

## GdYn]U`!C`mad]UXY`]b`< Y]`Vfcbb. Gdcfh`]WXY`J]Y`ZU`h`ZØf`U``Y°



<Y]`Vfcbbzi8Yi hgWk`UbX'!'<Y]`Vfcbbii bX'BYW\_Ufgi `a 'ghY\Yb
\Yi hY'[Ubn']a 'NY]WkYb'XYf'\( \delta \) i g]cbii bX'XYg'Gdcfhgz'XYbb'X]Y
GdYW]U`'C`ma d]Wg'\UVYb']b'6UXYb!K ØfhhYa VYf['VY[cbbYb''FibX''%\$\$'5h\`Yh]bbYb'i bX'5h\`YhYb'Ui g'j YfgWk]YXYbYb'@\( \delta \) XYfb
k YfXYb'VY]'X]YgYa '[f\( \delta \) hYb'Ai 'h]!GdcfhYfY][b]g'XYg
6i bXYg`UbXYg'Yfk UfhYh''8]Y'K Yhh\_\( \delta \) dZY\( \zeta \) X]Y'i bhYf'XYa 'A chhc
; Ya Y]bgUa 'ghUf\_ 'ghY\Yb\zeta \]b\yb'fY]WkYb'j cb
6YUWkj c``YmVU``'\ØVYf'H]gWkhYbb]g'V]g'\]b'ni '6ck `]b['''I bX'XUg
6YghY'XUfUb3'8]Y'Ni gWkUi Yf'\_\ObbYb'X]Y'J YfUbghU'hi b[Yb
\_cghYb`cg'VYgi WkYb\*'5a '5VYbX'k]fX'XUg'c`ma d]gWkY': Yi Yf
Ybhn\ØbXYh\zeta Ybh\zeta XYf'g]WkYf']Wk'; \\( \delta \) bqY\Ui h'YfnYi [h''</pre>

5VYf'b]W\h'bi f'gdcfh`]W\'[]Vh'Yg'gdUbbYbXY'BYi ][\_Y]hYb']b'XYf
FY[]cb"'@UbXk]fhgW\UZhga]b]ghYf'<Ui\_'\Uh'Y]bXf]b[`]W\'XUni
Ui Z[Yfi ZYbž'a Y\f'K Y]b'Ui g'6UXYb!K ØfhhYa VYf['ni 'dfcV]YfYb
i bX'ni '\_cbgi a ]YfYb"'8]Y'K Y]bVfUbW\Y'ghYW\_h']b'Y]bYf'?f]gYž'i bX
X]Y'9I]ghYbn'j ]Y`Yf'6Yhf]YVY']gh'[YZÀ\fXYh"'9]b'5i Zfi Zž'XYf'b]W\h
bi f'XYb'; YgW\a UW\_ž'gcbXYfb'Ui W\'X]Y'`c\_U'Y'K]fhgW\UZh'ghÀf\_h"

## K YhhYfibXlakY`h

8 UgʻK YhhYfʻ]bʻ6 UXYb!K ØfhhYa VYf[ˈgWXY]bhʻ\Yi hYʻUi ZʻXYf GcbbYbgY]hYʻXYgʻ@YVYbgʻni ˈgY]bʻʻj ]YʻʻGcbbYbgWXY]bʻ[]VhʻYgʻ]a GØXk YghYbʻXYgʻ6i bXYg`UbXYg"K À\fYbXʻ]a ˈBcfXcghYbʻi bXʻ]a 5``[Ài ˈj YfY]bnY`hʻGWXUi YfʻX]YʻGh]a a i b[ˈhfØVYbʻ\_ObbhYbžʻ]ghʻj cb %+ 'V]gʻ&&ʻ; fUXʻU``YgʻXUVY]"'9]bʻUb[YbY\a YgʻK YhhYfžʻXUgʻgck c\` X]YʻGdcfh`YfʻU`gʻUi WXʻX]YʻNi gWXUi YfʻVY]ʻXYbʻGdYW]U``C`ma d]Wg YfZfYi YbʻXØfZhY"

8 c W 'X]Y '\ c\Y 'HYa dYfUhi f'Vf]b[ h'Ui W 'GW UhhYbgY]hYb'a ]h'g]W "
5 i Z'XYb'5 i hcVU\bYb'5) 'i bX'5, 'hfYhYb'VYfY]hg'YfghY
< ]hnYgW ÀXYb'Ui Z''8]Y '\]hnYVYX]b[ hYb'DfcV'Ya Y'k YW\_Yb
9 f]bbYfi b[ Yb'Ub'j Yf[ Ub[ YbY'Gca a Yf'i bX'nY][ Ybz'XUgg'XYf
?`]a Uk UbXY`'Ui W '`c\_U`'XYi h`]W 'gdØfVUf']gh"

± XYb; ÀfhYbi bX: Y`XYfb`\YffgW\h'YVYbZU``g`< UbX`i b[gVYXUfZ J]Y`Y`DZ`UbnYb``Y]XYbi bhYf`K UggYfa Ub[Y`i bX'g]bX'ghUf\_Ya Hfc W\_YbghfYggʻUi g[YgYhnh"·6YgcbXYfgʻ]a 'bÒfX`]W\YbʻHY]``XYg @UbXYgžʻYhk Uʻ]a 'F Ui a 'Ghi hh[Ufhii bX`XYf`GW\k ÀV]gW\Ybʻ5`Vž'k]fX X]YgYfʻHfYbX`XYi h`]W\'g]W\hVUf"·8]Y`6ÒXYbʻg]bX`Ui g[Yhfc W\_bYhž k À\fYbX`XYf`GW\k Ufnk U`X`i bX`C VYfgW\k UVYbʻYhk UgʻVYggYf UVqW\bY]XYhž`XUʻq]Y`ØVYf`ZYi W\hYfYb`6cXYbʻj YfZØ[Yb"

## ; Ygi bX\Y]h`]WXY'Gcf[Yb'Xi fWX'J]fi gZÀ``Y

9]b'k Y]hYfYg'H\Ya Už'XUg'X]Y'FY[]cb'VYgW\ÀZh][hž']gh'X]Y
5i gVfY]hi b['XYg'7\]\_i b[i bmU!J]fi gž'XUg']b'XYf'BÀ\Y'XYf'VUXYb!
k ØfhhYa VYf[]gW\Yb'; fYbnY'bUW\[Yk]YgYb'k i fXY"', VYf
H][Yfa ØW\_Ybž'X]Y'Ui W\']b'8Yi hgW\'UbX'j YfVfY]hYh'g]bXž'k]fX'XUg
J]fi g'ØVYfhfU[Yb"'Gma dhca Y'k]Y'\c\Yg':]YVYfž'?cdZgW\a YfnYb

i bX'; Y`Yb\_gW\a YfnYb'\_ObbYb'ni XYa 'W\fcb]gW\'k YfXYb'i bX'X]Y @YVYbgei U`]hÀh'Yf\YV`]W\'VYY]bhfÀW\h][Yb"'8]Y'6Y\UbX`i b[\_\_cbnYbhf]Yfh'g]W\'Ui Z'X]Y'@]bXYfi b[ 'XYf'Gma dhca Yž'k cVY]'b]W\h! d\Ufa U\_c`c[]gW\Y'5bgÀhnYž'XUfi bhYf'gdYn]Y``Y
K ]XYfghUbXgØVi b[Ybž'\Y`ZYb'\_ObbYb"'8]YgY'\_ObbYb'j cf'U``Ya
VY]'W\fcb]gW\Yb': À``Yb'Y]bY'JYfVYggYfi b[']b'XYf'@YVYbgei U`]hÀh
Vf]b[Ybž'k]Y'Y]bY'Ghi X]Y'nY][hž'X]Y'Ui Z'Y]bYb'dcg]h]j Yb'9ZZY\_h'j cb
K ]XYfghUbXgØVi b[Yb'VY]'7\]\_i b[i bmU!DUh]YbhYb'\]bk Y]gh'i bX
X]Y'FY\UV]`]hUh]cbga O[`]W\\_Y]hYb'ghÀf\_hž'k]Y'Ui W\'Di VA YX
Ui gZØ\f`]W\'Yf'Ài hYfh"

## K Y]hYfY k ]WX h][ Y 9fY][ b]ggY

5i » YfXYa 'k i fXYb'k Y]hYfY'U\_hi Y``Y'9fY][ b]ggY'VY\_Ubbh'[Y[YVYb" 8]Y'; 9K '\Uh'Y]bY'Ghi X]Y'ni f'dgm\\\]g\\\Yb'6Y`Ughi b['j cb G\\\in\\Y]hi b['Yb'j cf['YghY``hz'k Ug'Ui Z'X]Y' < YfUi g\ZcfXYfi b['Yb']a 6]`Xi b[gk YgYb'\]bk Y]gh''Ni XYa 'hU[h'XYf'J Yfk U`hi b['gfUh'XYf K ØfhhYa VYf[']g\\Yb'GhUUhgh\YUhYf'ni f'GUb]Yfi b['XYg CdYfb\Ui gYgz'k cVY]'g]\\X'XUg'Dfc'Y\_h'i a 'ghc`nY'j ]Yf'\\J\fY j Yfn\O[Yfh\\Uh''G\\X']Y\rangle `]W\'Z]bXYh'Ua '@UbX[Yf]\\Xh': fY]Vi f['Y]b DfcnYgg'k Y[Yb'gYI i Y``Yb'A ]ggVfUi \\Xg']b'Y]bYa 'GYb]cfYb\Y]a ghUhhz'XYf'\X]Y'5i Za Yf\_gUa \_Y]h'\XYf'[YgUa hYb'FY[]cb'Ui Z'g]\\X\n]Y\h''

#bg[YgUa h'V]YhYb'X]Y'\Yi h][Yb'BUWXf]WXhYb'Y]bYb'Vi bhYb'GhfUi >>
Ub'H\Ya Ybž'X]Y'gck c\`'YfZfYi`]WX'U`g'Ui WX'VYgcf[b]gYffY[YbX
g]bX"'CV'VY]'XYb'gdcfh']WXYb'9fY][b]ggYb'XYf'GdYW]U`'C`ma d]Wg
cXYf']b'6Yni ['Ui Z'X]Y'<YfUi gZcfXYfi b[Yb']b'XYf'@UbXk]fhgWXUZh
i bX'; Ygi bX\Y]hgj Yfgcf[i b[''6UXYb!K ØfhhYa VYf['\Uh'Y]b][Yg
ni 'V]YhYb'i bX'Yg'V`Y]Vh'qdUbbYbX"</pre>

8 YhU]`g	
Cfh	< Y]`Vfcbbž'8 Yi hgWX`UbX
EiY``Yb	• k k k "hU[YggWXUi"XY
	• di Va YX"bWV]"b`a "b]\"[ cj