

; `UgZUgYfUi gVUi `]b '5 `h! HfYd hck. GWX bY ``Yg '=b hYfb Yh 'ZØf' - "\$\$\$ '< Ui g\U `hY °

8 Yf'; `UgZUgYfUi gVUi ']b'HfYdhck!? OdYb] $W_ghUfhYh'&$&$) " %\$\$"\$\$\$'< Ui g\U`hY'dfcZ]h]YfYb'j cb'gW\bY``YfYf'X][]hU`Yf =bZfUghfi hif"



HfYdhck!? OdYb]W_z~6Yf~]bz~8Yi hgW~UbX~!~\b~HfYdhck!? OdYb]W_z~Y]bYa XYf~6Yn]f_Y~6Yf~]bgz~k]fX~XYf~5i gVUi XYf; `UgZUgYf]bZfUghfi _hi f~Yf\YV~]W~j cfUb[Yhf]YVYb"~@Ui h~XYbU_hi Y~Yb~DfYggYa]hhY]~i b[Yb~\Uh~XYf~6Y[]bb~XYg~Dfc~Y_hg~XUgN]Y~z~Yhk~U~%\$\$"\$\$\$~Ui g\U~hY~i bX~I bhYfbY\a YbgghUbXcfhY~a]h~Y]bYf~j YfVYggYfhYb~X][]hU~Yb~5bV]bXi b[~Ui gni ghUhhYb"~8]Yg[YgW~]Y\h~Xi fW~XYb~5bV]YhYf~CL; z~XYf~bUW~Y]bYf~]bhYbg]j YbD~Ubi b[gd\UgY~Yhnh~U_h]j~k]fX"~8Yf~; ~UgZUgYfUi gVUi~]b~5~h!HfYdhck~i a ZUggh~U~Y]b~fi bX~-"\$\$\$~<Ui g\U~hY~i bX~gc~~X]YAi~Yfgh~ghY][YbXYb~5bZcfXYfi b[Yb~Ub~~Y]ghi b[gZÀ\][Y~X][]hU~Y8]YbghY~i bhYfghØhnYb~z~gck]Y~XYb~X][]hU~Yb~K~UbXY~~]b~6Yf~]b~ZOfXYfb"

HYW b]gW Y 8 YhU] g i b X 5 b d Uggi b[Yb

8 Yf 5 i gVUi YfZc [h]b XYf FY[Y V]g]bg; YVÀi XY fl HH< :]VYf hc h\Y < ca YŁź i bX Yg g]bX \Ài Z][5 Vgh]a a i b[Yb a]h XYb 9][YbhØa Yf]bbYb i bX 9][YbhØa Yfb YfZcfXYf]W ": Øf 6 Øf[Yf]bbYb i bX 6 Øf[Yfž X]Y : fU[Yb ni f J YfZØ[VUf_Y]h i bX ni a 5 i gVUi \UVYbž k]fX Ya dZc\Ybž ? cbhU_h a]h]\fYa HY Y_ca a i b]_Uh]cbgi bhYfbY\a Yb Ui Zni bY\a Yb "8 Ug 6 Yn]f_gUa h \YVh \Yfj cfž XUgg X]Y VYghY\Yb XYb HY Y_ca a i b]_Uh]cbgUbgWX ØggY k Y]hYf\]b VYghY\Yb V Y]VYbž k Ug Y]bY bU\h cgY , VYf[UVY Ub X]Y bYi Y HYWX b]_Yfa Ò[`]WX h"

 $= FU\a Yb'X]YgYg'[Yk U'h][Yb'Dfc'Y_hg'd'Ubh'CL; 'XYb'6Ui'jcb] bg[YgUa h'-$$"$$$; `UgZUgYfUbgW\`ØggYb']b'[Ubn'6Yf']bž'a]h Y]bYf'*bj Ygh]h]cb'j cb'ZUgh'Y]bYf'A]``]UfXY'9i fc"'8Yf'5i gVUi']b HfYdhck!? OdYb]\W_'[Y\Ofh'ni 'XYb'[fO\) hYb'fY[]cbU'Yb'Jcf\UVYb i bX'k]fX'U'g'YggYbn]Y``Yf'6YghUbXhY]`'Z\Øf'Y]b'a cXYfbYg'i bX bUW\\U'h][Yg'X][]hU'Yg'@YVYb'VYhfUW\hYh''6\Øf[Yf'_ObbYb'g]\W gc[Uf'Y]bYb'_cghYb`cgYb'; `UgZUgYfUbgW\`i gg'g]\W\Yfbž'c\bY XYfnY]h'Ui Z'; `UgZUgYf]bhYfbYh'i a f\ØghYb'ni 'a \ØggYb''$

8]Y @U[Y]b 8Yi hgW `UbX

8 Yf; `UgZUgYfUi gVUi ']b'8 Yi hgWX`UbX`\Uh`]b'XYb'`YhnhYb'\\\fYb'UbGW\kib['[YkcbbYbž'YXcW\'[]Vh'Yg'kY]hYf\]b'BUW\\c`VYXUfZ']a]bhYfbUh]cbU`Yb'JYf[`Y]W\"'5_hiY``Y'5b[UVYb'nY][Ybž'XUgg'X]Y; `UgZUgYf!5i gVUi ei chY']b'8 Yi hgW\`UbX'VY]'(\$'V]g'(''DfcnYbh`]Y[hž'kÀ\fYbX'X]Y'5bgW\`i gqei chY'nk]gW\Yb'\&''i bX'' &'DfcnYbh

gWk Ub_h" 8 Ua]h'V`Y]Vh'8 Yi hgWk`Ub X`\]bhYf`XYa '9I !8 i fWk gWk b]hh ni fØ $W_{\bar{z}}$ XYf'VY]'* (\bar{z}) 'DfcnYbh'ZØf' < ca Yg'DUggYX'`]Y[h"' \pm b'X]YgYf <]bg]Wk h'\Uh'XYf'5 i gVUi ']b'HfYdhck!? ÒdYb] $W_{\bar{z}}$ i bX'X]Y' \pm b]h]Uh]j Yb j cb'C L; 'Y]bY'GWk`ØggY`fc``Yži a 'X]Y'X][]hU`Y'?`i Zh'ni 'gWk`]Y» Yb"

 $\label{thm:condition} I a `X]Y`K YhhVYk YfVgZÀ\][_Y]h`ni `g]WXYfbž`]gh`Y]b`[i h Ui g[YVUi hYg`; `UgZUgYfbYhn`j cb`YbhgWXY]XYbXYf`6YXYi hi b["9I dYfhYb`VYhcbYbž`XUgg`X]Y`FY`Yj Ubn`j cb`]bhY``][YbhYb < cWX`Y]ghi b[gbYhnYbž`]bgVYgcbXYfY`ZØf`X]Y`\DXi ghf]Yž`]a a Yf [fÒ» Yf`k]fX"`5i WX`k Ybb`XYfnY]h`Yhk U`%' `A]``]cbYb`< Ui g\U`hY Ni [Ub[`ni `YWXhYa`; `UgZUgYf]bhYfbYh`\UVYbž`V`Y]Vh`XUg`\DhYfYggY XYf`J YfVfUi WXYf`Ub`< cWX [YgWXk]bX][_Y]hg]bhYfbYhž`]bgVYgcbXYfY]a `<]bV`]W_`Ui Z`XYb`?cghYb!Bi hnYb!: U_hcfž`V]g\Yf`[Yf]b["$

8YhU]`g	
Cfh	HfYdhck!?ÒdYb]W_ž6Yf`]bž8YihgW\`UbX
EiY``Yb	• k k k "VYf`]b"XY
	k k k "VYf`]bYf!nY]hi b["XY
	k k k "[`UgZUgYf!]bhYfbYh"]bZc

6 Ygi W Yb 'G]Y i bg 'Ui Z 'a Y]b!VYf`]b "bYh