

BYiY'K Y[Y']b'XYf'@Y\f_fÀZhYV]`Xib[. BYhnk Yf_'ZØf'Ei YfgWXb]hhgh\Ya Yb Ui g[YnY]WXbYh

9bhXYW_Yb'G]Y'XUg'BYhnk Yf_'EiYfgWkb]hhgh\Ya Yb']b'XYf
@Y\f_fÀZhYV]`Xib[ž'XUg']bbcjUh]jY'5bgÀhnY'nif'6YkÀ`h][ib[
[YgY``gWkUZh`]WkYf'< YfUigZcfXYfib[Yb'k]Y'\D_`ig]cb'ibX
8][]hU`]g]Yfib['ZÒfXYfh"'9fZU\fYb'G]Yž'k]Y'fibX'*\$
9IdYfh]bbYb'ibX'9IdYfhYb'[YaY]bgUa'Ub'XYf'Ni_ibZh'XYf
@Y\f_fÀZhYV]`Xib['UfVY]hYb'ibX'X]Y'<cWkgWki`dYf`Y'XYg
AcbUhg'\Rightarrow'\]'Yf\U`hYb'\UVYb"'\Dcfa]Yfyb'G]Y'g]Wk'\ØVYf
U_hiY``Y'DfcY_hY'ibX'AÒ[`]Wk_Y]hYb'nif'HY]`bU\aY'

BYhnk Yf_'Ei YfgW\b]hhgh\Ya Yb'gh\f_h @Y\fYfV]`Xi b[']b'8Yi hgW\`UbX

± Y]bYa 'VYXYi hYbXYb'GW\f]hh'ni f'JYfVYggYfi b['XYf
@Y\f_fÀZhYV]`Xi b['k i fXY'XUg'BYhnk Yf_'E i YfgW\b]hhgh\Ya Yb']b
XYf'@Y\f_fÀZhYV]`Xi b['U`g' < cW\gW\i`dYf`Y'XYg'A cbUhg'⅓`]
Ui g[YnY]W\bYh"'8]YgY'5bYf_Ybbi b['i bhYfghfY]W\h'XUg
9b[U[Ya Ybh'j cb'ØVYf'*\$: UW\`Yi hYbž'X]Y'g]W\`Ub'a Y\f'U`g''\$
GhUbXcfhYb']b'8Yi hgW\`UbX'j YfgUa a Y`bži a 'ØVYf
[YgY``gW\UZh`]W\Y'<YfUi gZcfXYfi b[Yb']b'XYf'6]`Xi b['ni
X]g_i h]YfYb'i bX']bbcj Uh]j Y'@Ògi b[Yb'ni 'Ybhk]W_Y`b"

<]bhYf[fibX'ibX'9bhghY\ib['XYg'BYhnk Yf_g

8]Y=b]h]Uh]j Y ZØf XUg B Yhnk Yf_ YbhghUb X Ui g Y]b Ya K cf_g\cdž XYf k À\fYb X XYg 6i b XYg_cb[fYgg Yg XYf NYbhfYb ZØf @Y\fYf]bbYbV]`Xi b[]a GYdhYa VYf &\$&&`]b < Y]XY`VYf[ghUhhZUb X"N]Y`k Uf YgžY]bYb C fh'ni gWX UZZYbž Ub XYa XYf

5i ghUi gWX 'ØVYf'E i YfgWX b]hhgh\ Ya Yb'k]Y' = b_`i g]cbž'bUWX\U`h][Y 9bhk]W_`i b['i bX'8][]hU`]g]Yfi b['[YZÒfXYfh'k]fX"'8Yf': c_i g'`]Y[h Ui Z'XYf'J Yfk YbXi b['ØVYfZUWX`]WXYf'i bX'a i `h]X]gn]d`]bÀfYf 5bgÀhnYž'i a 'X]Y'_ca d`Yl Yb'<YfUi gZcfXYfi b[Yb']a 6]`Xi b[gVYfY]WX'[Ya Y]bgWX UZh`]WX'ni 'VYk À`h][Yb"

Fc``Y'i bX'5_h]j]hÀh'XYg'BYhnk Yf_g

 $8]Y `A]h[`]Y XY f `XY g `B Y hnk Y f_g `g]b X `\ Ui d hg ÅW `]WX `]b `NY b hf Y b `ZØ f @Y \ f_f Å Zh Y V]`Xi b[`i b X `GWX cc `g `c Z `9 Xi WUh]cb `h Åh]["`G]Y `_Øa a Y f b g]WX `i a `X]Y `9 b hk]W_`i b[`i b X `XY b `5 i ghUi gWX `j cb `6 Y gh! D f U Wh] WY! 6Y]gd]Y `Y b `gck]Y `&D Zc fa Uh]c b ga Uh Y f]U`]Y b "`Ni g Å hn`]WX `k]f X `Y] b A cc X `Y! 8]g_i gg]c b g f Ui a `[Y b i hn h i b X `Y g `k Y f X Y b `f Y [Y `a Å »][Y X][]h U `Y `H f Y ZZY b `c f [Ub]g] Y f h "`8] Y g Y : c fa Y b `XY g `5 i gh Ui g W X g Y f a <math>O[`]WX Y b `Y g `X Y b `H Y]`b Y \ a Y f b Z j cb Y] b U b X Y f `ni `Y f b Y b `i b X]\ f Y `9 f Z U \ fi b [Y b `]b `Y] b Y a `i b h Y f g h Ø h n Y b X Y b `F U \ a Y b `ni `h Y]`Y b "$

K]WX h][_Y]h'XYf'5i gnY]WX bi b[

 $8]Y \Rightarrow fm XYg Gh]ZhYfj YfVUbXYg `\YVh'\Yfj cfž XUgg XUg BYhnk Yf_Y]bYb YbhgWXY]XYbXYb `6Y]hfU[`ni f'J YfVYggYfi b[`XYf @Y\f_fÀZhYV]`Xi b[`YY]ghYh" 8]Y `5i gnY]WX bi b[`Yf_Ybbh'X]Y B chk YbX][_Y]h `Ubž ni _ØbZh][Y `@Y\f_fÀZhY `Ui Z `X]Y `fYU `Yb < YfUi gZcfXYfi b[Yb `]a `6Yfi ZgU ``hU['j cfni VYfY]hYb" `I bhYf `XYb 6Y[f]ZZ : i hi fY `G_] ``g `ZU ``Yb `bYi Y `dÀXU[c[]gWXY `i bX `ZUWX `]WXY \\
\D\U`hYž X]Y `ZØf `X]Y `@Y\f_fÀZhY 'j cb `nYbhfU `Yf `6YXYi hi b['g]bX" \\
Dfc Y_hY `k]Y `X]YgYg `ZÒfXYfb `b]WX h `bi f `X]Y `]bX]j]Xi Y ``Y \\
9bhk]W_`i b['j cb `@Y\f_fÀZhYbž gcbXYfb `hfU[Yb `Ui WX `ni f `GhÀf_i b[XYg `6] `Xi b[ggmghYa g `]b `8 Yi hgWX `UbX `VY]"$

9]b 5i gV`]W_ Ui Z'X]Y Ni _i b Zh

=a '\$U\f'&\$&('d`Ubh'XYf'Gh]ZhYfj YfVUbXž'k Y]hYfY']bbcj Uh]j Y
Dfc'Y_hY'ni 'gi WXYbž'X]Y'nY][Ybž'k]Y'Y]bY'ni _i bZhgZÀ\][Y'i bX
UhhfU_h]j Y'@Y\f_fÀZhYV]`Xi b['Ui ggY\Yb'_Ubb"'8]Y'5bgÀhnYž'X]Y']b
X]YgYa 'BYhnk Yf_'Ybhk]W_Y`h'k YfXYbž'_ÒbbhYb'U`g'6`Ui dUi gY'ZØf
À\b`]WXY'&)h]Uh]j Yb'X]YbYb'i bX'ni f'@Òqi b['XYq'a Uqq]j Yb

@Y\fYf]bbYb! i bX'@Y\fYfa Ub[Y`g'VY]hfU[Yb"'8Ua]h'k]fX'b]W\h'bi f X]Y'Ei U`]hÀh'XYf'6]`Xi b['j YfVYggYfhž'gcbXYfb'Ui W\'XYf 6]`Xi b[gVYfY]W\']bg[YgUa h'[YghÀf_h"

9b[U[Ya Ybh'XYg'Gh]ZhYfj YfVUbXYg

8 Yf'Gh]ZhYfj YfVUbXž'XYf'X]YgY'5i gnY]W\bi b['j Yf[]Vhž']gh'Y]bY; Ya Y]bgW\UZh'j cb'fi bX'' ") \$\$'DYfgcbYbž'I bhYfbY\a Yb'i bX
Cf[Ub]gUh]cbYbž'X]Y'g]W\'XYf': ÒfXYfi b['j cb'6]'Xi b['i bX
K]ggYbgW\UZh'j YfgW\f]YVYb'\Uh"'GY]bY'A]gg]cb']gh'Ygž'X]Y
\Dcj Uh]cbg_fUZh'XYf'; YgY``gW\UZh'Xi fW\'bYi Y'\RYYb'i bX
FYZcfa Yb'ni 'ghÀf_Yb"'\D'X]YgYa '?cbhYl h'k]fX'X]Y'9bhk]W_`i b[
YZZY_h]j Yf'@Y\f_fÀZhYV]`Xi b[ggmghYa Y'U`g'YggYbn]Y```YfUW\hYh"

B 5;

8 Y hU]`q

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'X]Y!bUWX f]WX hYb "bYh