

9]b @YVYb ZØf XYb; `Ui VYb. GW k YghYfG]`j UbUž'Y]bY i bj Yf[Ygg`]W Y 9fn]Y\Yf]b

5a '-"'5i [i gh'ghUfV'GWk YghYf'G]'j UbUž'X]Y'() '≯J\fY']b'XYf ?]bXYfZÒfXYfi b['hÀh]['k Uf"'→f'@YVYb'k Uf'[YdfÀ[h'j cb ; `Ui VYb'i bX'<]b[UVY"'9]b'k ØfX][Yg'`YhnhYg'; Y`Y]h'ZØf'Y]bY Ui »Yf[Yk Ò\b`]WXY': fUi "

9]b'@YVYbgk Yf_'ZØf'X]Y'?]bXYf'i bX'X]Y; Ya Y]bgW UZh

5`hÒhh]b["'8 Ug'@YVYb'j cb'GWk YghYf'G]`j UbUž'XUg'j cb'h]YZYa; `Ui VYb'i bX'i bYfa ØX`]WkYa '9]bgUhn'ZØf'X]Y'?]bXYfZÒfXYfi b[[YdfÀ[h'k Ufž'ZUbX'Ua '-"'5i [i gh'&\$&' 'bUWk'`Ub[Yf'?fUb_\Y]h'Y]b9bXY"'A]h', ('\\\\\)\fYb'\]bhYf`Àggh'g]Y'b]Wkh'bi f'A YbgWkYbž'X]Y'g]Y[Y`]YVh'\UVYbž'gcbXYfb'Ui Wk'i bUi g`ÒgWk`]WkY'Gdi fYb']b'XYf6]`Xi b[g`UbXqWkUZh'XYf'FY[]cb"

9]b ghUf_Yg J Yfa ÀW hb]g

 $GWK K YghYf G]'j UbUž'[YVcfYb 'U`g'H\YfYg]U'?U]bn'Ua '&- "'A U]'\%- ($$]b'<Yb[YfgVYf[ž'K i Wkg'U`g'g]YVhYg'j cb'nk Ò`Z'?]bXYfb']b'Y]bYf Wkf]gh`]Wk'[YdfÀ[hYb': Ua]`]Y'Ui Z'' <math>\Rightarrow$ fY'9fn]Y\i b['i bX'ZUa]`]ÀfYb K YfhY'Zcfa hYb']\fYb'@YVYbgk Y[ž'XYf'g]Y'XUni 'VfUWkhYž'g]Wk'XYa dÀXU[c[]gWkYb'6YfY]Wk'ni 'k]Xa Yb''', VYf'() '\$U\fY'`Ub[Yb[U[]YfhY'g]Y'g]Wk']b'?]bXYf[ÀfhYb']b'DUggUi ž'BYi Ohh]b['i bX'6i f[\Ui gYb'i bX'k i fXY'Xcfh'ni 'Y]bYf'k]Wkh][Yb'6Yni [gdYfgcb'ZØfnU\`fY]WkY'?]bXYf'i bX'XYfYb'9`hYfb"

9]b J cfV] `X ZØf j]Y `Y

8 Ug[.]7 \ Uf]ga U[.]j cb[.]GWk YghYf[.]G][.]j UbU[.]YfcVYfhY[.]X]Y[.]< YfnYb

gck c\``XYf`?]bXYf`U`g`Ui W\`XYf`9fk UW\gYbYb"' \Rightarrow fY`K Y[[YZÀ\fhYb\YVYb'\Yf]cfž`XUgg`g]Y`b]W\h`bi f`Y]bY`9fn]Y\Yf]bž`gcbXYfb`Ui W\Y]bY`A Ybhcf]b`k Ufž`X]Y`j]Y`Yb`A YbgW\Yb`]b`gW\k]Yf][Yb`NY]hYbni f`GY]hY`ghUbX"`G]Y`j YfghUbX`Ygž`VY]a `Gd]Y`Yb`i bX`@YfbYb`Y]bY5ha cgd\ÀfY`XYg`J YfhfUi Ybg`i bX`XYf`; YVcf[Yb\Y]h`ni `gW\UZZYb" \Rightarrow fY`: À\][_Y]hž`?]bXYf`ni `a ch]j]YfYb`i bX`ni `VY[Y]ghYfbž`V`Y]Vh`]bXYf`9f]bbYfi b[`XYf`; Ya Y]bgW\UZh``YVYbX]["

9]b 'V `Y]V Y b X Y f '9]b Z`i gg

8]Y'6YXYi hi b['j cb'GWk YghYf'G]'j UbU'fY]Wkhik Y]h'ØVYf']\fYb
X]fY_hYb'9]bZi gg'Ui Z'X]Y'?]bXYf'\]bUi g"'=\fY'5fVY]h'gd]Y[Y'h'Y]bYb
VYXYi hYbXYb'HfYbX']b'XYf'9fn]Y\i b['k]XYf.'XYb': c_i g'Ui Z'X]Y
[Ubn\Y]h`]WkY'9bhk]W_`i b['j cb'?]bXYfb"'=\b'NY]hYbž']b'XYbYb
?]bXYf'a]h'<YfUi gZcfXYfi b[Yb'_cbZfcbh]Yfh'g]bXž'k]Y
VY]gd]Y`gk Y]gY'XYa'X][]hU`Yb'K UbXY``i bX'XYb'XUa]h
j YfVi bXYbYb'gcn]U`Yb'J YfÀbXYfi b[Ybž'k Uf']\f'5bgUhn'ZØf
Ya ch]cbU`Y'I bhYfghØhni b['i bX']bX]j]Xi Y``Y': ÒfXYfi b[
f]Wkhi b[gk Y]gYbX"

; Ya Y]bgWX UZh`]WX Y HfUi Yf i bX 8 Ub_VUf_Y]h

A]h']\fYa 'HcX'j Yf`]Yfh'X]Y'; Ya Y]bgW\UZh'b]W\h'bi f'Y]b

Yb[U[]YfhYg'J cfV]`Xž'gcbXYfb'Ui W\ 'Y]bY'E i Y``Y'XYf' \deltagd]fUh]cb"

K À\fYbX'g]W\']\fY'K Y[[YZÀ\fhYb'i bX'X]Y': Ua]`]Ybž'X]Y'g]Y

VYhfYi h'\Uhž']b']\fYa 'GW\a Yfn'j YfY]bYbž'V`Y]Vh'X]Y'8 Ub_VUf_Y]h

ZØf'U```XUgž'k Ug'GW\k YghYf'G]`j UbU'[Y`Y]ghYh'\Uhž']b'XYb' < YfnYb

XYf'A YbgW\Yb'`YVYbX]["'8]Y'9f]bbYfi b['Ub']\f'K]f_Yb'k]fX

k Y]hYf\]b'; YbYfUh]cbYb'j cb'?]bXYfb'i bX'9fn]Y\Yfb'VYY]bZi qqYb"

8 Y hU]`q

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