

9][YbhØa Yf'j cb'6]h\i a V'k Y[Yb DfY]ga Ub]di `Uh]cb'ZYgh[Ybca a Yb fl6Yf]W\hŁ

6Yf]WkhYbini Zci[Yi\UVYbigØX_cfYUb]gWkY
GhfUZ] YfZci[ib[gVYUahYi?Ub[ixb[!\mibiiXYbi9][YbhØaYf
XYfiZØ\fYbXYbi?fmdhckÀ\fib[gVÒfgYi6]h\iaV
ZYgh[YbcaaYb":8]YiGhUUhgUbkÀihYiVY\UidhYbžiYfi\UVY
5_h]Yb_ifgYiaUb]dii]YfhibXiZUghi)\$ A]ii]cbYbi8ciiUf
ibhYfgWkiU[Yb":5b[Yg]WkhgiaÒ[i]WkYfi;YZÀb[b]gnY]hi@Uih
@c_Uii5VXYW_ib[ži?Ub[ixcb[!\mibiijYfaihi]WkiXYf
Y][Ybhi]WkYi6Yg]hnYfijcbi6]h\iaViikifXYi\YihYifk"
:YVfiUfki]biGØX_cfYUiZYgh[YbcaaYb":8]Yi6Y\ÒfXYb
dfcViyaUh]gWkijcfY]bYfiKicWkYiY]bYbi<UZhVYZY\ii[Y[Ybi]\bikY[Ybi]kbikY[Ybi]yfibXiyi]bUbn[YgYhnYiXYg
@UbXYgijYfghc>Ybži5_h]Yb_ifgYiaUb]dii]YfhibXi*\$
A]ii]UfXYbiKicbifZUghi)\$ A]ii]cbYbi8ciiUfki[Yghc\iiYb":8]Y
Dci]n]ghYbibU\aYbiUiWkixiAciZYghiiy]byiDYfgcbžiX]YiHY]i
jcbi?Ub[gi]bbYfYaiNm_iigibXi/UadAYii]d/



GhfUZj YfZc`[ib[gVYUa hY'?Ub['≈b[!\m'b''XYb'9][YbhØa Yf'XYf ZØ\fYbXYb'?fmdhck À\fib[gVÒfgY'6]h\ia V'''ZYgh[Ybca a Yb"'

8]Y'GhUUhgUbk À`hY'VY\Ui dhYbž'Yf'\UVY'5_h]Yb_i fgY'a Ub]di`]Yfh i bX'ZUgh') \$'A]``]cbYb'8c``Uf'i bhYfgW\`U[Yb"

5b[Yg]WX hg'a O([`]WX Yf'; YZAb[b]gnY]h

@Ui h'@c_U``5VXYW_i b[\check{z} ?Ub[$`xb[!\mi b``jYfa i h`]Wk`XYfY][Ybh`]WkY'6Yg]hnYf'j cb'6]h\i a V``k i fXY'\Yi hY'fk": YVfi UfŁ']b GØX_cfYU'ZYgh[Ybca a Yb"'8]Y'6Y\ÒfXYb'dfcV`Ya Uh]gWk'j cf'Y]bYf K cWkY'Y]bYb'<UZhVYZY\``[Y[Yb']\b'k Y[Yb'Jcfk ØfZYbž'Yf'\UVY[Y[Yb'X]Y':]bUbn[YgYhnY'XYg'@UbXYg'j Yfghc»Ybž'5_h]Yb_i fgY a Ub]di `]Yfh'i bX'*$`A]``]UfXYb'K cb'fZUgh')$`A]``]cbYb'8c``UfŁ [Yghc\`Yb"$

8]Y 'Dc`]n]ghY b 'bU\a Yb 'Ui W\ ' \approx 'A c 'ZYgh' 'Y]bY 'DYfgcbž'X]Y 'HY]`'j cb ?Ub[g']bbYfYa 'Nm_`i g'i bX'Y]b'J YfhfYhYf'XYf ?fmdhck À\fi b[gd`UhhZcfa 'k Uf"

9gʻ]ghʻYfk À\bYbgk YfhžʻXUggʻY]bʻUbXYfYfʻ6]h\i a V!A UbU[Yf Ub[YV`]W\ k]W\h][Yʻ6Yk Y]gYʻnYfghÒfh`\UhžʻXUfi bhYfʻ: Yghd`UhhYb i bXʻ77HJ!5i ZnY]W\bi b[Ybž'X]Yʻa Y\fʻ@]W\h`]bʻXYbʻ: U```\ÀhhYb Vf]b[Ybʻ_ÒbbYb''`? \emptyset fn`]W\ki fXYʻYfʻni 'Y]bYfʻ< UZhghfUZYʻj Yfi fhY]`h''

8]Y'GhUUhgUbk U`hgW\UZh'VY\Ui dhYhY'k Y]hYfž'XUgg'X]Y'6ÒfgY'X]Y 6Yk Yfhi b['j cb'U'a Ub]di`]Yfh'\UVY'Wc]b'Ua '<UbXY`gd`Uhn [Y`]ghYh"'8]Yg'j YfUb`UgghY'Y]bY'[fØbX`]W\Y'I bhYfgi W\i b[i bX'ØVYfZU``Yb''XYg':]fa Ybg]hnYg']b'XYf'<Ui dhghUXh'GYci`"'

? Ub['\Uh'ni j cf'U``Y '5bgW\i `X][i b[Yb' [Y[Yb']\b'VYghf]hhYb'' GY]b B Ua Y']gh'YXcW\'[Y\Y]a b]gj c``''8Yf'(%\\A\f][Y'\Uh'X]Y'a Y]ghYb gY]bYf'; YgW\\A\ZhY\Z'\=a cV]\']Yb' i bX'nU\`fY]W\Y': U\fnYi [Y'Ui Z'XYb B Ua Yb'gY]bYf'GW\k YghYf'? Ub['\\]!mYcb'Ub[Ya Y`XYh' i bX'XUa]h Ui W\'[Y[Yb'g]Y'Yfa]hhY`h''

@c_U`Y`A YX]Yb`\UVYb`_Øfn`]W\`Ub[YXYi hYhž`XUgg`XYf`a mghYf]ÒgY A Ubb`a]h`DUf_`A]b!mci b[`fY]bYf`XYf`VYfØ\a hYghYb`_cfYUb]gW\Yb

9l!Jcfg]hnYbXYf'jcb'6]h\iaV'ZØf'b]W\h gW\i`X]['VYZibXYb

8 UgʻnYbhfU`Yʻ6Yn]f_g[Yf]WXhij cbʻGYci``fY[]Yfh``YhnhYbʻA cbUhž XUggʻ@YYʻ¾ b[!\ccb``XYfʻZfØ\YfYʻJcfg]hnYbXYʻXYfʻ6ÒfgY``_Y]bYb 6Yhfi [`VY[Ub[Ybʻi bXʻg]WX`XUa]hʻUWXhʻ¾\fYʻ; YZÀb[b]gʻYbhnc[Yb \Uh"

⇒a 'k i fXY'j cf[Yk cfZYbž'k À\fYbX'XYf'JYf\UbX`i b[Yb'ØVYf'X]Y
, VYfbU\a Y'j cb'6]h\i a V']a '⇒U\f'&\$%, '[Y[Yb'XUg'; YgYhn'ni f
YfgW\k YfhYb'6YghfUZ b['VYgh]a a hYf'K]fhgW\UZhgj YfVfYW\Yb
j Yfghc» Yb'i bX'a Y\f'U'g', +'A]``]cbYb'I G!8c``Uf'XYg'Jcfg]hnYbXYb
XYf'6?'; fci d''?]a '6mi b[![i b''i bhYfgW\`U[Yb'ni '\UVYb"'

9g'_Ubb'b]Wkh'ni [Y[YVYb'k YfXYbž'XUgg'X]Y'9f`ÒgY'Ui g'XYa 5_h]Yb\UbXY`'Ui Z[fi bX'Y]bYg'Xi fWk'VYhfØ[Yf]gWkY'<UbX`i b[Yb j Yfi fgUWkhYb': Y\`Yfgž'k]Y'XYf'GUWkj Yf\U`h'XYf GhUUhgUbk U`hgWkUZhž'j YfÀi »Yfh'k i fXYž'U``Y]b'Ui Z'XYf'; fi bX`U[Y XYf'j cb'XYf'GhUUhgUbk U`hgWkUZh'j cf[Y`Y[hYb'6YkY]gY ž'gU[hY'XYf F]WkhYf"

; Y[Yb'DUf_'Ac' 'XYb'J]nYdfÀg]XYbhYb'jcb'J]XYbhY'fKYa'[fÒ»hYb5bhY]`gY][bYf'jcb'6]h\ia VŁ' 'kifXY'YVYbZU``g'kY[YbIbhYfgW\`U[ib['ibX'AUb]di`Uh]cb'jcb'5_h]Yb_ifgYb'Yfa]hhY`h''9fkUf'Yg'YXcW\'hch'[YZibXYb'9bXY'`YhnhYb'\\J\fYg'jcf'gY]bYa'<Uig]b'GYci`''8]Y'YfghY'IbhYfgiW\ib['Yf[UV'_Y]bY'5bnY]W\Yb'ZØfY]bYa'\doldary \text{Ug'VYXYihYh\ZiXUgg'Ac'GY`VghacfXVY[Ub[Yb'\UVYb'_ObbhY'''

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