

HUi gYbXY': Ubg'ZY]YfhYb'Zf]YX`]WX'VY]a 8: 6!Dc_U`Z]bU`Y']b'6Yf`]b'

NY\bhUi gYbXY: Ubg'j cb'J Z6'Ghi hh[Ufh'i bX'5fa]b]U 6]Y`YZY`X'a UfgWX]YfYb'Zf]YX`]WX'ni a '8: 6!Dc_U`Z]bU`Y']a C`ma d]UghUX]cb'6Yf`]b"



C`ma d]UghUX]cb'6Yf`]bž'8Yi hgWX`UbX'!5a %("AU]'&\$&)
a UWXhYb'g]WX'nY\bhUi gYbXY': Ubg'XYg'8: 6!Dc_U`Z]bU`]ghYb'J Z6
Ghi hh[Ufhii bX'5fa]b]U'6]Y`YZY`X'Ui Z'XYb'K Y['ni a '6Yf`]bYf
C`ma d]UghUX]cbž'i bhYfa U`h'j cb'`Ui hYa'; YgUb['i bX'Y]bYf
ZYgh`]WXYb'5ha cgd\ÀfY"'8]Y'Dc`]nY]'\UhhY'X]Y': Uba ÀfgWXY']a
J cfZY`X'cf[Ub]g]Yfh'i bX'VY[`Y]hYhY'X]Y'A YbgWXYba Yb[Ybž'X]Y']\f
N]Y``c\bY'GhÒfi b[Yb'cXYf'VYgcbXYfY'J cf_ca a b]ggY'YffY]WXhYb"

₺g[YgUa h'k i fXYb'Ua '5`YI UbXYfd`Uhn'a Y\f'U`g'%) "\$\$\$'6]Y`YZY`X!
: Ubg'i bX'Ua '6fY]hgWXY]Xd`Uhn'fi bX') "\$\$\$'Ghi hh[UfhYf': Ubg
[YnÀ\`hž'XUfi bhYf'Ui WX'XYf'Y\Ya U`][Y'BUh]cbU`WcUWX'≈[]'@Òk "

 ∞ []'@Òk ž'XYf'%- - + 'a]h'XYa 'J Z6'Ghi hh[Ufh'XYb'8: 6!Dc_U` [Yk cbbYb'\UhhYž'a ch]j]YfhY'X]Y': Ubg'a]h'XYf'6chgW\UZhž'g]Y

_ObbhYb'HfÀi a Y'k U\f'k YfXYb'`UggYb"'J]Y`Y'5b\Àb[Yf'k UfYb YXcW\'Ui Z'XYf'Gi W\Y'bUW\'H]W_Yhg'i bX'\]Y`hYb'GW\]`XYf'a]h'XYf 5i ZgW\f]Zh' Gi W\Y'Dc_U`!H]W_Yh '\cW\"'9]b'J Z6!: Ub'VYf]W\hYhY'j cb XYf'Ybcfa Yb'BUW\ZfU[Y'i bX'd`UbhYž'XUg'Gd]Y`']b'Y]bYf'6Uf'a]h ; `Y]W\[Yg]bbhYb'ni 'j YfZc`[Yb"'8Ug'Dc_U`Z]bU`Y']a 'Ui gj Yf_Ui ZhYb C`ma d]UghUX]cbž'XUg'ØVYf'+("\$\$\$'Ni gW\Ui Yf'ZUggYb'_Ubbž VY[]bbh'i a '&\$.\$\$'I \f"

8]Y: Uba ÀfgWXY]a '8YhU]`

Fi bX'j]Yf'Ghi bXYb'j cf'XYa '5bdZ]ZZ'ghUfhYhYb'X]Y': Uba ÀfgW\Yž X]Y']b'Ni gUa a YbUfVY]h'a]h'XYf'Dc`]nY]'6Yf`]b'cf[Ub]g]Yfh'k i fXYb" 8Yf': Uba UfgW\XXYg'J Z6'Ghi hh[Ufh'VY[Ubb'i a '%* 'I \f'Ua 'H\YcXcf! <Yi gg!D'Uhn'i bX'ZØ\fhY'ØVYf'Y]bY'GhfYW_Y'j cb'Yhk U'&ž) ?]`ca YhYfb'ni a 'GhUX]cb"'J]Y`Y'J Z6!: Ubgž']b_`i g]j Y'?]bXYf'Ui Z'XYb GW\i 'hYfb']\fYf'9`hYfbž'VY['Y]hYhYb'XYb'Ni ['a]h'; YgUb['i bX [i hYf'@Ui bY"'8]Y'5b\Àb[Yf'j cb'5fa]b]U'6]Y`YZY`X'nc[Yb YVYbZU``g'i a '%* 'I \f'`cgž'\UhhYb'`YXcW\'Y]bY'_ØfnYfY'GhfYW_Y'j cb %ž, '?]`ca YhYfbž'X]Y'j ca '5`Yl UbXYfd`Uhn'ØVYf'XYb'G!6U\b\cZ <YYfghfU*Y']bg'C`ma d]UghUX]cb'ZØ\fhY"'@Ui h'DfYggYgdfYW\Yf :`cf]Ub'BUh\'k UfYb'_Y]bY'5i gY]bUbXYfgYhni b[Yb'ni 'Yfk UfhYbž i bX'VY]a '9]bhfYZZYb'Ua 'GhUX]cb'[UV'Yg'_Y]bY'[fÒ*YfYb Nk]gW\YbZA``Y"

6Y]XY:: Ub`U[Yf'_cbbhYb'g]W\'ØVYf'X]Y'j cb'8: 6'ni f'JYfZØ[i b[[YghY``hYb'?UfhYb'ZfYi Ybž'YXcW\'k i fXYb'`YX][`]W\'fi bX'&("\$\$\$H]W_Yhg'Ub''YXYb'JYfY]b'j Yf[YVYbž'k Ug'VY]'XYb'[fc»Yb 5b\Àb[YfgW\UZh'ZØf'9bhAi gW\i b['gcf[hY"

G]WXYf\Y]hibXYf`UiVhY;Y[YbghÀbXY

gc``Yb'[Yk λ f`Y]ghYbž'XUgg'XUg'9fY][b]g'Zf]YX`]W\'i bX'c\bYNk]gW\YbZ λ ``Y'UV` λ i Zh"

: Øf'k Y]hYfY' +b Zcfa Uh]cbYb'ni 'G]W\Yf\Y]hgVYgh]a a i b[Yb'i bX': Ub! +b Zcg'VYgi W\Yb'G]Y'XZV"XYž'k À\fYbX': U_hYb'ni 'XYb'U_hi Y``Yb FU\a YbVYX]b[i b[Yb'i bX'XYf': UbfY]gY'i bhYf'gh]a a Y"XY'ni Z]bXYb'g]bX"'Ni gÀhn`]W\'V]YhYh'hU[Yggd]Y[Y`"XY'9]bV`]W_Y']b'X]Y Gh]a a i b[i bX'5ha cgd\ÀfY'XYf': Ubg'Ub'X]YgYa 'VYqcbXYfYb'HU["

8 Y hU]`g	
J c f ZU``	Gcbgh][Yg
Cfh	C`mad]UghUX]cb'6Yf`]bž'8YihgWX`UbX
EiY``Yb	k k k "hU[Yggd]Y[Y`"XY
	• k k k "gh]a a Y"XY
	• k k k "XZV"XY

6Ygi WXYb G]Y i bg Ui Z b!U["bYh