

6fUbXgh]Zhi b[ggWkcW_']b GWk_Yi X]hn. '9l! : Yi Yfk Y\fa Ubb'jcf'; Yf]Wkh°

91!: Yi Yfk Y\fa Ubb'? Yj]b'D"'ghY\h'k Y[Yb'Y]bYf'6fUbXgYf]Y]b'GW_Yi X]hn'j cf'; Yf]W\h''9f'k]fX'ZØf'%) '6fÀbXY'nk]gW\Yb \(\frac{1}{3}\) i bX'Bcj Ya VYf'&\$&('j YfUbhk cfh`]W\'[Ya UW\h'']



GWX_Yi X]hnž'8 Yi hgWX`Ub X ! '=b`GWX_Yi X]hn`gcf[h`Y]bY
YfgWX fYW_YbXY`6fUbXgYf]Y`ZØf`ghY][YbXY`5`Ufa ZÀ``Yb`i bX
6Ygcf[b]g`i bhYf`XYb`5bk c\bYfb"`GY]h`\$\dangle b]`&\$&' `ghY\Yb`X]j YfgY
; YVÀi XYž`@Ui VYb`i bX`: U\fnYi [Y`]a `: c_i gž`X]Y`]a a Yf`k]YXYf`ni
VfYbbYb`VY[]bbYb"`8]Y`Dc`]nY]`\Uh`bi b`Y]bYb
<Ui dhj YfUbhk cfh`]WXYb`Ui g[Ya UWXh`?Yj]b`D"žY]b`')!'À\f][Yf`9I!
: Yi Yfk Y\fa Ubbž`XYf`gY]h`9bXY`A U]'j cf`XYa `@UbX[Yf]WXh`@Y]dn][
Ub[Y_`U[h`]gh"`=\a `k]fX`j cf[Yk cfZYbž`nk]gWXYb`\$\`]`i bX
Bcj Ya VYf`&\$&(`]bg[YgUa h`nk Ò`Z': Yi Yf`[Y`Y[h`ni `\UVYbž`k Ug`X]Y
: fY]k]``][Y`: Yi Yfk Y\f`i bX`X]Y`9fa]hh`i b[gVY\ÒfXYb`]b`\Y``Y
5i ZfY[i b['j YfgYhhh`\Uh"`K]Y`Oj n"XYQVYf]WXhYhž`\UhhY`X]Y`Dc`]nY]
?Yj]b`D"`VYfY]hg`Y]b][Y`K cWXYb`j cf`gY]bYf`: YghbU\a Y`]a `5i [Ybž
gY]bY`hÀ[`]WXYb`K Y[Y`K i fXYb`ØVYfk UWXhž`i a `6Yk Y]gY`ZØf`X]Y

8 Yf DfcnYgg [Y[Yb?Yj]b D" ``Ài Zha]hh Yfk Y] Y `Ui Z' < c Whci fYb" 5a `ZØbZhYb DfcnYgghU[ki fXYb 'VYfY]hg a Y\fYfY '6YUa hY `XYf CdYfUh]j Yb : Ø\fi b[g[fi ddY 'XYf'?f]a]bU`dc`]nY] 'U`g`NYi [Yb [Y\Ofh" \delta hYfYggUbhYfk Y]gY ki fXY '?Yj]b 'D" 'Ua '&- "'Bcj Ya VYf &\$&('VY]bU\Y'Ui Z'Zf]gWXYf 'HUh YfhUddhž'U`g'Y]b 'J K 'Dc`c']b 'XYf A Ø\`ghfU» Y#9W_Y 'A Ø\`VYf[']b : `Ua a Yb 'Ui Z[]b["'8]Y 'Dc`]nY] j YfZc`[hY ']\b']b 'Y]bYa 'n]j] Yb : U\fnYi [ž'_cbbhY']\a 'YXcWX 'bi f bUWX 'gY]bYf': `i WXh'\UV\UZh'k YfXYb" '5i WX 'VY]a 'nk Y]hYb '[fc» Yb J cfZU``ž'XYf'Ua '%+"'Bcj Ya VYf']b 'XYf'6U\b\cZgghfU» Y 'ghUhhZUbXž k Uf'? Yj]b 'D"]a 'J YfXUWX hž'hfchn 'gY]bYf'cVgYfj]YfhYb 6Y[Y[bi b[Yb 'a]h'Y]bYf'a i ha U»`]WXYb '5 ZZÀfY ']b 'XYf'BÀ\Y [Yk YgYb 'ni 'gY]b"

5 i g F UWX Y ZØf X Y b F U i gk i f Z 3

8]Y'9fa]hhYf'j Yfa i hYbžXUgg'?Yj]b'D"'Ui g'FUWXY'ZØf'gY]bYb
FUi gk i fZ'Ui g'XYf': Yi Yfk Y\f'U[]YfhYž'XYf'Ub[YV`]WX'Ui g
X]gn]d`]bUf]gWXYb'; fØbXYb'YfZc`[hY"'6Yf]WXhYb'ni Zc`[Y'k Uf'XYf
[fc»Y'6fUbXž'XYf'Ua '%*"'**`]'&\$&' 'Y]bY'; UfhYb`Ui VY']b'XYf
?'Y]b[UfhYbgdUfhY' 9]b\Y]h ']b'6fUbX'gYhnhYž'XYf'5i ZhU_h'ni 'Y]bYf
?YhhY'j cb'NØbXY'Y]Yb"'**\XYb'Zc`[YbXYb'A cbUhYb'VfUbbhYb
nU\`fY]WXY'; UfhYb`Ui VYbž'`YYfghY\YbXY'; YVÀi XY'i bX'gc[Uf'Y]bY
GWXYi bY'UV"'8Ug'K Y]nYbZY`X'k i fXY'Xi fWX'%, \$'VfYbbYbXY
<Yi VU``Yb'ghUf_']b'A]h`Y]XYbgWXUZh'[Ync[Yb"'*\bg[YgUa h'k YfXYb
?Yj]b'D"'a]bXYghYbg'%) '6fÀbXY'ni [YgWXf]YVYbž'k Ug'XUg'5i ga U»
gY]bYf'<UbX`i b[Yb'i a gc'U`Ufa]YfYbXYf'YfgWXY]bYb'`Àgghž'k]Y
Ui WX'OhU[&("XYQZYghghY``h"

6fUbXgh]Zhi b[']a ': c_i g

GhUUh`]WX Y`GhY``Yb`\UVYb`]b`XYb`j Yf[Ub[YbYb`*J\\fYb`Y]bYb

VYa Yf_Ybgk YfhYb`5bgh]Y['j cb`6fUbXgh]Zhi b[Yb'j YfnY]WXbYh"
@Ui h'Y]bYf`GhUh]gh]_`XYg`6i bXYg_f]a]bU`Ua hYg`k i fXYb`nk]gWXYb
&\$%('i bX`&\$&('nU\`fY]WXY: À``Y`YfZUgghž'X]Y`Ui Z`X]YgY
[YZÀ\f`]WXYb`HUhYb`\]bk Y]gYb"'8Yf`i b\Y]a `]WXY`HfYbX`YfghfYW_h
g]WX`ØVYf`j YfgWX]YXYbY`GhÀXhY`i bX`gcf[h`ZØf`VYgcf[hY`6Øf[Yfž`X]Y
]b`]\fYb`K c\b[YV]YhYb`b]WXh`a Y\f`g]WXYf`g]bX`f\GhUh]ghU\t\"8]YgY
9bhk]W_`i b[Yb`ghY\Yb`]a `?cbhfUgh`ni `XYb`6Ya Ø\i b[Yb`XYf
: Yi Yfk Y\f`i bX`XYf`Dc`]nY]ž`X]Y`ghYhg`i a `G]WXYf\Y]h`i bX`CfXbi b[
VYa Ø\h`g]bX"

8]Y'_ca a YbXYb'DfcnYgghU[Y'k YfXYb'nY][Ybž'cV'Yg'k Y]hYfY 5i Z_`Àfi b[']b'X]YgYa 'gW\cW_]YfYbXYb': U``'[YVYb'k]fX'i bX'k]Y X]Y'\$\daggar{gh}n'Ui Z'XYfUfh][Y'gW\k YfY'Jcfk \@fZY'fYU[]Yfh"

8 YhU]`g	
Cfh	GWX_YiX]hnž8YihgWX`UbX
EiY``Yb	• k k k "`j n"XY
	• k k k "hU[&("XY
	XY"ghUh]ghU"Wca

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