

A]WfcGhfUhY[m'Yf\Ò\hY'gY]bY'6H7! 6YghÀbXY'ZØf'%%'Ui ZY]bUbXYfZc`[YbXY Ei UfhU`Y

A]WfcGhfUhY[mi XUg'j cb'A]WXUY`GUm`cf'a]hVY[fØbXYhY 6i g]bYgg! \(\delta\hat{h}Y\`)][YbW!I bhYfbY\a Yb' __Ui Zh'gY]h'5i [i gh &\$&\\$'YXYg'Ei UfhU`'6]hWc]b"'8 Ug'I bhYfbY\a Yb']gh'XYf [f \(\delta\) hY I bhYfbY\a Ybg]b\UVYf'XYf'df]a \(\delta\f{Y}b'?\) fmdhck \(\delta\\) fi b[i bX'VYg]hh'%(\(\sigma\) \(\sigma\) \(\delta\) \(\delta



A]WfcGhfUhY[m' XUg'jcb'A]WXUY`GUm`cfa]hVY[fØbXYhY'6ig]bYgg! +bhY``][YbWY!IbhYfbY\aYb''_UiZh'gY]h'5i[igh'&\$&\$'YXYg'EiUfhU` 6]hWc]b" 8 Ugʻl bhYfbY\a Ybʻ]ghʻXYfʻ[fÒ» hYʻl bhYfbY\a Ybg]b\UVYfʻXYf df]a ÀfYbʻ?fmdhck À\fi b[ʻi bXʻVYg]hnhʻ%(\$"\$\$\$`6H7"'9gʻ\UhʻgY]bYb J cffUhʻni 'Y]bYa '8 i fW\gW\b]hhgdfY]gʻj cbʻ&- ", \$' '` 'Ub[YgUa a Y`hž k UgʻVYXYi hYhžʻXUggʻYgʻXYfnY]hʻUi ZʻY]bYa '[Yf]b[ZØ[][Ybʻb]W\h fYU`]g]YfhYbʻJYf`i ghʻg]hnh"

<]bni ZØ[Yb j cb a Y\f 6H7]b 'YXYa 'E i UfhU`

Hfchn XYf J c`Uh]`]hÀh j cb 6]hWc]b i bX XYf 6U]ggY i]a ill \f &\&&\ZX\]Y X]Y i? fmdhck À\fi b[gVfUbWXY ghÒfhY z gWXY]bh A]WfcGhfUhY[m YbhgWX `cggYb ini 'gY]bz gY]bY 6H7!Dcg]h]cb kY]hYf ini 'ghÀf_Yb"

8]Y:]fa U'[Ygdfi b[Yb'Ui Z'XYb'ZU\fYbXYb'Ni [']a '5i [i gh'&\$&\$ Xi fW\XYb'?Ui Z'j cb'ØVYf'&%"\$\$\$'6H7'i bX'X]Y'I a gYhni b['Y]bYf GhfUhY[]Yž'X]Y'g]W\Ui Z'XYb'ZØ\fYbXYb'X][]hU`Yb'JYfa Ò[Ybgk Yfh _cbnYbhf]Yfh"

 $\label{log:logical_logical_logical} I \ bgYfYf`bYi Yb \\ ? \ Ud \]hU`U``c_Uh]cbgghfUhY[\]Yž`X]Y`XUfUi \ Z`UVn]Y`hž`XYb``Ub[\ Zf]gh][\ Yb \\ K \ Yfh`ZØf`i \ bgYfY`5_h]cbÀfY`ni `a Ul \]a \]YfYb"$

8]YgY = bj Ygh]h]cb gd]Y[Y`h'i bgYfY', VYfnYi [i b['k]XYfž'XUgg 6]hWc]b 'U`g'X]Y 'k Y`hk Y]h'Ua 'k Y]hYghYb'j YfVfY]hYhY'? fmdhck À\fi b[Y]b'ni j Yf`Àgg][Yf'K YfhUi ZVYk U\fYf'i bX'Y]b 'UhhfU_h]j Yg 5b`U[Yj Yfa Ò[Yb'a]h'a Y\f``Ub[Zf]gh][Ya K YfhghY][Yfi b[gdchYbn]U``U`g'XUg'<U`hYb'j cb'6Uf[Y`X']gh ž'gU[hY XYf'9|YW h]j Y'7\U]fa Ub'j cb'A]WfcGhfUhY[m' 'A]W\UY``GUm`cf' 'Ui Z XYf'NY]h''

 $8 \ Ug`l\ bhYfbY\ a\ Yb`V`]YV`GUm`cfg`K\ cfhYb`hfYi\ i'\ bX'j\ Yf[\ fO`) YfhY gY]bYb`6Yg]hn`]b`XYb`Zc`[\ YbXYb`JJ\fYb`k\ Y]hYf"`HUhgÀW\`]W\`\Uh`Yg V]g`Yhnh`]b`YXYa `Ei\ UfhU``VYgh]a\ a\ hY`A\ Yb[\ Yb`Ub`6H7`[\ Y_Ui\ Zh"\ 8\]Y`i\ a\ ZUb[\ fY]W\ ghYb`?\Ai\ ZY`XYg`l\ bhYfbY\\a\ Ybg`YfZc`[\ hYb`ni\ 6Y[\]bb`gY]bYf`GhfUhY[\]Yž`U`g`Yg`]a\ `Xf]hhYb`Ei\ UfhU``&$&$`ØVYf\ '\, "$$$`6H7`UbgUa\ a\ Y`hY`i\ bX`X]YgYb`6YhfU[\ 'V]g`9bXY`XYg`J\fYg\ Ui\ Z`a\ Y\f`U`g`+$"$$$`6H7`Yf\O`\hY"`$

6H7!?Ài ZY'j cb'A]WfcGhfUhY[mž'8fcdgHUV

K À\fYbX:XYf:?fmdhc!K]bhYf:&\$&&:X]Y:6]hWc]b!GhfY]ZnØ[YaY\fYfYf:lbhYfbY\aYb:ghcddhYžk Uf:X]Yg:VY]:A]WfcGhfUhY[mb]W\h:XYf::U``"'9g:_UiZhY:]a '@UiZY:XYg:`YhnhYb:\J\fYg:ØVYf:, "&\$\$6H7:ibX:Yf\O\hY:gY]bY:6Ygh\hbXY:gc[Uf:k\A\fYbX:XYg:nk Y]hYbEiUfhU`g:fXUg:XYb:5Vghifn:jcb:@lB5#GH:Yf`YVhY\L'ibX:E(:fU`gXYf:NigUaaYbVfiW:jcb::HL::ZUbX:ghUhh\L'':5iZ[fibX:XYg[Yg:YhnhYb:U]g:9bXY&&&:UiZY]bYa:b]W\h:fYU`]g]YfhYb:JYf`igh;jcb:gUhhYb:%\XA]``]UfXYb:IG!8c``Uf"

A]WfcGhfUhY[m'\Uh'gY]h'5bZUb['XYg'\\fYg'k Y]hYfY'+") \$\$'6H7 Yfk cfVYbž'5i Zfi bXYb'X]Y'; YgUa hVYghÀbXY'Ui Z'%(\$"\$\$\$'6H7"'

8Yfdcg]h]jYGhUfh]bg\J\f

A]WfcGhfUhY[midfcZ]h]YfhYiZ]bUbn]Y``ij cbiXYfiK YfhghY][Yfi b[ij cb 6]hWc]bi]biXYbi`YhnhYbiA cbUhYb"'Yf`Ui VYbi`Ygži]a iYfghYbiE i UfhU`Y]bYbi; Yk]bbini iYfn]Y`Yb"'9gij YfnY]W\bYhYiY]bYbiBYhhc[Yk]bbjcbi(*%'A]``]cbYbiI G!8c``Ufžik À\fYbXiX]Y'9]bbU\a YbiUi giXYaGcZhk UfY[YgW\ÀZhiX]Y'GW\Àhni b[YbiØVYfhfUZYb"'8]Y'9bhk]W_`i b[]ghihY]`kY]gYiUi Z'GhYi Yfj cfhY]`Yini fØW_ni ZØ\fYbžiX]Y'g]W\iUi giXYb6H7!6YghÀbXYbiXYgiI bhYfbY\a YbqiYf[YVYb"'

8 Ugʻl bhYfbY\a Ybʻbi hnhYʻUi W\`XYbʻDfY]gUbgh]Y[ʻj cb 6]hWc]bʻni fØW_nU\`YbʻgY]bʻ&\$)!A]``]cbYb!8c``Uf!8Uf`Y\YbʻUbʻX]Y $[YgWXY]hYfhYG]^{Y}Yf[UhY6Ub_a]hY]bYa5VgWXU[ijcb&&i"$

A]WfcGhfUhY[mž'Y]b 'V ÒfgYbbch]YfhYg'I bhYfbY\a Ybž'j YfnY]WXbYhY]b 'XYb 'YfghYb'A cbUhYb 'XYg' IJ\fYg'Y]bYb '?i fgUbgh]Y["'A GHF! 5_h]Yb'k UfYb'Ua '%"' IJbi Uf'Yhk U'%() '` 'k Yfhž'k À\fYbX'g]Y'XYfnY]h i a '' '%, '` 'gWXk Ub_Yb'fY]b '5bgh]Y['j cb' '%\$'i Ł"

 $\cdot \, \cdot n$

8 Y hU]`c

6Ygi WXYb G]Y i bg Ui Z _fmdhc!bYk g"Uh