efOsl vfhl g\c/of, s\$// hlt kfl\nfxFt b\deltaf e\$l lbg'xf] la\nf hlt kfl\nf xFt d\deltaf f df/llbg'xf] td' al/ kfnl So\delta kfof e\text{Ggnful}. la/\deltafnn] s]; Og' eof xf] elga/; f\deltaf of]/] d\deltaf tln]3f\deltal:ofn t /gj gla\text{Dof}j g osn\afu^a\deltag nflof; Ogf w\deltaf; a\efof]. 3f\deltal:ofn t 0; \deltal \deltag nfl\delta, vf\deltal hfg' k8\df]e\text{Of}]/]la/\deltaf nn]x\text{S} k\d hf\text{S}; ca af6fvl dlvnf0{uf\text{F}e6\delta el6a/ kf\deltanl agfOlbg' k8\df] efolvnf0{af/ aif\deltaf} x\deltaf af/ s; f/sf 8\nf agfOlbg' k8\df] e\text{Gof}]/]d\deltaf tln] tof/ c/l . af/ dg c6fpg]ufbf]kf8\df]/]ksfof x\delta]; a ufbfOgf xflna/ la/\deltaf nnf\hfglvnf0{tof/ eof].

la/\ofn 3fill:ofnsl \vflhl af6f nfllof]. lx6\ofn/]/gj glacbfj g kSof]. efil nful /]ckmg' kflonl ; Sof]/]os 8\lnf]s; f/sf]ef0sf]efu nf\vf0lbof]. ca 3fill:ofn eo\folion{} kSof]. s\rangle/\lambda afu 3\sqrtaf]/]8/n]glhs g\ranglehf0 ; s\ranglehf0]. ef0n] 3\sqrtaf]\ranglefafihfof] cfo bf0, s\rangle/\lambda Sof]/\lambda ef0n]\ranglefafihfof] cfo bf0, s\rangle/\lambda Sof]-\lambda ef0n]\ranglefafihfof] cfo bf0, s\rangle/\lambda Sof]\ranglefafihfof]

Ist d][l dgfj tl af[n0g cfly l]

| Ist d]f]; gf;]f]; Ntgjħ]nl6 xfNof]Û

Is t d]f l/7\nf s|fof alln nf\nf d/]Û

la/\fofnn]eGof]ls It; f]\fogy xf]\ef0, ef\forn]\for s; f/sf]\forn\fof xFeGof]/]\fofnn]\fofn]\fo

cfpg] 3f] f0gf b0{:ofkn] nl8a/ lj ifsl lkmgs8l c/\dfVof]. x] ef0 \(\hat{0}\) of] kfgl vfof eo t xd' bb}ef0 d2\(\hat{0}\)y] ca o}:ofk ufbf0g' xf\n\hat{0}\hat{0}\)pF/]; \(\hat{0}\)\fof \(\hat{0}\)\formall f0pf \(\hat{0}\)\formall f0pf]:ofk ufbf0g' xf\nof] ef0n] \(\hat{0}\)\formall zf\/l afu ; \(\hat{0}\)fof]/] uo]. \(\hat{0}\)f0pf af6ldf kfof hlt c/\darkanfn, aR5\\hat{0}\)F s\(\hat{0}\); \(\hat{0}\) f, \(\hat{0}\) lend:\(\hat{0}\)fof, \(\hat{0}\) a6f\(\hat{0}\)fof] /] ufbf0gf \(\hat{0}\)f\(\hat{0}\)f]. \(\hat{0}\)ff \(\hat{0}\)fof]. \(\hat{0}\)fof] \(\hat{0}\)fof]. \(\hat{0}\)fof] \(\hat{0}\)fof]. \(\hat{0}\)f\(\hat{0}\)fof]. \(\hat{0}\)f\(\hat{0}\)fof] \(\hat{0}\)fof] \(\hat{0}\)for] \(\hat{0}\)fof] \(\hat{0}\)for] \(\hat{0}

cw/ /fhfn]eGof]Is ca t d zf/bf /f}jhl 3fJul:ofsf0 lbg]xFzf/bfn]nf}ca t d cf}; a Aof g}c2]xF3fJul:ofn afx\$eGof]/]xG5 k}lt;f]eo]ca os ; t{ dfIt/ dflGbg'k8&f]eGof]. xd/f b:dg afJf /fhf xg\ clug]ef0 5, tDsf]dGof] No}/ cfpg'k8&f]eGof]. ca Olt cl/xfn]os}sfd s]/fv'eGof]/]3/ kms{.

3/ cfpg] alnf alnh] 3flul:ofnsf] ch cgf/} d\forall wsof]/] eGof] - pbf0 hfgf uf] \(\ld \forall f \) bb} hlt phnf \(\hat{l} \) paf0 cfpgf uf] \(\ld \forall f \) rs} hlt \(\lg \); /f \(\hat{l} \) Sofpgsf] \(k8of] uf] \(\ld \forall f \) dgdfosf]; f]r /] \(\hat{l} \)

afh'elg nflug\s xdh]t hchfo elof xFs] ckmcc; f/sl vfh elof xFg\dfcof \hat{U} uf] ln]elof]ls cfh ch Io\; Ntg]d00fln]0; f]0; f]elof]. cw/ /fhfn] t dfcof xf] p0nf0{e6\sfof]. afhh] vfg' Vj fof]/]elug] affffsf] d66f] NofpCo\ hlSt I; sfcnful . p0sl ; \hat{g} sl af0f 5, larf/ cl/a/ uof, 3/ cfpg] avt p0sfj ffbf] /\dffhg kmcof{elof]/]nfof].

3flul:ofnsf bb}ef0 ckmgl afff; dfof]/]af6f nfu]. afflyfsf 3/ ks]/]
3flul:ofnn]8fsf]nfof]- cf]af/[bl afth' Û P/]L u8L, kmffl kmffl st/L u8L cfP,
st/L-sIo/_ u8L kmf8l kmffl dzfgl u8L cfP = bf0 le6g cfo]sfF5g\eGof].
bf0 t; efdl al; /\sum_g\let/ a;, eGof]/]uo]. d bf0nf0{le6g hfG5' eGof]/]
3flul:ofn af0f; df0a/ uof]/]clug]afflyf dG6fdl xf0of]/]d06f]nlhf0a/ larn].
bb}ef0 dG6fsf]es00ff]v/Inf0 lar\nf0 c2nfy]/]3flul:ofnn]eGof]ls bf0 xd/L
aff 5l6u} d \loaa/ cfp5' eGof]/]uof] bf0n]t hGhf0{ zq' df/\$L 7f} hfg' xbjg

eGgfxfg\eGof]/]g}dfGof]uJof]. uof]/]clug]afJVfsf]bfO alug]nf6f]Yof]. Iof] nf6f]8/n]4f/sf vNnfOg' nls/Jof]. 3fJul:ofn cfof]/]let/ k; g]ajhf nf6fn] Io\sf dGofOgl afOf xfOof]. pOlts cfnl kl8f xgfn]dGofdl ku8l afb\sf]/] 3fJul:ofn ckngl afOf ; dfof]/]cfof]. bfO eo\forallef]/ kSof]/]bfOn]hfgl xfNof]afOf nfUo\so\forallef]/slc a d 3/ hfOa/ afJn\vl s]eghf] zf/bf /fJjhlvl s]eghf]elga/efOvl ; fJ\sfnfUof]. efOn]eGof]ls zf/bfvl h]tJf]dg 5 Iof]c/\square\forallef] eGof, afJn\vl uf]l kSf cfGnf5 eGof, I; p\square\forallef]; Jff]/fJ\kxfNof . c; f8 /fJ\ksl\vl h]/fJ\kxfNof eGof]/] nfof] / la/\sofn uof]/]; Ntg\sf bjhlg' elug] afJ\sfsf]dGof] knfIna/ cfof] zf/bf; a\square\forallef]. 3/ uof]/]xf bzf \(\hat{U}\) eGof]/] rfgf xfOOf nflof]. afJ\n'cw/ /fhfO /]; Ntg\notinfO{ ; /fkGnful . zf/bf 3fJul:ofnsf ; tl u}. cw/ /fhfn]eGof]ls of]; /fk ; \(\hat{A}\); \(\hat{U}\) eGof].

s‡/l afusf]kfk ; Ntg]efJunf]

gfu 5flkl nlþf kfk ; Ntg]eflunf]

c/Pofn aR5&Ef]kfk; Ntg]eflunf]

affffsf]; /fk hlt ; Ntg]effunf].

xd'hg nfuf}ke{(Û r]hlHj f0\subseteff]kfk .

s½/l afun]; Ntg\$f /osf]rjhf vf0lbof]. c/%\fin aR5\fin]; a; htg\$f ufp\bar{B}f hlt el6\fin{b}\

; $f[JolQmM>L 8d/I; +V8fot, jif{&(, lg/If/, u8;]f * 8f]L.$

@)= r00ffn af /]dxfr00ffn rf/ ef0 rjhfsl aft

os b½dl krf; jif&f a8fa8l a; GVof . vfg nfpgfvl Sog xgfn]ltg bo\$l; bf0Fsn xGyl . sn ePk5f a8fn]ckmgl a8lnf0{; Dhfof]ls x/ a8l ca xdh]rjhfrjhl kfNnf]k8of] 9fSb'k8of] ta}ca xd'sn hg c¿, eGof]. a8fn] eGof]- t 3/ a; Nnl, d af0/ sfd c2 hfpFif] lbgJts s; jh]; fJbJh/ sfFuof] egJh/s; a eGo}af0/ uof5 hg eGo}eGof]/]a8f]k}f sdfpg uof].

rf/}ufp\(alr\(g \) os d; fg /\(f \) a8\(f \) 3f6\(g \) u\(g \) v/fgl v; la/ a:of /\(f \) t; \(kef\{ ts ufp\(f \) f dnfdl os dwf\{ lo\(g \) fof /\(f \) g\ dnfdln] t} a8f w\(g \) of]/]e't elga/; a\{ larn}/]kms\(f \) in z af6f0g\{ 5f8\(f \) of]. a8fn\{ hg \} larn, d c3f\(f \) xFk\{ f df\(f \) f t' ckmg' sfd c/ elga/ dnfdlnf0\{ af\(f \) f of]\{ dnfdl cfo}/] a8fnf0\{ \(k \) \] lbof]/]d\(wf\{ kf\(f \) of]/]3/ uo\). ca ufp\(e \) in X\(lnf\(v \) lnf\(lnf \) d\(f \) inf\(lnf \) in \(lnf \) d\(lnf \) in \(lnf \)

af dl/; skl5 rihfn]sfhlqmof cl/a/ ufp@l dlGb/ agfpgkFelga/; a; a\ \geq Kk]p7fpg uo]. la/fdl xgsf 3/ ua/ eGg nfu]ls tdh]gd/0 bfg lbPa/ sfd nfUb]xf] gt/ So}sfd 5g . 0; f]elga/; asf 3/af6f \geq Kk]dfUbf vfgf0 c/bf]. afn]t dfG5]d/]kl5 \geq Kk]dfUb]c/bf Yof]/]p0sf rihfn]t lhpgf0 5gf; anf0{; tfof]. Io}ufp\[\bar{\text{E}}\frac{1}{3}\frac{1}\frac{1}{3}\frac{1}{3}\frac{1}{3}\frac{1}{3}\frac{1}{3}\frac{1}

; ff]JolSt MpQd/fh hf]zl, d8e/f - !, 8f]l .

@!= rgttl /]dgttlsl aft

rgdtl /]dgdtl b0{aðl lyg\. ltg\bbhf0{os}3/ lbofYof . rgdtl dgdtlsl va}l/; dfGyl . dgdtlnf0{df0t hfg g}lbGyl, ckm'dfIt/ hf0a/ cfpGyl /]df0tsl sf] hl s; ðg lbGyl . os lbg dgdtl ckm0 df0t u0{. hfg $\$ nf af6fdl os a $\$ fsf] $\$ v Yof $\$ os uf $\$ dl uf0{y}. log ; a $\$ h]a $\$ f]kmn lbof] uf0 $\$ h]bb lbof]/]df0t n $\$ hf0a/ u $\$. df0tx $\$ cfpg]a $\$ hf sf] hl kf $\$ hl No $\$ h/ cf0{/]rgdtl l/; n]tftl .

bf]/f lbg d klg hf65'e6of]/]rgdtl df0t hfglvnf0{af6f nful . hfg] ajhf ajfsf sf/0ffn]sfjk/\df] uf0n]nf1tl xf0of]/]df0t hfg gkfo} \geq gl \geq gl \leq l kmsl{. ; Ggjhf0{; \dgs sl dfnf ==

; ffJolQmMIj Gb'hfZl M@*, krgfnl, sf6lufpF.

@= rfofrCb|/fhf0 aft

os bædl rføfr6b|gfpFc/af os /fhf a; Gy]. /fhf ept wgl y]. /fhfn] os ckmg'dg k8af gfs/gf}/fVofYof].

/fhfsf]hjf]vNn]afgL xgfn]os lbg ckmgf0 gf\s/; a\hjf]vNg a:of].
vNnf vNnf /fhfsL zlgz/\bzf cfosL xgfn]/fhf xf2 nflof]gf\s/ lhtGnflof].
xgf xgf ; a\wg ; Dklt /]/fHo]; d\textbf{afhL nfof]/]xf/\deltaf]. xf/\deltaf emf\sn]ckmgL
/fgL nf\hjf]yfKof]/]/fgL nf\sxf/\deltaf]. ca cfkml/]rnhf yfKof]/]xf/\delta/ gf\s/ x\delta]
; t{/fVof]. /fhf gf\s/; a\; a\; t{xf/\deltaf]. ; a xf/\deltaf /]kZrftfk c/\deltaf]. ca
ckmgf0 gf\s/sf]bf; x\delta' eGgf t els dflu vfg' lgsf]eGof]/]gf\s/; a\laGtlefp
cl/a/ /fgL lkmtf\dflof].

/fgl dfllof]/]rf/}hgf Tofkf}af6f nfu]. hfganh af6f /ft k8l /]hann os ¿vdlg a;]. efn Aofxfg os dfent df5f Noa/ cfof]. /fhfn]df5f Is6of]/] /fglvl td'df5f ksfo d x8 wf0a/ cfp6'e6of]/]uo]. /fgl df5f ksfpFelga/ dfh nfpl6yg\t df5f x/f0u]. of]s/8l /fgln]/fhf; a\e6of]/]/fhf ckmg'efllo] 0; }5 elga/ hann IdNn]tfa, lu7f vf0a/ os w/dzfnf hf0a/ a;]. bf] /f lbg /fhf lzsf/ Noa/ cfo]. /fglvl lzsf/ ksf e6of]/]df5f x/fof h; /l lzsf/ nf} x/fo}s/8l /fgln]e6of]. /fhf crDddl k8]. of]d/af lzsf, df5f ckm0 s; /l x/fof] h¿/ /fgln]So}nsfof]ls elga/ /fgl; a\e6of]/]/fhf/fglsl sn e}.

cvf{lbg Tofk}uo]/]ckmgf dltsf 3/ af; a;] dltn]:jfut ; Tsf/ c/\df]. a; f0lt; dlt 3/ geof ainf /fhfn]af0/ os 3f\df afb\sf]w\sof]. Tolnf0{os xl/fsf]xf/ nf}w\sof] Tof]x\delta elga/ /fhf hfGYof]t 3f\dfn]xf/ vf0lbof]. ca dlt cfoa/ dnf0{rf]\sl afF nfpg]x\dflavelga/ /fhf lrGtfdl k8\df]. dlt gcfo}/fhf afn aRrf ninf0a/ Tofk\landslavelga/]os j 8f/ a;].

efih Aofxfg els dflb hfgk8&f]eGof]/]ufp\bar{8}f xgih]log'tG\bar{8}l dfG5nf0\bar{0} sf]els bihf]eGof]/]wkfof]. /fgl /]bb\rinf efisn]56kl6Gnfy]. /fhf yfsla/os klknsf ¿vdlq cf/fd c2\bar{1}hf lqqfof /\bar{5}q\. It;}¿vdlydl spjf]eftsf]

8Nnf]Noa/ vfGnflof /\$. vfg]ainf osb0{I; tf en8]/]/fhfsf bf8ldl c6\$]. /fhf /fgl eof 7fpFuo]/]/fgln]/fhfsf bf8ldf c6\$of eftsf]I; tf]w\$of]. Iof] w\$\fartarrow{\fgln}/fh; \alpha\tanf0{t ckngl dfIt/ lkns/ 5, rinfsl /]dI lkns/ g\$\fartarrow{\fgln}\fo}\text{elga/ \cdot gnflug\ To}/ft nf}ef\$o}

Aofxfg p7[Ju]/]/fhf t /ft}lakItf eJu]. /fgln]h]f rjhf kf/L t/fof] sf65f t/fpgfvl jf/L cfpgnflygV]uf8n]auf0lbof]. ca os ef0 jf/L, cvf[ef0 kf/L eof]. bb}ef0sf]larNnL eof]. /fgL alua/ df5f df2]dfentsf hfnJgL kl8g\dfentn]of]cf0df0{t va}¿a; 5, sfD{/fhfsf 3/sl t g}xf]e6of]/]To}7fpEf /fhf eof 7fJ k/Jpf]. /fhfn]; a}sxfgL ; fJpAf]. /fgLsf ; a}bMv ; Gofkl5 cfkm; a\dof c2D s/8L e6of]. /fgLn]ckmgf /fhf /]rjhf ldnJa/ gc2]gt/ So}; do kl5 c2D s/8L c/Af].

p0lt/ 5l6&Psf /fhsdf/sf b0{ef0 os a8fn] kfNof Yof]. Tof] a8f] /fhfsf j fFe \S & ; bf0Fu){GYof]. os lbg ckmla/fdl eof]/]/fhsdf/vl td'lel6a/ cfo e6of]/] 3f \S f n \S f0a/ /fhf le6& bb} ef0 uo]. /fhfn] 3f \S fdl cfofsf /fhsdf/ w \S of]/]0g' t sf \S 0 7hf0 /fhfsf r \S 1 h; f 5g\hf; '; l c2 cd/f /fHodl cfof x \S 1\ks8, e6of]/]I; kf0n]ks8\hf]/]let/ n \S 0f].

ckm x/f0a/ 0;][l cfo]s/8l /fhf; a\eGof]/]/fhfn]Itg/l dxftf/l xg\s elga/ x/fosl /fglnf0{afjhfof]. /fgl tslGyg\t ckmgf0 rjhf /\sq\. /fgl v\; l e\g /] To}/fhf; a\eGof] lsd ca os e08f/f nfpG5' k}Aof c\taundsnf, /fhfn]xG5 eGof]/]e08f/f nfof]. ufp\sf nfjfn:s/, hfijl ; \}cfo]. ; an]vfof]. p0sf]k\/fgf] x/fosf]/fhf nf\hfijlsl e\g fdl cfof]/]e08f/fdl a:of]. /fgln]hfijln]nfosl cf\f \w\fof]/]of] t d\g f /fhfsl xf]elga/ tsGyl /]/fhfn]k\sq\g fgln]ltg/g] kfv\sf]; \dfof]/]cfkmgf r\g hf; a\e6fof] Tof\sf /fhf; a\e6fof]. ca t xd/l bzf lgsl cfo\g\s\sq\g ckmgf 3/ hfg'\k8\df]elga/ af6f nfu].

hfganhf hf]hf]af6f lel66\dfy]; ann]cf; ns; n c/of]. x/fofsf df5f /] df; 'nf}ldNof]. /fhfn]crDd dfCof]/]ca bzf lgsl cfo}5, ckmgl 7f} 7fpF/] sf0Fhjf]lhta/ /fHo ldNn 5 sl eCof]/]uo]. k//fgf0 7fpFks]/]/fhf eof

@#= lhpgf0 3f6 hf6of a8&f /]a8&lsl aft

os b½dl u/la a8fa8l a; Gy]. pg ef½f y]. ; bf0fftg'v½ sfd c2 hfGy]. a; f0ts /ft 3/ kms(y]. os lbg t; }eof]/]sfd c2f c2f0 u8f /ft kl8u}. ef¼ lenSsf nfllof xgfn]tf lbg sff xflna/ vfg]larf/ c/xf]. a8&l cu%fog' cfuf] afNnnflugf a8&f 9Nnf] df cnfllof a8&fn] cf7 /ff fsf lx; fan]9Nnf]df0fYof]. a8&ln]/ff xfNof]/]hDdf ; ft df0/f0f vf, xff0lof]eGg nfllof]. a8&ln]dfgf0g kef{ts hf]56f0 p7nf]p0 rf/ /fff vfnf] eGg]lgwf]eof]. /ft t; f0 sff0 gvfof0 l; of .

kef{t phfnf]e}/ 3fd nflof]/]ufp&f; a}sfddl ulof, t}3/ a8&lsf]rfn rh eo\df\ uff\sf uf_afk5f eGof eflun]sNxNn c2 nflof . ufp&l vnan k8l, sf0F a8&fa8&l dl/ t g\u00e4of eGg]. os hgf dVv\h]t}3/sf bf/ puf8\u00e4f]/]let/ k:of . cfofsf dfG5 ; a}let/ kl; a/ x\u00e4 nflof . bb}a8&fa8&l l; ofsf k\u00e4hf k8\u00e4f . x\u00e4f\u00e4ff\u00e5f\u00e5o\u00e4\u00e4f x\u00e4\u00e4f\u00e4f x\u00e4\u00e4f\u00e4f \u00e4f\u00e4f \u00e4f\u00e4f \u00e4f\u00e4f \u00e4f \u00e4f\u00e4f \u00e4f \u00e

@\$=h\$9f&sl syf

os b½dl os h\$9f6 gfpFc/\$f]dh]a; GYof]. Iof]ufpEf; aħf0{9f6\alpha]/] nb\alpha]sfd c2Yof]. os lbg p\{g}ckmg' uf\alpha ajrg\bargb hl\st agfof]. t\\$f]a\stf]a\s

; ft]JoISt MnIdlgf/fo0f hftzl, d8e/f-!, 8f6l, xfn Mwgu9l.

@ hful -afhl sl syf

os b½dl os hg'df65 ckmg'hjfgl cj:yf; ls6nflof aħf hfll eof]. eff jif{Dd t}sf]a¶f elff, rfnrng va}/d8f]Yof]. h6f, bf8lhdf kfnlj/xftdl lqzh; df0a/5f/f]3l; a/ emfhl xflna/ os lbg haansf ¿vdlg tk:ofdl a:of Yof].

os lbg hfill tk:ofdl a:of 7fp&f] af6f] e3/ os t¿gl dhf0{cf0{. t¿gl dhf0{w\$of]/]to}hfillsf]Wbfg ea% eof]. t0{dhf0; a\s/8lsfgl c2fdl ltg/f]dfofkd e5 . dgf0 a]sf]s/8lsfgl kl5 Aof c2]c/8l e0{. dhf0n]os; t{/fVof]ls hfilln]ckmgf bf8l hdf cfh}sf6&'k8&]e6of]. hfilln]e6of]d bfxll hdf t c0No}sf6&5'. ca dhf0{e6g nflu tdh]0lt ; do; Dd tk:of cl/a/kfn\$f bfxll hdf h6f kmln t os 38l gnfof /]efihl d; a\Aof cl/a/dnf0{ 5f8& slt j] dfgNnf, td/f]e/5d, ta}d t ca td; a\Aof c2d . æcfzf sf/0f s½ ljgfzf, emfiltDaf ¿vd]6fFf, ca t'afaf o}nf\$ g k/nf\$ ===-#E e6of]/] afhl ¿Nn 6Nn k8]. ; 6ghf0{; bsl dfnf ==

;ft JolSt Mk≠eldgGb hfzl, kj ∫t\

@^=6k/]dh\$L aft}

os b½dl os 0hf af geof 6x/]dh]Yof]. p0sf b0 bf0 y]. bf0lv dfħ] of] 6x/] dh]So}sfd g&2f]eGof]/]os a8f]eFf] os kmf6f]3/ lbof]/]56f] kmfNbof]. aħf]eFf]d SofNnf]eGof]/]bf0sf eFf0 aufnl nf0lbof]. bf0n]p0sf] eFf]k8 nf�f0lbof]. ca 6x/ħ]ckmg' eFf] dfllof]. eFf]g}lbo]eFfsl 5fnf ufl8a/; sf0lbo eGof]/]p0sf bf0n]lt; }c/ðf].

bf] f/f lbg dh eFfsl 5fnf a]t hf65'e6of]/]uof]. af6f b0{hgf nfx/]le6\df]. nfx/]os ¿vdlg af; a:of y]. ltg'nfx/] a 6x/jh]e6of]ls cfh; s{k8\delta]e6of 5, /ft lgs]/L l; of, d eg]eadgeg]; g\delta Evld aly5'e6of]/]¿v psNof]. /ft; a l; l6bof]/]5fnf e8\delta 8]c/\df].; s{kl8llof]elg df6of]/]ckmgl au; 5f8\df]/]nfx/]larn]. 6\delta/]au; n\delta f]/]3/ kSof]. p0sf bf0n]0lt ¿lk\delta lau; sfF]No}elga/; fb\df]/]p6g]e6of]- tdh]d]/f eFf]nf6f0Yof s]p; }eFfsl 5fnf a]ra/ n\delta f xF.; fRr xfjhf]elgdf6of]/]p0sf bf0n]ckmgf ckmgf eFf nf\delta fof]/]5fnf ufl8a/ ahf/ a]t n\delta]. 5fnf n\delta f k\delta f b\delta f]e6g nfu].; a df65\delta]pgnf0{uflNbof]/]p; f0 3/ kms].

efOlv eGof]t t 7u /\$} ca t]f]s8f]kfl]nf5'eGof]/]6x/\$f s8fdL cfuf] nf0lbof]. 6x/h]eGof]cfuf]t nf0xfNof /]ca 5f/ af]f0g'xflNbof, d 5f/ allra/ckmg'Aof c2]xF. 5f/ n]hf0a/ 6x/]ahf/ uof]. af6fdL hfgahhf os j pnL df0tx} 3/ hfGnfyL /]gbL kf/ c/f0dfu'eGof]/]6x/\$\forall LeGof]. 6x/h]os ; t{eGof] d; a\whfsf]yhf]5, gbL t2ahf kfba/-kfb df/a/_whf]5f/ xG5, kl5 j pnL lbg' k8nf]. nf}xG5, eGof]/]pGg]j pnL lk7L nfof]/]laRr tfnvL kSof]/]dvn]ckn0 k/X cl/a/ eGg nflof] o}j pnLn]t kfbLxfNof]ca d]f]whf]5 5f/ eJof]elga/ 5f/ w\sfpg nflof]. ca ls t d]f] whf]h; fsf]t; } la; fo, ls eg]d o}j pnL n]hf0a/ hfG5'eGof]/]j pnL prfof]/] 3/ k/\df]. 3/ bf0vL df\hat{h}]sf\f{}\No}j pnL elga/a ; f\hat{h}\df]/]6x/\hat{h}}]3/ kfl]of 5f/ allra/ n\df xFeGof]. ; an]ckmg' ckmg' 3/ kfl]of]/]5f/ n]hf0a/ alrg uP.

5f/; $a \neq 0$ an $n \neq 0$ an $n \neq 0$. 3/ kms[/] p0 dh] ufnl lbGnfu].

ca; a}bf0fi]t0 dh\$l:jfxfql df2f]k8\df]eGqnfu]. 6\df]h]eGof]ls df2] eP cfh af\$]sfl6a/ l;sf/eft vfl6bo . x65 e6of]/]t0 dhn]af\$]sf6of] afsof cfg8f0g'/st e/\df]/]ckmgl :jfxfglsf 3ff6a8f]aflb/fVof]. ca df2]ai\df cfof] dh] eGof] pOsf bfOn] /] pGg] eGof] Is td' af \fintilde{f} fgL s] nfuNnf d cfknO sfl6lbG5'. v5/L knfof]/]sf6\df h; f]c/\df] 3ff6a8f]afb\stf]cfg8f]sfl6\dof]/] /st cfof] p0sl :jfxfqln]d/af e1f c/af]. ca o1af0{vftf nf}d ckn0 xfNn5' eGof]/]k; L{/ft n\hf0a/ r\krfk c/\hf1/ft No\h/ let/ /fVof]. b; , af/ lbg kl5 eGof]/]pGg]eGof]dfl/a/ k; Lf/ft xfNof]. ept lbg kl5 lgsfNof xgfn]0; L eP} xGql ept lbg /fVb' k885 . cfa t o}dh]af7f0g' xflna/ af6f0g' kmflnofpg' k8\df]eGof]/]af]fsf]dV afb\df]/]df2lvnf0{af6f0g' knflna/ cfP . os /fhfsf] rinf]; bab ePsf]3f8fdl r8la/ cfof]/]To}dh]wlsa/ eGg nflof]- .P dh]t o} sflynf0g'shf0 a; L < U dhih]eGof]Is xh/ 3flyfsf bllv, sflynLsf; V . /fhfsf rinfn]wFoSsa/d klg k; 'eGof]/]ckmgf nUf nItf v'; f0a/ cfof] dhinf0{af0/ lgsfNof]/]cfkm'sfynf0g'k:of]. dhin]sfynfsf]dv aflba/ 3f8fdL ckm'r8\sqrt{1}] 3/ kSof[. 3/ bf0n]; fbaf[P dh]t t ; bab ea/ sfk]cf0 < d t df/af xf]s]tdh] d/kl5 0hf-af; F le6 e}/]0; f]agf0 lbof]. P sfF5g\k}0hf af xd/L nf} le6 c/f0lbg' k8\df]eGof]/]dhin]; anf0{nQof]/]ua\fsf lsgf/ kSof]. ua\fsf lardL ckmg}5fofFw $$f0a/ eGof]Is - nf}x/ xd/f 0fn af o}u^a flet/ 5g/cf;$ elga/afhfpinf5g\5f0n wsof]/]; a}gblsf lardl uo] dh]afpFsf6\f]/]jfl/ cfof[cf]; a}bf0 8a]/]d/]. 6x/]dh]3/ cfof]/]Aof c/\df] 3f\bar{B}f\kf\\lof]/]/fhfsf $h; la: of].; lgihf0{; qsl dfnf ===}$

; ft]JoISt Mefu/yl cfemf, &* j if{ lg/If/, u8;]f & 8f6l .

@%=18s/f jt&l syf -tlhsl syf_

; ft JolSt M:jod\

@*= 8f3]; t/l; +/fhfsl aft

os b½dl; t/l; +gfpFc/\$f /fhf a; Gy]. /fhfsl tlg /fglaf6 Ps nf}; Gtfg g}eofy]. /fhf cfkmgf dGql, a¾s]/]jZjsdf $(f0{n}f0a/ lab½ uo]$. hfgf hfgf os 3g3f/ haħnsf ¿vdlg af; a;]. /ft haħnl hgfj/sl 8/ xGo} xgfn]os hgfn]kx//ff/ e¾/ a; g' k8/fk/fnl ljZjsdf $(f0{n}f0a/ lab½ uo]$. /]5fl8/gaf/ /fhfsf] kfnf] Yof].; an] nf}xG5 eGof]/]I; o] ljZjsdf $(f0{n}f)f$ kfnf] kx//ff/ a; g]Yof]k5f a/s/fnff]/ckm' I; of]. a/s/fnf]ckmg' kfnf]; Sof] / dGql p7fof]. dGqlsf kfnf k5f /fhfn]ca d/ff|kfnf]cfof]ls eGof]/]cf/ff a;]. cf/sf kfnfdl So/g eof] ca /fhfsf kfnfdl eg]haħnl hgfj/v;/fy;]cl/a/ cfof h; f] eof]. /fhf nf} ckmg' wgjf0f; df0a/ tof/ eo]. wkfpgflvnf0{os jf0f xf0of]. /fhfn]xf0f/sl jf0f; bf0Flg; fgf nflua/ kmls/fnflsl vf/hl jg cfof //f, t/fnfl hf0a/ tsGy]t pg/0 r/fflegl kfn/frfl xfftl /fhfsl vf/hl jg cfof //f, t/fnf0/fnfu/fl. //fnf d5f(k8].

phfnf]eP nf}p0lt/; a}lggfPsf y]. 3fd nfu]k5f p7%y]t /fhfnf0{g} wSof]. /fhfsf dGqLn]eGof]ls /fhf lzsf/ vMg uof h; f 5g\/fhflvnf0{vfg' /flvbfpFxfd' vfpFeGof]/]vfof]. k5f os ; pnfdL vfg' /fv\$L s/8L /]ckm'; a} j g uo}s/8L nIva/ uo]. /fhf kms[/]vfg' /fVof /]; pnfdL nIv\$L s/8L wSof].

 nhf0a//fhsdf/l eosl 7f} uo]. /fhsdf/ln]ofFt os /flf; 5, d]f 3/sf; ahf0{vf0; Sof] d sGof xgfn]/fVof 5, sf0Fnf}hfg g}lbg; td' 56&f0 ofEf6f hf0hfo eGof]. /fhfn]nf}ckmgf k8&f]ls Tof]/flf; ofFcfpG5, kmnfdsf lrp8f /] os kf]v/l kfgl vfG5 . sf() gfhf]dfG5 cfoa/ t}ckmg' lzsf/ agfpG5, ta}td' gl; hfo eGof].

/fhfn]eGof]Is t;f]e Pos hISt c2k8\df]. /ft /ft dnf0{os sGof let/xlnlbg'lbg lbg xd's/8l c;nf, /flf; cfoa/td/f]sfn s;/l xb/xf]elg ; floaf eGof]. Tof]hISt t /fhsdf/Lsf nf}dg cf0{/]sfnsf af/dl s; 7L ; floaf] egl IrGtf k8\df]. nf\k\xG5 eGof]/]k5f t;\c/\df]. /fIf; cfof]/]kmfdsf Irp8f /]os gfpnf]kgl rgrg lkof]/]8sf/ ufl8a/ nf\df].; dt}t/af/ xl\nof wsof]/]/fhf s66fdL 8/n]; fEf]uof]. /fhsdf/lnf0{Tof]s/f afgL k8\text{\text{b}f x\text{\text{g}fn}} Sog dfGof] ca /fhsdf/lnf0{/flf;; a\sfnsf af/dl s; /l ; fb' eGg] s/fsf] Jo-hqsf]vfg'ksf0/f05'e6of]. /fIf; n]v; L ea/ e6of] Is dlvnf0{tallouring} lgsf]vfg'ksf0a/ Vj f0{ tfhf0{Sofsf bv 5g\e6of]. /fhsdf/ln]o}df\$fdl e6of] Is af \(\hat{\columnia} \) by t So\(\hat{\columnia} \) cflyg\td'5qf0 t /] td'd/\(\kappa \) d sf]kfnnf]e\(\hat{\columnia} \); fir nfuG5 . /fIf; n]Sofsf]; f]r dflGg5} hg dfg} d t ef]t]afFt]xFdnf0{df2 ; Sb] nf}sf() cflyg\eGof]. /fhsdf/ln]ch ; f()\df] t; f]eP td/l d; Sofdl xGo}xf]k} elga/; fbaf] pGg]eGof] Is x1 nf6L ofFaf6 b/ sf2 6f8f tfna os vfd vDaf_ 5, to]vfd'/Tgn]9flSsPsf]5 /]t}vfdfdL d7f]kflOf 5 . os af0fdL kmbf0; sa/df[k/fgl hf65 e6of]. of]; a}s/8l /fhf let/x}; sa/df[k/fgl hf65 e6of].

bf]/f lbg phfnf] ePk5f /fIf; ckmgf lzsf/ uof]. /fhf nf} p7\df]/] af0/ lgsNof]. k5f t}vDaf kmf\delta hf\delta\text{tof}\text{Lc/\df}/]wg'jf0f; df0a/ uof]. os}; f\delta lt\vDaf km\delta fof]/] cfof]. /fhs\df/\lsf 3/ k\$\df\delta ff|; af\delta f\delta f\delta ff|; lbg ; l\sp.; vsf lbg cfof . ; \delta f\delta ff|; \delta ff|.

; ft]JoISt Ms[Ofk] fb e6&, d8e/f-(, 8f&l .

@(= tfff dgfsl aft

os ufpēl os ; \$\dagara_a; CYof]. pOsl a8&l, os rinf]/ Aj f/l y]. To}7fpēl kfglsf]cefj Yof]. hllufhdlg eft eo nf}vt agfpg]kfgl s; \$\frac{1}{2}\l xfinf elga/ To} hllufsf]dflns hf\$\text{0}; l x\$\text{1}fpg uof]. x\$\text{1}f0a/ cfof]/]df65sf]aln r8pg' k8&]/]k} dfTt/}kfgl kn6&\text{0} s'/8l a8&fn]ckngf 3/ c/\text{0}f]. ca sinf0{aln r8fpg]elga/ 5nkm rNof]. a8&f /]a8&lsf]; Nnfxf Aj f/lnf0{r8fpg' k8of]eGg]eof]. of] s'/8l tftf /]d\text{0}fn]; Cof Yof]. tftf d\text{0}fn]Aj f/lnf0{; gfof]. Aj f/l ; Cof]/]¿Gnful . /ft rinf /]Aj f/l s'/8l e}. 0; flt d g}xlGbg\text{xFeCof}].

rinfn]Ajf/Lvl lx6 efu' of FeGof]/]hann uo]. /ft hann)jf; eof]. I;;f ainf :ofk cfof]/]:jfxfglnf0{sfl6lbof]. jsf() kmsf() tfsGYof]t 3f6l kmlnxfNof]. ca d8f a6finla/ bfxf nfpFk}ckmlnf); aa}an'elgdfGof]/]¿g}lrtf tof/ c2}c/af].

Itin] kfgl vfosf sjf /fhfsf]/\$. To\asfgsf]cfo'g; lSsos\x\gfn] sjfdl k8\text{8HofF/fhfsf df65 kfgl e2 cfo]. kfgl e2]ai\text{hf afN6ldl nfNof]/]af0/

lgsNof]. kfgl e2h]To}nhf0a/ /fhfnf0{ahfof]. /fhfn]; fblk5l c/bf]/]ckmg' sfd c2]agfof]. Tof]df65 eft; l; kfn'/]ldlxg]t xbfn]/fhfsf]Kof/f]eof]. sb; dok5f /fhfn]ckmg'd6ql agfof].

ca os lbg ltg hfill /]:jfxfgl dflb /fhfsf b/af/ cfo]. gfr wsfof]. dfqln]k}f lbgainf xftsf]db8f]pOsl :jfxfgln]k5[of]. o}t df/af xF/]sfF} cfof] efof]/]cSs g aSs k8l . /fhfn]nf}; fbaf]ls td's]dflb]xf}elga/ . To}:jfxfgln]efof]ls k[nl td'afrf afin ; /sf/ lk}efg5'egl . /fhfn]xf5 efof]/] o}dfql df2'k8af] of]d]f]k[nlsf]bidg xf]efof]. /fhf crDddl k8af]. dfqlnf0{;fbaf]/]g}xf]; /sf/ lvfnl efg[v xf] of]t lo;]l d df/la/ hfill; a\uosl xf]. pOsl :jfxfgln]efof]ls of]d]f[nflg]g}xf]. dfql efg nflof]lt; f]e]dnf0{t]f lz/dl /fvfb]t klg d]f lz/dl xft /flva/ eg sl of]d]f]g}xf]elga/, efof]/] lt; }c/af]. lzj hln]l; sfof h;]l ; fsnj c/af]/]ckmg' cfo' lkmtf{lnof]/]Iof]:jfxfgl nfalu}. /fhf crDd k8]. lo; l zlSt wsla/ dfqlnf0{ckmgl rinl lbof] cfwf/ /flh]lbof]/]la; fof]. ; fqhf0{; bafnf =

; ft JolSt M:jod\

#)=gfinf lxtsl syf

os ul/a /]a8f]jfdg Yof]. p0sf]os rjhf]Yof]. :jf0gl eg]rjhf]kf0a/dl/ujyl . rjhfsf]gfpFYof]gfpf |xt . pm ef]: }rnf\(\overline{\text{Yof}} \) sf]\(\overline{\text{f}} \) c08f |6kg\; |bb| afFf]. a8f]afn]os |bg ckmgf rjhfsl abNb slt 5 elga/ |arf/ c2 vf]\(\overline{\text{f}} \) rjhfnf0{ca d d2]xFd d/]kl5 t s; |j| uh/ c2]x\elga/; fj\(\overline{\text{hof}} \)]. p\(\overline{\text{g}} \) ckmgl al2 /]ckmgf eflon]vfg]xFelga/; Dhfof]. a8fn]\(\overline{\text{s}} \) dokl5 rjhfsf]\(\overline{\text{hof}} \)]/a8f]d\(\overline{\text{hof}} \)].

af d/kl5 gfħfn]va}bv kfof]. os Aofxfg gfpnf]-sjf_ eo}7fpFgfpg] aħf os /Ig kfof]/]s]kfo]eGof]/]/fhfnf0{lbof]. /fhfn]cdNo /Ig k5 $\$ 0fħfnf0{alS; ; pkfxf/ lbof]. /fhfn]Iof]/Ig ckmgl sfG5lsfG5l k6/fglnf0{lbof] /]cf} 5 /fgl /fhf; a\sn c2 nflug\ /fhfn]Io}gfħħf0{ch 5 lo; f0 /Ig h; $\$ 1 eo nf}vfħ eGof]/]nfof]. gfħflxtnf0{ca ; \$6 k8\fd]. gfħflxtn]ef\$o}al; a/ Gj fn]b] tfsf]khfcfhf c/\fd{al}.

3/ cf0a/ /Tgfj tl g}w\$of]/]gpnflxt afpfxf h; f]eof]. /Tgfj tl /ft l:jgfdl cf0{/]ha\n hf0a/ os /vdl zifl\sf u\sf kmfn\sh/ afu\stj/l cf0g\/]td' p0 hgldl :ju\sf /fhf Yof, xd' ltg}hgl lbbla\gl td/l ck/f y] ca; eflin]el6e\sh/; a\stack{a}; g\ld\n]xf]e\lfof]. cvl\{x:tfj tl b]l nf\cf0g . osn]; gsf]do/ lbof] cvl\n{gld ck; /fsf alr\gl /Tgfj tl 5g\. os lk5fp8l lboa/ osnl cf0a/; f\stack{gl} /] lo; \stack{l} lo; \stack{l} afu\stack{l} /l b\stack{l} ln]k7fof xf] eg\stack{a}/ df\lfofl5g\]\no\sh/ cfof e\lfofl/]/]nfof].

gpnf; gsf do/dl r8\df]/\dp :ju{uof]. hfg\darkginf /flf; lel6o]/]afg h\darkgint \text{xfg n7\darkginf eGof]/]/flf; nf0{lhlta/:ju{kSof]. /Igfj tlnf0{; gsf do/dl /fVof]/]ktfn cfof]. ltg}cK; /f; a\dof c\\darkgint]/]e/ n\darkgint]. h\darkgint \text{h]rf0of]Iof] k\darkgint{b}\darkgint{c

; ft JolSt M:j od\

#!= kffff aglsl aft}

os kfl\(f a \) yl, p0sf ; ft bf0 y] ; ft af\(h \) lyg\\. ; ft\\ bf0\{ algh $ljb_{z_k}^2 k$ f sdfpg uo]. 5 afh' kfhfnf0{lgsf]g0 c2lyg\. sf65l sf65l afh' Igsl yl.; bf0Fsfd c2 osnl g6nf0{nfpl6yg\ os lblg kf1fnf0{wfg s6lNof eGof]/]osnl nfof]. osnl kffff u}/]cfl/ngl a;l /];Gnful . uolff -eE]f_ cfo] /|sinf0 zgl kfinf eGof]/]0; il osnl wfg s6Nof eGof]/]afinh]nfof]. d s; il wfg $sb'eGof]/]uoBfO{aufn ; Aa}nfu]/]wfg kfBb{bof}]. ; Aa}rfdn agfof]/]$ nly) os ullf uollf dvalf[516llof/5.3/ull/post aflyh]ulltxfllof]. os ullf] sd 5 sfFkmfnl No3/ cf eGof]. ch cfJ/nJg u}/];Gnful . uoBf cfo]/];fbaf] ch shf0{/f0{eGof]/]rfdnsf]os u8f]sd 5 eGof]afhh]/]vfhGnfG5; gkfo] eGgnful.; Aa\uo\f\ d\va8f\t\sof\/\]os a\u0\f\ d\va\u0\f\ d\va\u0\f\ \\\ \\ n\u0\f\\\] lbof]. bf]/f lbg 3fF sfl6Nof eGof]/]cfFL hip8f]glbo}ag nfof]. kflfif ag u}/] ch laugf cfFl /]hp8}3fF s; /l sf6' egof]/]; Inful . d', f cfo]/]3fF sf6Nbof]:ofk cfo]/]xd/f]ndn]agf /]afb\eGof]. It; /[L ndn]agfof]/]3fF 3/ $k/\phi f$]. $cvf\{lbg\rfNnf]lbof]/]kfgl_Nofpq_nfof]. <math>wf/f0gl_u a/a; l_/]/f \phi f$. e\$Itf cfo]/]rfNnfsf I5q&f I5q&fdL a; /]k}rfNnfdL kfgL e/&f]/]n\(\right)\{.; bf0F 0; }cl/a/; slg; sl sfd c/\df].

os lbg\os uG6fel/ nItf lbof]/]wfQNof eGof]. nItf wg u}/]al; a/
¿gnfyl /]os rln cfof]. sjhf0 ¿Gnf50 eGof]/]kfJhfagln]ckmgl; Aa}s/8l
eGof]. rlnn]catf]d kflNbphf]t dJf 5fpgf -rNnf_ xbJnl eGof]/]nlhf0a/
uof]. kfJhf rlnsf 3fjhdl al; /Gyl, rln rf/f]Nofpg hfGYof]kfJhf pOsf 5fpgf
xJyl - bxfJÛ lrN5fpgl bxfJÛ; ft}ef0 dJd aGh uo]; ft}aphh]bMv lbof] bxfJÛ
lrN5fpgl bxfJÛ

ept dŷf kl5 kf¶fsf ef0 aGhx}cfo]. w/ kSGy]t kf¶f aŷl x/f0u}. sfFu} elga/ afþsl dfþfo{; fþðf]/]sØg hfg]xdh]t cNnØ t o¶yl eGof]. ef0sl df} vf2 uo]. b/ ha\n ks]/ cuf; k8dl - bxf]Û | IrN5fpgl bxf]Û; ft}ef0 d]f aGh uo]; ft}aphh]bMv | lbof] bxf]Û | IrN5fpgl bxf]Û elga/ rlnsf 5fpgf eNofGnf/Ø

 $wsof]. sf65f]ef0 psNof]/]agl Nogl/ cfof]. bf0; alel6 e}/]kflfif nf}bf0 nf}; a}¿fnfu]. bf0sl dffn]; fhfof]aglnf0{hg\f0 xd cf0u]efof]. kl5 3/x}sjhf0 cfofx}0; f 7fpFelga/ bf0n]; flp\f0f]/]kflfifn]aflnh]lbof bM/; Aa}efof]- sf65l aflnh]df1t/ \text{\fof' lbofxf} cf\formall n]; an]bM/ lbofxf\f0f]/]bf0n]50{aflnhf0{n}i}/] sffha8l /fl\ta/ dflb\f0f] aglnf0{kfNof].; fgfhf0{; gglfnf ====}$

; ft JolSt M:j od\

#@= km6/s/]dh3l syf

os b½dl os af gePsf]cfdf dfīt/ ePsf]dh]Yof]. dh]:sh hf eg¾/ kmslå/ 3/ cf0hffYof]. os lbg :sh hff5' elga/ lar af6fx $\}$ kmlså/ dh]os sf6f0g' nlsa/ a:ofYof]. :shx $\}$ cf0a/ /fðf vfnf]elga/ p0sl 0 $\{hff\}$ f xfNn nful . dh]/fðf xfNn]a $\{hf\}$ f u $\{hf\}$ f xfNn]a $\{hf\}$ f xfNof]. :shx $\{hf\}$ f efof]/]os /fðf]lbof]. r $\{hf\}$ f xfNof]/fðf]dfNof]/]p0sl 0 $\{hf\}$ f efof]|s 0 $\{hf\}$ f xfNof xf/]Ps d $\{hf\}$ f ch 5gf0 5g\ 0 $\{hf\}$ f crDd k8l . d $\{hf\}$ f $\{hf\}$ f k8a/ ept hffg]e $\{hf\}$ f ch 5gf0 5g\ 0 $\{hf\}$ f crDd ufp $\{hf\}$ f k8a/ ept hffg]e $\{hf\}$ f ch 5gf0 5g\ 0 $\{hf\}$ f ch 5gf0 fl/] ufp $\{hf\}$ f k8a/ ept hffg]e $\{hf\}$ f ch 5gf0 fl/] ufp $\{hf\}$ f ch 5gf0 fl/] .

bf]/f lbg os dfG5sf] 3f\rbar{8}f] x/fof]. To\rbar{1} dh\rbar{1} 3f\rbar{8}f lnv\rbar{2}f lar\rbar{3}f r2 nfu\rbar{1}f] w\rbar{3}of Yof]. 3f\rbar{8}f dflns x\rbar{2}fpg hfgk8\rbar{2}f]eGof]/]lt; \rbar{2}dh\rbar{3}f 3f\rbar{3}f] t lnv\rbar{2}f af/ldf k:of 5 . x\rbar{2}hfGYof] t 3f\rbar{3}f]dh\rbar{1}h]eg\rbar{2}f0 7fp\rbar{2}fdNof].

cvf{lbg os hgl :jfxfgl wf/f0gl x8 wfnfyl . t; }avt dh]wf/f uof]. :jfxfgl ckmgl ltnx/l wf/f la; / J / J . dhjh]Tof]Itnx/l 9ª fdlg nsfof]/]3/cfof]. bf] /f lbg t; }dhjsl vfjhlva/l c/bf]. dhjh]Tofn x jbf h; f]c/bf]/] ltnx/l wf/fsf 9ª fdlg xfjhl eGof]. uja/ tsGy]t ltnx/l eg\sf0 7fpFldnl . ufp\sf xg]; a}cr\text{Dd k8}]. dh]t va hfGg]/\square elga/ xgfx\text{gf Tof]aft /fhfsf b/af/; Dd ksl . /fhfsf b/af/ nf}os xl/fsl xf/ x/fo}/\square /]t}dh\sl vfjhl c/of]/]b/af/ af\text{nfnfof}]. ca dh]s]eGg' k8of] b/af/sl aft t dnf0 So}yf cflyg\elga/ lrGtfdl k8of]. dhjh]; fj\of]ls cfh o\sfa; j\ So}g So}t k\text{Itf nfunf}]. cfh os lbg al; a/ /ft dnf0{; Ogf xg\square\text{g}\text{k}\elga/ egof]/]t}/ft dh] tfOFI; of]. /fhfsf b/af/dl os lgb/l gfpFc/\sl cfd c2\square\text{dhf0} dhf0 a; Gyl . dh] k\lnf sf\square\text{ff I; of] dhf0 j\lnf sf\square\text{ff} /\square\text{s} . efjh keft[ss}cfof]t\square\text{ff} sfnk . 0; f]eGof ; lga/ k\lnf sf\square\text{ff I; Psl lgb/l dhf0n] d; a\elgnf5 eGg] dflga/ xf/ rf\square\text{ff}

elga/ efjh nfh xg'elgf t P\$n}kmflNbG5'elof]/]dhf0n]Tof]xf/; 6\$s dh}sf sf]f kmflNbof].

 $dhih]sfffdl xf/ wsof]/]dgdg\}b^aa k8of]. bf]/f lbg xf/ xftdl rikla/fhf eo}7ff uof]/]eGg nfllof]- sp wsl hfg] sp; gl hfg] Pinsf]eg]g wsl hfg]g; gl hfg]. /fhfn]0gfd s]ninfg]x}elga/ dhihf0{; finaf]/]dhih]ld; lsf h; f 8Nnf wsof]/]lknl6s/l wsfof] nfhfn]k}f /]lknl6s/l uG6fdl afbaf]/]lbof] lknl6s/l dh]3/ cfof].; Ggihf0{; gsl dfnf =$

; ff]JoISt Mk+eldgGb hf]zl M**, krgfnl -*, sf]olufpF.

##= auff : ju{agfpg]/fhsdf/lsl aft

os b½dl os ef½; fħf /fhf a; Gy]. dGql /]I; kf0 pg/f; ftl y]. os lbg tlg} hgf 8Nn uo]. os ; gzfg rfkftfdl ks]/]a;]. t; ¾f j fOlfinf0 os 3/ Yof]. t} 3/sf embfndl al; a/ tlg hgl aðgl dG6f]sf½flyg\ ltg/l 8l7 rfkftfdl k8l .; a}aðgln]tSof]/]3/ afħfof]. log t slt lgsf /¾g,\sfFcfof xf} o}; gzfg 7fpæll elga/; fħðf]. /fhfn]xd't Aof c2lvnf0{sGof vfħg cfof xFeGof]. log' /fhf, dGql xg\eGg]sGoðg hfGofYof]. tlg}aðgln]; Nnfxf c/ðf /]sf]s¾f hfg]xf] eGof]/]ħĴln]I; kf0 /fħof] dfOnln]dGql sfG5lsf efu /fhf k8ðf]. /fhfn]ltg/f 3/sf xðj] a\; /\Nnfxf c/ðf]/]v'; l e¾/ Aof cl/lbof]. Aof c/ðf]/]3/ n¾].

; a lgs][l a:ofy]. xgf xgf ca b0{hgl h][l agl ; f][Gnflut]\sf65l /fgl agl xdh]; a}sfd c2k8& nfllof]elga/ l/; dfGg lnlug\ /fgl ca ule(fl eg /] ltg/l lbbln] aglsf ; Gtfg eog/ /fhf lgsf] dfGg] xg\; Gtfg g} eof pm laR5\dfpgl xGo\xf]/]k\xd/l afxf/ xGo\xf]elga/ hfn aGg lnlug\ /fgl ; TSof/l xg] avt lbbln] aglsf cfFfdl k6\d afb\df]/] p0sf dVfhl s\$/sf] 5fpg' la; f0lbof] r]hfnf0{ yf\bar{\text{8}}\ff aflba/ n]\dfg /] uf8 auf0lbof]. /fhfn] s] eof] elga/ ; f]\df]/]s]xg' xf]s\$/sf]5fpg' hGdfof]agl n]t eGof]/]t}xj\f cl/a/ /fVof]. p0lt/ uf8 aufof hf[s ulNt/ au]\bar{\text{F}} nfofsf a8\df / a8\dln]k\mi\hf kf8\df] /]t}kfNof]. pg/f nf}r]\hfnl g]\dfg].

/fhfn]ckmgl /fglnf0{ef}: dgf; Dd t Gof/L /fVof] k5f afjhfof]/]ckmgl; Jfdl nfof]. s(); dodl cfh /fgl; TSof/L xg() eg . ch t; }cl/a/ lbbln]/fgl; TSof/L xg() eg . ch t; }cl/a/ lbbln]/fgl; TSof/L xg() ev . ch t; }cl/a/ lbbln]/fgl; TSof/L xg() e

t; }lbg a; f0ts bf0, ef0 /]aglsl 5nkm e}. agln]c0n /fhfnf0{o} kmhef8ldl afhfpg'5g . hflln]egsf tlg s/f Nog/ k}df[t/}afhfpfif eGof]. nf}k}eGof]/]; a]eGgf klnl h]ff bf0 nfof]. /fhsdf/ln]ckm'nfosf]cf]l v'; fof] /]bf0sf xft nfof] /]kf7fof]. So} 36gf eogl/ hflghf]elga/ t; f]c/bf]. /fhsdf/lsf]h]ff]bf0 :juk}tlg s/f Nofpg uof]. af6f os hallnsf alr j/f8dl hfll lel6&of]. t}hflln]eGof]ls t hGhf0 ; a Ph; Dd uofsf xb] kmlsf/ cfofsf cflyg\ hflofof hflts kmsl{hGtSo}eGof]/]ckmgf h6f kmNof] /]of]; df0a/ hf eGof]/]/fhsdf/ uof]. hflts k5fds t}hfllsf h; l afhl ; Gof] acfof] cfof] larn larn/l . t}/fhsdf/n]kmls{tSof]/]tf0g'x}em8bf]/] d/bf]. 3/ aglsf cfpfifdl /st allof]/]bf0nf0{So}eof]eGg]hflgxfNof].

ch df0nf]bf0 hfgf0 al6&of]. /fhsdf/llgn]So}eof d hfghf]elga/ckmg'xf/ 3f6lg'nf0lbof]. ch af6f t; }ha*nsf alr j/f8dl hfill lel6&of]. t} hfilln]eGof]ls t hGhf0; a Pin; Dd uofsf xg]kmls{a/cfofsf cflyg\ hfGolfof hfGts kmsl{hGtSo}eGof]/]ckmgf h6f kmNof]/]of]; df0a/ hf eGof]/]/fhsdf/uof]. hfGts k5fds t}hfillsf h; l afinl; Gof]æcfof] cfof] larn larn/l . t}

 $$$ /fhsdf/n]kmls{tSof]/]tf0g'x}em8 af]/]bf0sf hg]l d/af]. 3/ aglsf dfnfdl /st allof]/]bf0nf0{So}eof]eGg]hflgxflNof].$

5fl88Gaf/ /fhsdf/L cknO uO{. ch af6f t;}hansf alr j/f8dl hfyl lel6&of]. t}hfyln]eGof]ls td'hGhfo; a Pyn; Dd uofsf xg]kmls&/ cfofsf cflyg\. hfGolfof hfGts æcfof] cfof] larn, larn& eGg]cfjfh cfn]/]kmsl{hGtSof, eGof]/]ckmgf h6f kmfNof]/]of]; dfOa/ hf eGof]/]/fhsdf/ln]eGof]ls t; f]eo]d sfdgd8f skf; sf ahf xflna/ hfG5'eGof]/]uOg\ ltg':ju&l klsg\/]os r8f]ltgdf dG6fdl cfO a:of]o}xf]ahah]r8f]elga/. r8f]uof]/]xf/all ¿vdl a:of]/]eGof]o}xf]tdh]vfNof ¿v . r8fn]; dfynf kfgl nf}wsfof]/]/fhsdf/ln]; Aa}Noy/ wtl{cfOg\ cfpgyvt cfkmgf bfOsl vfNl c/bf]/]ltg/f dvdl; dfynf]kfgl xfNof]/]lhpgf eNof . jfEl; a}kmhef8l eofsf 3/ kms.

3/ kms[$\{5f: juk\}$ n]ofsf; a}s/f ckmgf kmhef8lsf au]rfdl /fVof]. ca /fhfnf0{kmhef8l au]rf x $\}$ af]hfpg' k8\hf]eGof]/]af]hfof]. /fhfn]au]rf va}lgsf] dfGof]. ef]h vfof]/]/fhf ca of]kmhef8l au]rfsl /fhs\hf/lnf0{af c2\hf) s/8l /fvGnfllof]. p0lt/x}ahah]r8fn]eGof]ls xf /fhf \hat{U} lwSsf/ 5, ckmgf0 r]hfr]hl gk5\hf]h /fd8l w\hfGHofFAof cl/xfNn] k5f bv lbg]. log' t t/l ckmgl /fglsf r]hfr]hl x\hf\hf]ss/, laNnf, 5\hfG/l elga/ dfg\hf eGof]/]; a}sfxfgl ; \hfof]. /fhf xf0 /fgl \hat{U} daf6fx}uNtl eof]eGof]/]ckmgl /fgl n\hf]/]t}au]rf /]ckmgf /fhs\hf/, /fhs\hf/l; a\hf\hf\hf\hf]v'; ln]a;]. ; \hfof]f0{\leftarrow}

; ff]JolSt MrGb/fh hf]zl, d8e/f -!, 8f]l .

#\$= a6\$]dh\$l syf

os ufp\(os \) hfs a; \(Of \) p0sf 0\(of \) af \(o \) osn\\ cvf\(o \) dfula/ vfffof]. 0; /L vfgf vfgf a6s lgsf dffg nfllof]. ufp\bar{E}f x\psi]p0sf]gfpFa6s]dh] elga/affnfpg nfu]. os lbg os sblgl a8ln]To}dh]af6f osn}hfgf wsof]. a65]dhjh]a65 dflof]. s6Gl dfG5 kfoa/ dfG5 nf}vfGyl . pGg]ca To}a65] dhinf0{ckmgf hfndl kf88]larf/ c/xif]/]eGof]- P eb't'd]ff]eb'x} p0No]t geo}t/f afn/d ko/f lbof xf/eGof]. It; f]eo]a6s sFkf0g]xq\k}knk'elga/ ; fbof]/]sbGln]os ¿v w\$fof]/]eGof]ls o}; vdl a6s kmlnfxfg eb'eGof]/] dh]To}¿vdl psNof]. tNt/ x}sbGgln]af/f 5fBla/ /fVofYof]. a6s\f]s;/l 16k'kmk'a6s < elga/; fbof]/]sbbln]cfnl xfall xft nf eb;; slxfall ufbf] $f(x) = \frac{1}{2} \left(\frac{3}{2} - \frac{3}{2} \right) \left(\frac{3}{2} - \frac{3}{2} - \frac{3}{2} \right) \left(\frac{3}{2} - \frac{3}{2} - \frac{3}{2} - \frac{3}{2} \right) \left(\frac{3}{2} - \frac{3}{2$ $sbqln]sfvnf dv afbdf]/]3/ n\ulleta\$ d/d; nf vflhg elga/ u). sbglsf os rlhl nf}yl . It; }avt let/ os d; llofpnf]cfof]/]af/fsf]dv sf6\df]/]p0 dh] a\of]a8L t df65 vf65, td'nf} vfgvlnf0{n\psi xf] ta}nlshfo eGof]. dh]bf/sf s06f0g'nSof]/]s\square{1}s\squar cf0{. rhl cfpg]avt Rofkk af/[fn]p0{rhlsf]d\v nf}afb\df]/]af/[f0gl xfnla/ hfF/fVofYof]ToFnhf0a/ /flvlbof]. a; f0lts sb[gl a8l cf0{/]p0 dh]sfl6j/ Izsf/ vfg] tof/L c2nfuL . os 7hf] efbnf] dfh nfof] . sf6&lvnf0{ s\footnote{\lambda}L knfpgnful. os dl; Gofpnf]afNof]- Sof2L a8Lvfdf sf/X /]s/X d}d; L Gofpnf] lhpg\forallfight\forallfi t sfn cf0llof]. af0/ lgsfn}/ hf0hfg]xf]eGof]/]af/f let/}sf6\df]/]dfh nfof] . kfs]kl5 ca ripl kl5 ca ripl nf}cfnl /]; antil vfpfif eGof]/]yfnldl xfNn nful. all elu}vfg'k8&f]eGof]/]rihllvnf0{/fVof]ckm/vfGnful.vfg]aihf riplsf xftn] db8f] dva8f] nflof]. tsGyl /] ckmgl riplsf] db8f]. o} dl; Gofpnfn]To}a6\$]dh] lgsfNxfNof eGof]/]¿gnful . a6\$]dhjh]af0/ uof]/] sb[qlnf0{let/xNof]/]; a ufp\(\bar{e} f \text{ x\gamma} \] af\(\bar{e} f \) fof]/\]To\\ sb[ql a8l df2 nfof]. To\\ lbg kl5 To}ufp@L a6\$]dhi\nf0{/fhfn]ckmg'; Dklt lbof]/]/fVof].; Ggi\nf0← ; ft JolSt M:jod\

#%= agl; tlsl syf

os ufp<code>Ell</code> ; ft ef0, os aðgl y]. aðglsf]ufðf]wfða/ kef0sf]Aof celga/ kfFelgaf Aof celga/ kfFelgag Aof celgaf Aof celgaf

afl; u\$ r8L RofpRofpFkl8u\$ /ft .

hly 5 rgk(o); f; "hg k8\d)/ft ..=

cfFn\$f Itn vfhf af00f n}g hf\(\mathbf{c}\)gl,

tf]agf Sofpsf]k8df]ef/ =, t agf hg uo}; tl == ..

lo; //L; Dhfof]/]ef0 uo]. agln]ckmgf; asl d h; Losnlagln]; tl hfg'gk8f}eGof]/]8/n]; tl u}/]d/L.0; //L; ft ef0slos}agl; tl uo]k5f ufp&f xg]os eo]/]lbjfnldfGg]xgh]; tl x6fpg'k8&0 s/8L c/\deltaf]. == ; GghfO{; \deltafloshfof} =

; ff]JolSt M:jod\

#^= e6&]dh\$l syf

os nf6f] Yof] p0sf 3/ 0[hf, bf0, af]h'y]. Ps lbg a]; Dd afv/f gvf]sf xgfn] bf0n] nf6fvl afv/f x] sinf0 g]u}elof]/] nf6fn] af]hh] e6& gebNbP}s/8l elof]. e6& e6NbP dfIt/ hf65'gt/g}hfg'elof]. nf6sf bf0n] e6& e6Nbof]/]nf6f]afv/f n]hf0a/ ag uof].

3/ cfof]/]p0sf bf0n]; a sfd cl/xfnl ca t]l afh"df0t uo}5 /] afhf0 Nof, e6of]. e6& e16&Pa/ df0/ hfg}kFgt/ g}e6of]/]e6& e16a/ afh' Nofpg uof]. hfg]ajhf af6fdl /ft k8l /]hÿn]ckmgl 5f0n k5fk5f wjss6nful . To}dhjh e't xf]elgdf6of]/]ckmgf vfg]e6& kmfNn}lx6&}c2 nfllof]. ch s]vf2}\ nTtf e6of]/]ckmgf nfof nTtf klg v'; fof]/]af6f0gf 5f18a/ gfa*\]lbblsf 3/ kSof]. nfhn]k/fnldfrdlg a:of]/]VjfDd VjfDd cl/a/ sfF6nfllof]. p0sl afhh] sf]xf]of]uf]lsf h;]l sfF6nf5 elga/ tSof]/]0; f]Sof/f elga/; fjbaf]/]; a nTtf e'tnf0{lbofxFe6of]. afhh]ckmgl lk5fp8f c]f0a/ let/ njug . vfglkg' Vjfof]/]la; fof].

efin kefl[ts]bb]b]/afin' 3/ cfpglvnf0{af6f nfu]. af6dl cfpg]ainf os uf8 k8&yl . uf8 s;]l kf/ c2f]k8&f]e6of]/]nf6fn]e6of]ls d cdv nfu65; p0sl afinh]e6of]g}d Pit/ nfu65' aua/ b]/n]5fibk8&]xf]. x65

eGof]/]uf8 tth nfu]. afhhf0{aufof]/]os cf]f8sf sk]rfQgl kfof]. ca bf0nf0{s]eGof]/]afhsf]vb&f]sfgldl /fVof]/]3/ cfof].

3/ kSof]/]afhsf]v6&f]ef8&j'6flalbof]tNt/ tf]nfof] RjfFRjfFx\gargn{g} agfof]. 0\hf w\sameq\delta/ bf0; a\el6b6o\xf]e6of]/]3f6l r\ha/ df/\deltaf]. 0\hfsf d\va8f]rfdnsf] kl7f]nf0lbof]. bf0 cfof]/]; f2\tag{p} nflof]- P nf6f \hall t]\tag{p} afh' n\hat{p}, cFn\hat{p}]/]afh' t let/ Rjf0FRjf0Fdf8f xfNnf 5g\ 0\hf sfF5g\k\elof]/]0\hf t rfdn asf0a/ lggf0 /\hat{p}g\\ bf0 lt/ kl; a/ tsGYof]t 0\hf d/\hf l, ckngl :jfxfglsf]v6\hf]6fa\df w\hfof]. ca ef0; a\el6g nflof]- t d\hf 3/ a; \hg\a; \lgsnlhf . nf6f]ef0 el6g nflof]- d t e6\hfof ebbP df0/ hfg]xFgt/ So\hfof}.; \hfof{g}\hfof{hf}0\fof{f}; \hfof{g}\tag{p}lf0\fof{f}; \hfof{g}\tag{p}lf0\fof{f}\tag{p}lf0\fof{f}; \hfof{g}\tag{p}lf0\fof{f}\tag{p}lf0\fof{f}; \hfof{g}\tag{p}lf0\fof{f}\tag{p}lf0\fof{

; ft JolSt M:j od\

#&= ef0 la58&fd}syf

os bļzdl os /fhf Yof] p0sl os /fgl /] b0{ rjhf y]. Ps ; dodl /fglnf0{ept}la/fdl nflu5 . /fgln]/fhfvl dnf0{aNwf/ k8%]7fp\vec{v}l -3/sf]5fgf] 50g]7fp\vec{F} /flvlbo eGof]. aNwf/sf @@ wf/fn]d]l ult xg\vec{v} xf]eGof]. eg\vec{s}f0 h;]l /fhfn]/flvlbof]. kfvfdlg uo\vec{v}f -e\vec{v}f_ sl 3fjh yl . os uo\vec{s}fnf0{laNnfn] df/\df] cvf\vec{uo\vec{v}f} cfof]/]r\nfnf0{rf/f]\vofpg' t sf\vec{v}of]len\vec{s} 3fj\dlx\tl\t/en\vec{s}f0lbof]. 0; f]; \text{Aa}ltg' la/fdl eo\vec{f}gln]\wSof]/]/fhfvl eGof]. 0; \text{Prof}len\vec{s} f\text{S}f\text{S}ff\text{N

os, b0{jif{kl5; aḥ]/f0f]/fhf t lgsf]gJof]eGof]/]/fhfn]cvJ{Aof c/\deltaf]. jNnl kNnl t; fJhl cfdfn]lgs\c/\deltaf]/]kl5 t; fJtfsf b0{ef0{rjhf w}sl g}sGnful . os lbg\db\ef0{es00f'vNnnfy]/]es00f'; fJhJ /fglsf s06f k8\df] . sfG5f]ef0{dfUb uof]/]g\lbof] hJff]ef0{uof]/]ckn0; dfof]/]n\deltaf]. o\l/; n]/fgln]cfkngf s06fsf; Aa\rangle; fdfg knflna/ ckngf nItfkItf nf\lr/\deltaf\c/\deltaf\c/\deltaf\c/\deltaf]. /fgln]of] . a; f0lts /fhf l; sf/ vJna/ cfof]/]/fglsf]0; f]xfn w\deltalaf\c/\deltaf\c/\deltaf] c/\deltaf xf]elga/ 3t\deltaf]. /fhf l/; n]uof]/]rjhf uflNbof] rb\df].

rinfsf bb}ef0(i)3/5f8&]; Nnfxf c/\df]/]/ft}jg lx6]. lx6\df lx6\df 7hf ha\dagger nks]/]os ¿vdlg af; a;]. To}¿vdl ; jf\$l Ps hf\dagger a:of y]. /ftel/lbgel/ So}gvfof w\dagger of]/]; jfsf]dg kuNof]/]log bb}ef0 ef\dagger of\dagger of\dagger

bf]/f lbg ca d l; sf/ vf]ha/ Nofp5; eGof]/]bf0 uof]. ef0 lt;}
¿vdlg al; /bf]. bf0 uof]/]os 7fpF/fhfsl vf]hl xGnfyl, TofFkSof]. xfTtln]
It; \$f 3f6lgl dfnf xflNbof]. lbglbg}/fhf ab[Nng]Tof]7fp&f]/fhfnf0{/ft gfu
cf0a/ df2Yof]. To}lbg nf}; a l; o]. /fgl nflggf0ug, /fhf eg]ef0 osn}hann

5, d ofF/fhf eP elga/; f]rn]g}lggfof]. gfu cfof w\$of]/]/fhfn]v\$/\l; df0a/ sf6\df]/]df/\df]. ca bf]/f lbg; a /fhfsf]nfz n\hfg' k8\df]elga/ cfpGy]t /fhf ckmgf u2ldl a; \$f w\$of]/]hohosf/ c/of]. v; l dgfof].

obt/ef0 osn} ca bf0 g}cfpg]xf]elga/ vfhl cfof]/]of sögl a8lsf 3/ kSof]. t d]l knk"x}elof xf]d]f afn]elof]/]af; dflof]. sögl a8ln]xfhf] k}elof]/]ca t d]f]eb'kfo]elga/ v;l e}. os lbg ufp@l ossl a/ofE x6nf/}. jpnl ¿a; sl vft, jpnf]glgsf]xgfn]To}sögl a8lsf eb'nhf0a/ apnf]xf] elg]; Nnfxf eof]/]a/ofE u0{. Aof c/of]jpnf wof]/]jpnl va}v;l e0{. söglsf ebh]cknjjpnf]geo}vfnl Aof c2HofFDd cvf[vnf0{agfo}/]ckngf bf0ef0 la58ofd eo}sxfgl nf); a s/8l apnl; a \c/of]. jpnln]klg ca sho} g5l66Go}s/8l elof]. a/ofE 3/ knls@lvnf0{af6f nful . af6fdl cfpg]ajhf cgf/f]eof] os 7hl uf8 cf0{. cf} a/Elvl cdv lx6 elof]/]hlvnf0{Aof cl/a/nhf0nfy] p0sf afn] söglsf eb'-apnf] agof xg] nf0{ tfng} 3fprf0lbof]. a/ofE 3/ ksGHofFckngf 3/sf rjhfnf0{l; af/k6f/ vl/ag /fVofYof]. jpnl crDddl k8l . söglsf ebhf0{eg]os 7hf df5fn]lgNof /\$. To}df5f]dfenisf hfng k8of]/]dfenin]3/ noff]. df5f]ajrg ufpFuof]/]sögln]ckngf eblvnf0{ elga/ lslof]. sfl6a/ tslyl t eb'df5fsf kokx}lgsNof]. ca t ebhf0{s; }g} lbg]xFelof]/]let/ nsf0a/ /fVof].

bf0 /fhf e0k5f ef0sl vflhl c2 nfllof]. sGgl\[g kfof]/]ef0la58\[g kfof]/]ef0la58\[g

; ff]JolQmMcd/axfb// gfkfnL -afhL 9ffhL, % j if { lg/lf/, u8; 1/f, 8f6L.

#*= e66; /fhfsl aft}

os bardl Ps /fhf Yof]. /fhfn]Ps jfdg /]Ps sfd c2]dh]/fVof Yof]. jfdg khf kf7 c2Yof] bbfktnf nfpGYof] cvf[c]t/ sfd c2Yof].; a} hgf /fhf; a\va\ldna/ a:of y]. Aof s; sf]eof g}Yof]. Ps lbg /fhf lzsf/ v]n jg uof y]. I; sf/ v]na/ 3/ cfpg]ajhf af6f0gl ltg hgl /fhsdf/l sfEszsf] d8\ranglef -3/_ agf0a/ a; sl wsof]. 0;]l af6f0gl a; sl wsla/ /fhfn]td'sjhf0{ 0;]l a:of elga/; fb\ranglef]. ckml'tlg}hgl Ps}3/ klt kfpFelga/ tk:of c2 nflo} s/8l eGof]. 0; l s/8l; lga/ /fhfn]klg ckmgln}lt; l s/8l eo}aft eGof]. xfd"ltg hgf 5fFd, afdg /]sfd cbb]dh]. ltg}hgf ltg}a\ranglef Aof c2]xFeGof]. /fhf 3/ cfof]/]cfkmgf 3/sf afdg /]sfd c2]dh]nhf0a/ ltg}/fhsdf/lsf eo} 7ff} uP . /fhfn]sf]s\ranglef hfg]xf}ckm0 5fg eGof]/]h]l a\ranglef laglan]afdgsf, dfOnln] sfd c2]dh\ranglef /]sfG5ln]/fhfnf0{5fGof].; a}/fhsf 3/ uP .

sf(5l agl /fhfsf xgfn] cf); apl p0sf]; Ddf/ c2' k8\df]. h]/l /] df(0nlnf0{l/; n]; }g; Sb' eof]. xgf xgf sf(5l agl t ; TSof/L xGo)e0 . ca o} sf(5l s;]/l /fhfsl km/]/l agfpg' k8\df]. elga/ bb)a\df ; /; Nnfxf c2 nflug\; TSof/L ePa/ o\sf] rinfrinl kmlna/ s5\sf] 5fpg' d\sl /fl\vlbg' k8\df] eGg]; Nnfx eof].

os lbg sf65l /fgl; TSof/l x6o}la/fdl nflug\ /fhfvl td ufj sl dhihl hfo asfgn]; TSof/l x/a/ atf{x65 e6of}/]/fhf dhihl u0a/ a:of]. /fglsl rihl e0 /]os agln]; dfof]/]uf8 nlhf0a/ auf0 lbof]. os es/ ePsf]ss/sf] 5fpg' nlhf]/]la; f0lbof]. /fhf cf0a/ tsGYof] t ss/sf] 5fpg' wsof]. /fhfn] crld dfGof]/]t0 ss/ kmfNof]. p0lt/ uf8 aufo}rihlnf0{os df5f df2ih]5fNof] /]/fVof]. p0sf nf}rihfrihl gy]. ..uof kmdl l56&f0 km nfuG5Ú eGof h; }ch bf] /f jif{/fgl; TSof/l e/u}. rihf]hGDof Yof]/]lbbl agln]ch uf8 auf0lbof]. laNnfsf]5fpgf]nlhf]/]/flvlbof]. /fhfn]wsof]. /fhf dgdl /fgl t ss/laNnfsf]; ut c20 /5 eGg]nflof]/]l/; n]/fglnf0{nlhf0a/ 3f8f /g]7fpF/fVof]. hfn xf00f]ufNspn]Tof]cvf[hfIs klg kmhf kf8\lambfaf]/]3/ nlhf0a/ kfNof].

../fhfsf rjhf sf\(\bar{\text{8}}\) sf\(\frac{\text{8}}{\text{sf}}\) ajhf\(\frac{\text{e}}{\text{of}}\) itg' hf\(\frac{\text{s}}{\text{os}}\) 7hf eP . /fhfsf rjhfrj\(\text{h}\) xgfn]ckmg' dgf\(\frac{\text{d}}{\text{fg}}\) cl/a/ lx6\(\text{h}\) nfu] s; \(\frac{\text{s}}{\text{fg}}\) gdf\(\text{g}\)]eP . os lbg dfem\(\text{ln}\)]eGof] ls ckmgf; \(\text{Gtfg}\) ePa/ t eGof df\(\text{gxgNnf}\) xf\(\text{bf}\) hf\(\text{f}\) /f0sf ; \(\text{Gtfg}\) eof . of]s\(\text{8}\) To\(\text{fhfsf}\) rj\(\text{fn}\) fn]; \(\text{Gof}\)]/dfem\(\text{ls}\) : jfxfgl; \(\text{a}\); fj\(\text{bf}\)]. pGg] uf\(\text{alua}\) cfof /] 5fj\(\text{kla}/\) kf\(\text{No}\); a s\(\text{8}\) eGof]. of]s\(\text{8}\) ; lga/ /fhfsf rj\(\text{hfn}\)]/gj g la\(\text{bfj}\) g uo]/]a;].

os lbg /fhfsf rjhfnf0{; 0gf]eof]ls xdhf0{hfd lbg]cfdf osnl bllvn] a:o}4g\ltg' af:; f0 ahfpg]a[-7hf]afh] /]; bfjhf]/a%sf]kfgl -/ft phfnf] xbj] ePsf 7fp&l 5g\ ckmgl abj; a\lof]; 0gf]eP0 s/8l eGof]/]pl7a/ uof]. hfgf hfgf Ps 7fpFaf6fsf dfG5n]eGof]td' hfg]af6fdl t bfGbfa /fIf; xG5 . Io}af6f hfg]; a\rangle dfG5 kms\sqrt{sf glyg\lor, lo; l s/8l ; bjkl5 /fhfsf rjhfn]vs/l af\sqrt{sof}/]uof]. lx6\rangle f]x6\rangle f]/ft k8l, af6fdl os cf]f8 h; f]w\sqrt{sof}/]a:of]. Iof] t bfGbfasf]vfk8f]cfFc/\sqrt{sf} dv /\sqrt{s} . /fIf; n]dv aGg c/\rangle f]/]gNof]. /fhf rjhf; a\rangle s/l xbfn]Iof]vs/ln]k\rangle sf6\rangle f]/]af0/ lgsNof]. phfnf]eof]/]ckmgl 0\rangle f eof 7fpFu\rangle / cfkml 0; \rangle l cfo\rangle s/8l eGof]. ckmgl cfdfnf0{a\rangle l} /fVo\rangle f) a\rangle sf] Aof c/\rangle f] Aof c/\rangle f]/]fhfsf h; \rangle l a:of]. ; \rangle gj\rangle fnf =

; ftJolQmMcd/axfb/ gkfnL -afhL 9fjhL, %# j if{ lg/lf/.

#(= ef}\$l syf

os ef�]Yof]. ItGg]kfF; o aufn e�f kfNof Yof]. gg No�/ ckngl uh/c2Yof]. os lbg To�l :jfxfglnf0{uf]'sf]e/f0g' 6bof ; 0g' eof]/]pGg]Aofxfg} pl7a/ ef�] a\; 0g' w��] s'/8l eGof]. ..; 0g' s]; kg' eof] a�hlsl /flx0fl /ft . c0n ef�]hDnf ghf, uf]'sf]e/f0g' 6bof] eft vfg]yfn knbl, c0n ef�]hDnf ghf .; fu\vfpFif I; I; g' vfpFif, c0n ef6]hDnf ghf . a�hlsl /flx0fl /ft ; 0g' s]; kg' w��] . hGhf eGgf eGgf0Fef�]hDnf hfgf0Ftof/ eof].

; f[]JolQmM/Tgfb] L e08f/L, &(j if{ lg/If/, u8;] f/ (8f] L .

\$)=d[i/]:ofnsl aft

os ufp\{ h^a\{n} os v\a\} af\{f}]:ofn /\{5} . os lbg t\}:ofnn]jg kn\{h\} kn\{h} os d\{\lambda} kn\{h}\{f} \] . lbgel/ d\{\lambda} nf0\{eh\{h}\{f}]/\] ldt\{\lambda} nfof]. ldt\{\lambda} nfok5f d\{\lambda} n]e\{\lambda} nfok5f d\{\lambda} n]e\{\lambda} nfot]\{ ls l sf] \{\lambda} lt t nfof, ca ldt\{\lambda} ls sf] \{\lambda} ls sf\{\lambda} nl s]vfpF e\{\lambda} nn]e\{\lambda} nn]e\{\lambda} nl \{\lambda} ls sf] \{\lambda} lvl/ ksf\{\lambda} vfgk8\{\lambda} 5 . td' b?jfFvf\{\lambda}, d rfdn, b\{\lambda} lvf\{\lambda} lcb\{\lambda} s' e\{\lambda} n]:ofn ufp\{\lambda} lof].

ufpēl os a8l cfynðif rfdn sl6a/ lnkmgnfyl . ufðisf k5faf6 :ofn afðiof]/] a8&l rfdn 5fl8a/ let/ kl; g\:ofnn]rfdnsf]yðif]dvði rkla/ nðif]/]dlt lbof]. ch lt; c/df]/]cvf{7fpk}bb nðif]. ossl tfpnl nðif]. ca dlt; a\vl/ ksfo e6of]/]dlin]vl/ ksfof]. :ofnn]w\vi/ s; l 5, d rfv65' e6of]/] rfv6nflof]. vl/ t ld7l /\vi e6g]vfg\c/\diff]/]; a\vi0a/ yf\vi0a/ yf\vi0a

; ff JoSIt MIj i0fb] l hfzl, d8e/f-!, 8f6l .

\$!=/f0sf]l /fglsl syf

os b½dl os /fgl a; líyg\. pg/f] os va /fd8f] /fhsdf/ Yof]. /fhsdf/ lbg½s lzsf/ v¶n hfſy]. lzsf/ v¶g hfſts os lbg af6fdl os ugf] /fof kfof]. s]/g elga/ kmbf0a/ tsbåjhf t}let/ va}dg k8bf elga/ eſof]. d nItf uxgf, a/gl nga/ cpgc, td' oga; l/bf eſof]/]os ¿vdl /fVof]. t}; gln]nfhn]Sog afjhl; Sof] xſ5 eſof]/]/fhsdf/ uof].

/fhsdf/ a/Fl nhfg 3/ cfof]. ckmgl cfdfnf0{; a}s/8l e6of]. /fgln]crld dfgla/ e6of]ls x/ afa'xd'h; f /fhf vfgbfgl 3/f df65 af6fdl kfosl dhf0{ Aof s; /l c; nf, xd/f]0Hht hfg]xf] g}xg}xf]elga/; Dhfof]/fhsdf/n]t; } a\ Aof c/]dfTt/}c2]gt/ Aof gc2() s/8l e6of]/]; a; fdfg hbfof]. p0lt/ ¿vdl a; \$l; 6g/l /fhsdf/ s}s cfnf] elga/ s/l/yl . t; }¿vdlg sj fdl kfgl ebhflvnf0{os eh@l cf0{. kfgl e2ts t}; 6g/l hfTslnf0{w\$of]/]crld df6of] . sf]xf}tlNt/ cf; s/8l c/ shf0{¿vdl a:of xf}elga/; fls@ln]; fbhf]. p0; 6g/ln]; a}s/8l e6of]. t; f]eo]6j f0Mff0Fc/ k}e6of]/]afhfof]. d td/f]x8 pdf; l lb65' e6of]/]; a}n0fk0f v'; fPsf avt t}hfTslnf{gfhf0gl 3fRrfof]/]ckm'p0sf; a}n0fk0f nfof]/]¿vdl u¾/ a; l .

bf] /f lbg /fhsdf/n]dnf0{t l; l; g' vfg]dg nflof] :jf8f0g'l; l; g', 5 /] l6kla/ Nof /] ksf eGof]. apnl u}/]l; l; g' l6kla/ No}. Nofpg]avt l; l; g' xftdl nflof]. /f];]k/pf]/] ksfpg nful . l; l; g' afn nflof]; fls@l jfdgl elga/ . apnl /fgn]lbSs dflga/ of]l; l; g' t dnf0{; tfpg]h; f]5, knflNbg'

k8\df]eGof]/]pr\df]/]knflNbof]. Tof]I; I; g' km\dfl 7f\delta afF pd/\df]. bf] /f lbg /fhf lzsf/ v\n uo]. hf\dff /fhf hfGy]pg/f kl5 kl5 afF nf\uof]. of]s] cr\dfl eof]eGof]/]/fhfn]To\afFl af; hl agfpg' k8\df]eGof]/]v\drapha\dfl a2\af; hl agfof]. /fhf 3/ uo]/]Tof]af; hl /fgln]gw\dfl b\dfl fdlydl /fVof].

/fgl af0/ let/ hfGts af; hl ckn0 ahGnful . t}ehgl -/fgl_ n]ch of] s]ahGnful eGof]/]t}af; hl uf8\af]/]knbfpglvnf0{eGgnful . /fhfn]eGof]Is kv Olt lgsl af; hl knbfpg'eGgf alr]gx}Rof0a/ b0{agfpFeGof]/]t; }c/\af]. /f0sf]fn]; Aa} sxfgl eGof] /] t} k5f /fhfn] t} ehglnf0{ rb\af]/] wkfof] . /fhs\af]/fosf]f /fgl eo]cfgGbdl a;].; $Gghf0{=}$

; ff]JolSt Mj | bk\$fz zdf{ d8e/f -!, 8f6l .

\$@nj-szf]syf

p0Nols aft xf] eudfg /fdrGg/n] wfalsl caufn ; blk5f ; ltfnf0{ nlnf0a/ jfNdllssf cf>o 5fl8a/ cfpg nld0fnf0{nfof].

nIdOfn]; ltnfO{5fl8a/ cfof So}lbg k5f; ltfn]os rjhf]kfOg\ pOsf] gfpFnj /fVof]. os lbg; ltf Gjfpg hfgjhjf jfNdllsnfO{d]f rjhf x]lj rf/ c/Noof elga/ ug\ jfNdlls ckmgf khfkf7dl nfu]. pOlt/; ltfn]afGg/n]ckmg' rjhf]sflvdlg rjka/ nJof wjsg\/]pg/f dgdl nflof]ls afGg/ t 0;]l ckmg' aRrf g5f8Nf /]djh]nf}; and hjfOa/ hfg' k8Nf]; fjra/; and hjfOa/ ug\. afNdlsl khfkf7; lsa/ afnv; jbf 7fpEll x2y]t g}wSof]. ca cfkt k8l /]os lt; }nj h; f]szsf]afnv agfof]/]; jlbof].

; ft JolSt M:jod\

\$#= nf6fsl syf

os ufpēl os nf6f]Yof]. p0sl 0[hf /]bf0af]h'y]. ufpēl ; asf Aof xgf w\$of]/]nf6f]ckmgf bf0; a\lor cl/lbg'k8\lambdaf]e\lgnfllof]. bf0n]x\lor 5, e\lor 6f]/]s\lor g] \vf2 \text{uof} \vf2f \vf2f \sio\lambda \lor b\lor f]\text{lbg' k8\lambdaf]e\lor flof]} a\lor flof] \text{bf0} \text{slo} \lor b\lor flof] \text{slo} \lor flof] \text{slo} \text{s

; ft JolSt M:j od\

\$\$=;ftef0sl syf

hdGs6&]ufp@lossf; ft rinfy]. rinfsf]Aof c2]pd] geo}pg/f cfdf af dl/ujy]. ef0 7N7hf xGnfu]. Aof c2]ainf xGnfUof]. os h]f ef0sf]Aof c2f] k8&f]eGof]/]pOlvnfO{os hfTsl x} uo]. wdwfd Aof eof].

buff kmsfpg uo]/]apnlsf afn]os c8\$f]/fVof]. Aof t c/\df /]Hj f0F\lambda Aofsf lbg a/f[n]xfFldhfs g}c/\df] cfh tdh]So}76\dsf]s/8\l c2'k8\df] k} df\taut\ r\nl\nfg kf0g]xf]e\lof]. h\ntering ef0n]g}; \text{Sbf}]xh\/\ \lef0 e\lof]. ;ft\ef0 afnfof]/]s\log\dfg; \text{Sof}] sf\lof0 sf\lof0 f ef0n]d; \text{Sc5'}/]cfh o\right f; a; \farta\/k\} xg\frac{1}{3}f\]e\lof1. ylsa/ cfof5' e\lof1/]af; a:of]. sf\lof0 f\lof1 dgf0 af\text{Ff}\]Yof]. sf\lof1 Hj\f0F\vfg'\vfof]/]r7g af0/ cfof]. hf\ntarta\/; \alpha\/\lof1 \lof1 let/\text{uof}]/]s\]eof]s\ntarta\/6 f\text{xf}\] elga/; f\ntarta\df\]/\gamma kf\lof1 \right\] xd/f h\ntarta\frac{1}{3}f\text{kf}\luf0 \lof1 r/fpg uosf \frac{1}{3}g\, nf\ntarta\df\] e\lof1/]ta /f\ntarta\frac{1}{3}f\text{xf}\] xf].

ca Sof c¿ dʃf Hj fOFÛ eGof]/]ltg/f];; //f]nf}¿Gnflof] p0 3/sf; a}¿Gnfu].
sf65f Hj fOFi]eGof]ls ca /fÞa/ Soðy xglf];; //f hl Û td' ca Iso[s8f k;,
d06f]; 06f]st/, d hf0a/ hʃfgsf]bfxf; #sf/ cl/a/ cfp65; a8f df65 td bV
hg c/ eGof]/]uof]. j fFhf0a/ /fÞf]/];;; //f af t dl/u] d dfxf nf0a/ cfof xF
lx6 3/ eGof]/]nÞf]. af6fdl d06f]; 06f]st/ðf]/]td' ca Iso[sf/l eof xf}
s; }a\gaf¶o\uff hfg' xf]eGof]. hʃfgn]x65 eGof]/]lt\c/ðf]. hʃfg cfo]/]
ufʃ k;]. Hj fOFlet/ uo]/]afþh' ofFt h7f]-; 'ts_ nfu65, ca xdh]ckmgf 3/
hfgk8ðf]lx6 eGof]/]tof/ eo]. p0lt/ ufʃ bj }afahjhfsl el6 e\. ca Hj fOF
lo; f]sjhf0 c/ðf xf\< eGof]/]; ; //fhl xfFl dhfs c/ðfxFca t afþh' nþnf0a/
3/ hf65' eGof]/]3/ nðf]. ; Ggjhf0\{; ˈbðlfnf==

; ft JolSt M:jod\

\$\mu: ft /fglsl aft}

os bad os /fhf Yof]. pOsl; ft /fgl lyg\ ltg/f; Gtfg geof y].
os lbg /fhf hfltif xafpg uof]. hfltifn]os 9th dGt/of]/]lbof] of]cfdsf
¿vdl xf0of /]; ft uaf cfdsf em8Ggf, osos uaf ; a}/fglnf0{vfg lbof; Gtfg
xGgf eGof]. /fhf uof]/]Iof]nkmltf]cfdsf ¿vdl xf0of]; ft cfd em8] nflkn]
ch xf0of]/]em8sf; ft bfgf nf}¿vaf uo]. /fhfn]ch hfltifsf 3/ ua/
; fbaf]/]osa/ xf0of k}xglf]eGof] /fhfn]lt; }c/af]/]; ft bfgf cfd nlof]/]5
/fglnf0{5 bfgf lbof] os bfgf]ckml vfof]. hall /fgl xahfFcl/a/ ufa/fVo}yl.
/fhfn]ckmg' vfof cfdf]sfanf]kmfNof]/]ufa :o}/fgln]rrafaf]. Iof]sfanf]
rrafa bo{; Gtfg hGd]cfaf Soaf eo].

cf}; ft /fglsf gh@of x\u00e9fn\u00e4tg; ft /gl dlna/ ca /fhf xdhf0{lgsf] gglfGg]xf]elga/ l/; n]sfG5l /fgLsf ; Gtfg df20 hISt ; f]rGnflug\. sfG5l /fglsf cfffa8l k6&l aflbb&f] p0sf ripf /]ripl nigig /]I; I; glenf8 knlNbof]. I; I; gf kmh vfof]/]Itg'afF]. ept lbg kl5 x2/lyg\t Ho\u00e4f0F. ch n\u00e4\u00e4 /]tf\u00a8l enffi/knfNof] TofFnf}tfBlsl lhnl vf0a/ afF]. tOkl5 uf0\sf uf7\df0qf n\nf0 kmlof]. bb}lbg]uf0{cfdf Û bb}lb0{hfo, anhf hlt uf0{cfdf Û af6}sf6L hfo, eGof]/]ufOn]bb bla/ arfof]. ua/ x2lyg\t ch HogfO wsof]. ca t afusf cf/f8 km/lnofpg'k8\df]afu t vfnf]eGof]/]n\ddg\\]afusf cf/f8 la; f0a/ cf0g\ . lbgel/ afusf 5fpgf; a\vNof]. /ft k8L /]ca xd/L 0hf cfpg0 xf]td'ns, xd'afhfpFif /]k]cfof eGof]/]afusf 5fpgfn]ltg\b0{/fthf nsf0lbof]. /ft k8l, afu cfof]/]ckmgf 5fpgf ; f] f nflof]- cfh t ofFdg λ ToJg dg λ ToJg ug cfplnf5, sf]cof xf]elof]. 5fpgfn]elof]ls sflg cfof]ofFt, d/f]gfs xf]lt; f] . ca afun]5fpgfvl bb vfo eGof]/]p0sf 5fpgfn]os s/f dfGq]e]dfTt/ xd' bb vfgxFqt/ g}vfgxFeGo]. 5fpgfn]eGof]cfh Ohfsf vfFfa8l k6&L aflba/ xd'bb vfgxF. x65, e6of]/]afusf cfFfa8l k6&l afb&f] ltgVffthf efolagfnf0{ afhfof]/]; ah]afusf]bb vfof]. kl5 ch nsf0lbof]. phfnf]eof]/]afu ag ulof] ch afusf afusf 5fpgf; a ldlna/ vljnnfu]. 5 /fgl efjh kefl[ts]

pl7a/ u¾g vfof] ls g afun] elga/ tSb . cf]f8 kslGyg /] ltg\t afusf rjhfrjhl; a\v]g nfu\$f w\$of]. ca log\0;]L gål2¾g\/gag laGbfag -ugf gfItf, afGg/ xfFtf, r8L r8s g}kft kn8s g}lsIyf rfgg\3f ϕ Xf kl6a%f nfpgf_nhf0a/ u ϕ . b0{vftf agfof]xfNof]/]3/ cf0g\ vftf xfNo}7fp\8L ef0 afF e ϕ / pd/\df] a ϕ L sGo/L knh e ϕ / pd/L .

Itg/f 0af -/fhf_ sf Izsf/L os Ibg Izsf/ vijnfvijnf cfo]/]va Igsl slo/L kmh kmlo}wjof]/]5foffL a; 'elga/ cfo]. kmhn]elof]- xd/f0 t aafsf Izsf/L cfo] bbf \hat{U} Igp8L kmh IbpFls g IbpF< afFsf]elof]- <math>xd/f0 t aafsf Izsf/L cfo] aajf \hat{U} Igp8L kmh IbpFls g IbpF< afFsf]elof]- <math>xd/f0 t aafsf Izsf/L cfo] aajf \hat{U} Igp8L kmh IbpF. lgp8L /]Itg/f sfvldL cf0a/a; L. 0; lglsf lgp8L lgp8L

klinl /fhf kfgl vfpFelga/ uo]. klihn]eGof]- xd/f0 t aaf cfo] bbf l kfgl vfg lbpFs g lbpF< afFn]eGof]- <math>xd/f0 t aaf cfo] aagf ll kfgl vfg lbpF. eGof]/[kfglsf]wf/f]u8\u2018\eof]/]/fhfn]kfgl vfof]. klihsl uff uf

vfg lbpHs g lbpF< afFn]eGof]- xd/l t OfhHo"cfOg,\aghf Û kfgl vfg lbpF. eGof]/] kfglsf] wf/f] u8\u08\eof]/] sfG5l /fgln] kfgl vfof]. knthsl 5xf/ldl aYylvnfO{u0gV]knthn]eGof]- xd/l t Ofh'cfOg,\aghf Û lgp8l knth lbpHs g lbpF< afFn]eGof]- xd/l t Ofh'cfOg,\aghf Û lgp8l knth lbpF. knth lgp8l /] ltg/f sfvldl cfOa/ a; l . afF xlNnof]/]atf; nfllof]. /fhfn]afF}/]knth}sf6\u00e0] larf/ c/of]. sf6\u00e0\u00e0]nfbb}/ffthf efOlagfn]eGof]- 7\u00e0 sf6\u00e0f af 6k\u00e0f sf6\u00e0f alr xd 5'. /fhfn]laRr\u00e0l sf6\u00e0f]/]bb}/ffthf efOlagf lgsn]. /fhf; \u00e0 ; a sxfgl eGof]. /fhf g\u00e9kt\u00e0f]nf\u00e0h /fglsf 5ftla8f\u00e0\u00e0b \u00e0 g\u00e9fof] sfG5lsfG5l /fglsf] dfft/ b\u00e0b lgsNof]/]\u00e8\u00e0f hb/af/ cfof]. ; \u00e0g\u00e0f0f(\u00e0\u00e0f)/\u00e9\u00e0fn \u00e0f0f(\u00e0f)/\u00e0f\u

; ft JolQmM:jod\

Kil/lzi6 u ;Cbe{ftJolSt; PL

qm ; ≠	syfjfrssf]gfd, y/ / pd]	7 ₫ fgf	jflrtsyfsf]gfd
!=	cd/axfb/ glkfnl-afhl 9fihl_, lg/lf/, pd] %\$ j if{	wfdlufpFu8;]f, * 8f 6 l	Ef66? /fhfsl aft, ef0 la58&fdsl syf .
@=	Uffkfn ;fsl{ lg/lf/,pd// M%)jif{	Hf]fufpF d8e/f -!, 8f]sL	p 6 sl 5fnfsl syf
#=	rGb/fh hf½l, ;flf/, pd]/M%!jif{	d8e/f -!, 8f § l	Afu] Ff:ju{agfpg]/fhfslaft, slgs]dh \$ laft.
\$=	8Dd/l; +v8fot- lg/lf/, pd] M*!j if{	wfdlufpFu8; ∄f-8f § l	3fyl:ofn la/:ofnsl syf, uf}fnfsl syf, nf6fsl aft}cflb .
%=	wgfb]l hf]zl, lg/lf/, pd] M&! jif{	d8e/f -!, 8f ∮ l	Offu /]:ofnsl aft, Ihpgf0 3f6 hffof a8fa88lsl aft
^=	af ^a ₹f]Nj f/ , lg/If/, pd] M‰ j if{	d8e/f -!, 8f § l	cN5l rhfsf]eflo pbo ePsl aft
& =	laGb' hf≱l, ;flf/, pd] M@(jif{	krgfnl, sf j lufpF8f j l	Rfgdtl /]dgdtlsl aft
=	efu/ylb]l cfenf, lg/lf/, pd] M! jif{	g8]u8;]f-8f]dl, xfn M a]nfb]lk/, s]nfnl	96dh\$l aft}xl/fnfn} aft}lxl6/]dh\$l aft} sGtf /]d}fsl aft}-cflb

(=	ejgj/j/ hf½l, ;flf/, pd// M#% jif{	krgfnl, sfølufpf8føl	afhlsl syf
!)=	eldg&b hf½L - ; flf/, pd] M (# j if{	sf ğ lufpFkrgfnl-8f ğ l	km6Ns/]dh\$l aft,
!!=	/Tgfb] L e08f/L, lg/If/, pd] M*@ j if{	u8;]f (8f]l, xfnM j; Gtk", cQI/of	; tN; a]/fhfsl aft, lagfjfv/lsl aft, ; gs½/f0 aft}
İ@=	nIdl/fh e6&, ; fIf/,	u8; /ʃf (8føl,	Affg h jþ8L
	pd] M\$@ j if{	xfnNho; ltf/fd 8][l	
!#=	j bk\$fz zdf{;flf/, pd] M%) j if{	d8e/f -!, 8f § L	/f0sf] L /fgLsL syf

; Coe {fdul; "L

- pkfWbfo, s[0fb] = -! (&& 0=; == nfs; flxTosl eldsf = 0nfxfafb M; flxTo; bg.
- pk‡l, sGbgnfn= -!(*) 0=; = nf\$; flxTos]k‡t dfg= bf] f]; =s= clnu9 Mef/t k\$fzg dlGb/.
- cf⊕mf, b]lk|fb= -@)\$(_= **8f}llfqsf] Oltxf; tyf ; ∺sft**= s~rgk/ M ; b/klZrfdf~rn ; flxTo tyf ; **∺sf**t cWoog ; dfh .
- cfenf, k0fffgGb= -@)^*_= æ8føl lhNnfdf k|rlnt 3/ultsf]; a\sng / ljZn]ff0fÆ= ck\\$flzt :gftsf\[D]/ zf\]\= lqe\[jg ljZj ljBfno dfgljsl tyf ; fdflhs zf:q; a\sfo, g]\[fnl s]\[b]\[b] lj efu .
- -@) &@_= .8f $\hat{}$ in gf/Lsf 3/ult $\hat{}$ in fight filled $\hat{}$ in filled $\hat{}$
- -@)&\$; fpg !&_= .8f\$jhl nf\$syfsl lrgf/lb= uf]vfkq lk{ !@ .
- $sdf\{nlnfl; x=-@)\#^*=xfdf[nfsyf=nlntk/M; femfksfzg.$
- sfkmin] lblnk= -@)%*_= ægkfnl nfs; flxTosf] cg; Gwfg k/Dk/f= cksflzt :gftsfD/ zfW= lqejg ljZjljBfno dfgljsl tyf ; fdflhs zf:q ; asfo, gkfnl s(blo ljefu.
- s]n, df]bglsdf/= -@)&@_= jfbl ; dbfosf]nf\$hljg= sf7df8fFM gkfn k1f- kti7fg .
- sf $\protect\$ /fnf, zDek \protect fb= -@)%%_=, **nf}; flxTo I; 4fGt / lj Zn\protectOf= bf\protect\; #S= lj /f6gu/ M w/OfLw/ k\protectti7fg .**

- lu/l, $hlj (bb) = -@)%_= nfs; flxTosf]cj nfsg = sf7df8fMPstf k$fzg.$
- u]finf, jfr:klt= -!((! $0=; \pm : flxTosf Oltxf; = jf/f0f; l M rf}vDaf lj Bfejg.$
- $ufkdf(kf; f^a = -@)@$ = akf/L nfsyf; akk = sf7df8fM/Tgk:ts e08f/.
- uf]:d, s[0f=-@)%(= cfwlgs cfnf]-gf Mcg\$ & k7g= bf\$; #s= nlntk/ M; fenf k\$fzg.
- | I3Id/] >lk|fb= -@)^\$_= &/fd\fik | Ih\nfdf k\rint nf\syfsf]; a\sng / ; Argfīds | jZn\fof\fe ck\fizt :gftsf\fo / zf\right | qe\fo | jZj|jBfno dfg|jsl tyf ; fdf|hs zf:q ; a\sfo, g\right fnl s\fo | jefu .
- rfln;] lj ho= -@)^%_= **8f}hl nf}; #sft / ; flxTo**= bf}; #s= sf7df8f**f**M ; fenf k\$fzg .
- hf½l, tly/(fh=-@)^^_= æ8fðl lhNnfsf nf\$syfsf]; a\$ngÆ=ck\$flzt :gftsfD/zfly= lqejg ljZjljBfno dfgljsl tyf ;fdflhs zf:q ;a\$fo, glkfnl s(blo ljefu.
- hfzl, kbd/fh=-@)\$(_= uf}fkj {MPs kl/ro= sf7df8f}Mkz;+f; Alf0f; dx.
- hf_2l , ; $Iodf_3g = -@)!$ = $xfdf_3nf_3$; $:= sf7df8f_3M/Igk': ts e08f/.$
- $9^a \ dgf, \ zf/bf= -@)^*_= \ agkfnl \ kl/syfsf] lj Zn]f0ff= ck$flzt bz@frfo{zf]w, lqejg lj Zj lj Bfno dfglj sl tyf; fdflhs zf:q; asfo, gkfnl s[]blo lj efu .$
- lqkf7L, jf; b] = -@)@^_= .nf\$syfsf dNox;nf0{cfFofpg ∨ffJbfÚ= xfdf[; +sft= jif{#, cĺ #, k{ @& #! .
- Yffkf, wd.{fh / ; j.bl, x+k/=-@)\$!_= gkfnl nf\; flxTosf] |jj\rgf= sf7df8f\rule kf7\\agmaqmd |jsf; s\llow| lqejg |jZj|jBfno.

- lbj;, th; l= -@)##_= gkfnl nfssyf MPs cWoog, sf7df8fkM gkfn /fhslo kk1f-kkti7fg.
- kGt, ho/fh=-@)%%_ **cFhleI/** ; **ug kfl/6feI/ kmu**= gkfn /fhslo k1f-k1ti7fg .
- kGt, b] sfGt= -@)#@_= **8fGhL nf\$; flxTo**= sf7df8fFM glkfn / PI; ofnL cWoog; :+yfg.
- k/fhhl, dflnfn=@)\$(_= gkfnl nf\$ufyf= kf}/f M>ldtl tf/fb]l k/fhhl.
- -@)%\$_= ægkfnl nf\$syfsf clekfosf] cWoogÆ=ck\$flzt ljBfjfl/lw zfw kaGw= lqejg ljZjljBfno= dfgljsl tyf ; fdflhs zf:q ; a\$fo= gkfnl s@blo ljefu.
- -@)^#_= ; f]7L g[ogfl6sf= sf7df8f]MbLlffGt k':ts e08f/ .
- -@)^*_= ..; Argfj fbl k4ltsf cfwf/df s}l gkfnl nf\$fVofgsf]

 lj Zn]fOfÛ=/Tg akt\gkfnl ; dfnf]-gf -kfof]\us v08_=; Dkf=/fh\lb|; j\lbl /

 nld0f k| fb uf}:d= sf7df8f\lbl /Tg k!ts e08f/ \(\bar{l}\) k\{\star}*#-(@.
- -@)&!_= **gkfnl nf}syf MI; 4fGt / ljZnff0f**= sf7df8f**f**Mljj\$
 I; h**g**zln k\$fzg k**f**|n=.
- k¶k, Enflbld/= -! (^^ 0=; ±= **dkr∰f∱l ckmb kr∯s6]**;, cl:6g Molgel; **6**l ckm 6**\$**; f; .
- aGw; r8fdl0f= -@)%*_= **gkfnl nf\$; flxTo**, sf7df8f}MPstf aS; .
- ofql, k0fk\$fz gkfn= -@)#%_= ;tlc~rn lblbzt= lj/f6gu/ M lxdfnl ; fkfzg .
- j B, s¿Offs/= -@)\$#_= c~rn nf\$syf; abu =rfyf]; #s= sf7df8fpM/Tgk:ts e08f/.

- n06]h, vu[]bk| fb=-@)^@_= sij tfsf]; Argfīds |jZn]f0f= sf7df8f]M|j|Bfyl{k:ts e08f/.
- $zdf \{ df \} g/fh / n06]h, vu]b | fb = -@)^{\#} = nf jft f f 1 f g / nf ; flx To = sf7 df 8 f f M | j Bfy | k' ts e08 f / .$
- $zdf\{ > l/fd= -!((@ 0=; == nfs; flxTo 1; 4fGt cf) k \phi fu=t{: #s= cfu/f M lj gf] k':ts dlGb/.$
- zSnf, s½/lgf/fo0f= -! (^& 0=; \pm : ?; L nf \pm : flxTo= nvgpm M lxGbL; ldlt; rgf lj efu.
- ; To[b] !(&! 0=; + nfs; flxTo lj 1fg= cfu/f Mlzj nfn cuj fn P08 sDkgl.