

; fc»Y]bgUhn'XYf'Dc`]nY]. :: `i W h'bUW I bZU``']b'A UfVUW 'Ua 'BYW_Uf

; fc»Y]bgUhn'XYf'Dc`]nY]']b'A UfVUW\'Ua 'BYW_Uf.': U\bXi b[bUW\'ZØW\h][Ya 'JYfXÀW\h][Yb'bUW\'I bZU``'i bX K UZZYbg]W\hi b["

@ Xk][gVi f['fthgt

9]b VYXYi hYbXYf Dc`]nY]Y]bgUhn]b A UfVUW Ua BYW_Uf gcf[hY Ua A]hhk cW žXYa & "5i [i gh & \$& (ž ZØf [fc » Yg 5i ZgY\Yb]b XYf FY[]cb "8]Y Dc`]nY] @ Xk][gVi f['k Uf]b 5`Ufa VYfY]hgW UZhž XU g]Y a]h j YfgW]YXYbYb A]hhY bž XUfi bhYf Dc`]nY]\i VgW fUi VYf i bX 8]Ybgh\i bXYž bUW Y]bYf [YZØW hYhYb DYfgcb gi W hY "8Yf 9]bgUhn k i fXY Xi fW Y]bYb J cfZU``]b GhY]b\Y]a 'Ub XYf A i ff! < Od Z][\Y]a Ui g[Y`Oghž XYf _i fn j cf XYb 9fY][b]ggYb]b A UfVUW ghUhhZUbX"

I a '\$-.\$\$'I \f'VYa Yf_hYb'5bk c\bYf']b'XYf'GW\UZÀW_YfghfU» Y Y]bYb'ghUf_'VYgW\ÀX][hYb'6A K ž'XYf'Ua '9bXY'Y]bYf'GUW_[UggY UV[YghY``h'k Uf"'Nk Y]'A ÀbbYfž'X]Y'UbgW\Y]bYbX'a]h'XYa '5i hc']b J YfV]bXi b['ghUbXYbž'gW\]YbYb'i b_ccdYfUh]j 'ni 'fYU[]YfYbž'U`g X]Y'Dc`]nY]'Y]bhfUZ"'J YfXUW\hga ca YbhY'XYi hYhYb'XUfUi Z\]bž'XUgg X]Y'A ÀbbYf'i bhYf'XYa '9]bZi gg'j cb'8fc[Yb'ghUbXYb"

9]b 'I b ZU`` 'a]h': c`[Y b

8]Y'k Y]hYfYb'9fa]hhi b[Yb'Yf[UVYbž'XUgg'XYf'6A K k U\fgWXY]b']WX']bY]bYb'I bZU``'j Yfk]W_Y`h'k Ufž'XYf'g]WX'[Y[Yb \$, .&) 'I \f'Ui Z'XYf'6i bXYgghfU»Y'' &, 'VY]'; fc»UgdUWX'YfY][bYh \UhhY'''<]Yf'k Uf'Y]b'(+'\lambda\fY'U`hY': fUi 'VY]a ', VYfei YfYb'XYf GhfU»Y'`Y]WXh'j Yf`Yhnh'k cfXYbž'bUWXXYa 'XYf'6A K 'g]Y'VY]'Y]bYf Ui Z'; fØb'i a gdf]b[YbXYb'5a dY``YfZUggh'\UhhY'i bX'XUbb

I a 'X]Y'6YhY]`][i b['XYg'K U[Ybg'Ub'X]YgYa 'JcfZU```ni '_`ÀfYbž k i fXY'XYf'6A K 'VYgW\`U[bU\a h'i bX']b'Y]b

5VgW\`Yddi bhYfbY\a Yb'[YVfUW\h''6Y]'XYf'8i fW\gi W\i b['XYg
: U\fnYi [g'YbhXYW_hYb'X]Y'6YUa hYb'a Y\fYfY'<UbXmgž'Y]bYb
j]YfghY``][Yb'6Uf[Y`XVYhfU['i bX'Y]bY'[Yf]b[Y'A Yb[Y'Ub
6YhÀi Vi b[ga]hhY`bžk Ug'X]Y'G]hi Uh]cb'k Y]hYf'_ca d`]n]YfhY''

Ni gàhn`]WX 'Yf[UVYb'<]bk Y]gY'j cb'NYi [Ybž'XUgg'g]WX ']b'XYf'Bà\Y XYf'GWX UZÀW_YfghfU» Y'Y]bY'j YfghYW_hY'HUgWXY'VYZUbXž'X]Y'nk Y] GWXi ggk UZZYb'gck]Y'A i b]h]cb'Ybh\]Y`h"'9]bY'XYf'[YZ bXYbYb K UZZYb'ghY\h']a 'JYfXUWXhž'Ui g'Y]bYa '9]bVfi WX']b'<Y]`Vfcbb']a \$J\f'&\$&' 'ni 'ghUa a Yb"

: `i WX h'k À\fYbX'XYg'HfUbgdcfhg

 $BUWX `X]YgYf`Ui ZfY[YbXYb`9bhXYW_i b[`k i fXYb`X]Y`VY]XYb`A ÅbbYf j cf`Ài Z][`ZYgh[Ybca a Yb`i bX`ni a `Dc`]nY]fYj]Yf`]b`A UfVUWX [YVfUWXh''`K À\fYbX`XYg`HfUbgdcfhg`[Y`Ub[`Yg`Y]bYa `XYf JYfXÀWXh][Yb`U``YfX]b[gž`g]WX`ni `VYZfY]Yb`i bX`]b`X]Y`A UfVUWXYf <math>\pm$ bYbghUXh`ni `Z\OWXhYb''`6Yf]WXhYb`ni Zc`[Y`_cbbhY`Yf`X]Y < UbXgWX`]Y»Ybž`X]Y`]\a `Ub[Y`Y[h`k UfYbž`a Ub]di`]YfYb`i bX Ybh_Ua `hfchn`XYf`gcZcfh`Y]b[Y`Y]hYhYb`: U\bXi b[ga U»bU\a Yb''

8 Yf'nk Y]hY'J YfXÀW\h][Yž'Y]b'&+'\J\fY'U`hYf'A Ubb'Ui g'XYa
@UbX_fY]g'6ÒV`]b[Ybžki fXY']bXYggYb'ni a 'Dc`]nY]fYj]Yf
hfUbgdcfh]Yfh"'\d=b'Y]bYa'k Y]hYfYb'GW\f]hh'ZØ\fhYb'X]Y'9fa]hh`Yf
8 i fW\gi W\i b[gU_h]cbYb']b'6ÒV`]b[Yb'i bX'G]bXY`Z]b[Yb'Xi fW\ž
i bhYfghØhnh'j cb'Y]bYa 'GdYn]U`Y]bgUhn_ca a UbXc"'5i W\`\]Yf
k i fXYb'k Y]hYfY'<UbXmq'q]W\Yf[YghY``h"

8 Y f * & +! * A \ f] [Y ž X Y f * g] W Y] b Y f 6 `i h Y b h b U \ a Y 'i b h Y f n] Y \ Y b `a i ggh Y i b X '_Y] b Y '[Ø `h] [Y : U \ f Y f `U i V b] g \ U h h Y ž k i f X Y b U W X Y b Y f Z c f X Y f `] W Y b 'd c `] n Y] `] W Y b 'A U » b U \ a Y b 'k] Y X Y f `U i Z Z f Y] Y b : i » [Y g Y h n h " 8] Y '9 f a] h h `i b [Y b 'g c k] Y 'X] Y : U \ b X i b [ga U » b U \ a Y b [Y \ Y b 'Y X c W 'k Y] h Y f i b X 'g] b X 'b c W 'b] W h `U V [Y g W `c g g Y b "

: cfh`Ui ZYbXY '9fa]hh`i b[Yb

8 Ug; YgWXY\Yb]b A UfVUWX 'Ua 'BYW_Uf'k]fZhY]b][Y: fU[Yb'Ui Zžjcf'U`Ya ']b 6Yni ['Ui Z'X]Y: `i WXh'XYg'J YfXÀWXh][Yb'i bX'X]Y
I a ghÀbXY'XYg'i fgdfØb[`]WXYb'I bZJ``g"'9g'V`Y]Vh'UVni k UfhYbž'cV
X]Y'Dc`]nY]'XYb'[YZØWXhYhYb'A Ubb'k]YXYf'ZJggYb'_Ubb'i bX
k Y`WXY'k Y]hYfYb' & Zcfa Uh]cbYb'g]WX'Ui g'XYb'XYfnY]h'`Ui ZYbXYb
9fa]hhìi b[Yb'Yf[YVYb'k YfXYb"'8]Y'J]Y`nU\`'Ub' & X]n]Ybž'j cb'XYb
6YhÀi Vi b[ga]hhY`b'V]g'\]b'ni 'XYb'GWXi ggk UZZYbž'_ObbhY
Yf\YV`]WXY'?cbgYei YbnYb'ZØf'X]Y'6YgWXi `X][hYb'a]h'g]WX'Vf]b[Yb
i bX'X]Y'9fa]hhìi b[Yb'YbhgWXY]XYbX'VYY]bZi ggYb"

8]Y'6YXYi hi b['XYf'Dc`]nY]UfVY]h']b'XYf FY[]cb

8]Y 'Øb[ghYb'9fY][b]ggY']b'A UfVUW 'Ua 'BYW_Uf'j YfXYi h']WXYb'X]Y K]WXh][_Y]h'i bX'?ca d'Yl]hÀh'XYf'Dc`]nY]UfVY]h']b'8Yi hgWX`UbXg GhÀXhYb"'8]Y'Dc`]nY]'\Uh'b]WXh'bi f'X]Y'J YfUbhk cfhi b[ž'?f]a]bU`]hÀh ni 'VY_Àa dZYbž'gcbXYfb'Ui WX'dfÀj Ybh]j 'ni '\UbXY`bž'i a 'X]Y G]WXYf\Y]h'XYf'6Øf[Yf'ni '[Yk À\f`Y]ghYb"'\D'`AbX`]WXYb'i bX ghÀXh]gWXYb'; YV]YhYb']gh'X]Y'Ni gUa a YbUfVY]h'a]h'XYf; Ya Y]bgWXUZh'j cb'YbhgWXY]XYbXYf'6YXYi hi b["'8]Yg'[YgWX]Y\h VY]gd]Y`gk Y]gY'Xi fWX'\DZcfa Uh]cbgj YfUbghU`hi b[Ybž'VY]'XYbYb 6Øf[Yf'ØVYf'U_hi Y``Y'6YXfc\i b[Yb'i bX'G]WXYf\Y]hga U» bU\a Yb]bZcfa]Yfh'k YfXYb"

DfÀj Ybh]cb i bX 7ca a i b]hm!Dc`]W]b[

a 'F U\a Yb'XYg'7ca a i b]hmlDc`]W]b['UfVY]hYb'X]Y'Dc`]nY]_fÀZhY
Yb['a]h'6Øf[Yfb'i bX'`c_U`Yb'Cf[Ub]gUh]cbYb'ni gUa a Ybži a 'Y]b
[Ya Y]bgUa Yg'G]W\Yf\Y]hg[YZØ\``ni 'Ybhk]W_Y`b"'8]YgY'dfcU_h]j Y
Jcf[Y\Ybgk Y]gY'\Uh'g]W\'U`g'YZZY_h]j 'Yfk]YgYbž'i a '?f]a]bU`]hÀh
ni 'gYb_Yb'i bX'XUg'J YfhfUi Yb'XYf'² ZZYbh`]W_Y]h']b'X]Y'6Y\ÒfXYb
ni 'ghÀf_Yb"'Dc`]nY]dfÀg]X]Yb'gYhnYb'ni bY\a YbX'Ui Z'a cXYfbY
HYW\bc`c[]Ybž'k]Y'ni a '6Y]gd]Y``, VYfk UW\i b[g_Ua YfUg']b
?f]a]bU`]hÀhggW\k Yfdi b_hYbž'i a 'gW\bY``Ui Z'j YfXÀW\h][Y
5_h]j]hÀhYb'fYU[]YfYb'ni '_ÒbbYb"'

5_hi Y``Y '? f]a]b U`ghUh]gh]_Yb

8]Y'U_hi Y``Y'@U[Y']b'6Yni ['Ui Z'8fc[Yba]ggVfUi W\'nY][h'g]W\b]W\h'bi f']b'XYb'Yf\O\hYb': U``nU\`Ybž'gcbXYfb'Ui W\']b'XYf
Bchk YbX][_Y]h'j cb'FY\UV]`]hUh]cbgdfc[fUa a Yb'i bX'Y]bYf
j YfVYggYfhYb'I bhYfghØhni b['ZØf'6YhfcZZYbY"'6Y\OfXYb'i bX
Gcn]U`X]YbghY'a ØggYb']\fY'5bghfYb[i b[Yb'ni f'DfAj Ybh]cb'i bX
5i Z_`Afi b[']bhYbg]j]YfYbž'i a 'X]Y'5i gk]f_i b[Yb'X]YgYf
DfcV`Ya Uh]_'ni 'a]b]a]YfYb"

Fc``Y'XYf'HÀhYfdfcZ]`Y']b'9fa]hh`i b[Yb

9]b'k Y]hYfYf'5gdY_h'XYf'Dc`]nY]UfVY]h']gh'X]Y'5bU`mgY'j cb
HÀhYfdfcZ]`Ybž'X]Y'\Y`ZYb'_Ubbž'?f]a]bU`]hÀhga i ghYf'ni 'Yf_YbbYb
i bX'ni _ØbZh][Y'J cfZÀ``Y'ni 'j Yf\]bXYfb"'9]bY'i a ZUggYbXY
8 UhYbUi gk Yfhi b['i bX'XYf'5i ghUi gWX'j cb'+bZcfa Uh]cbYb
nk]gWXYb'j YfgWX]YXYbYb'Dc`]nY]X]YbghghY``Yb'g]bX'XUZØf
YbhgWXY]XYbX"'8]Y': À\][_Y]hž'gc`WXY'DfcZ]`Y'ni 'YfghY``Ybž'hfÀ[h
XU\Yf'XUni 'VY]ž'gWXbY``YfY': U\bXi b[ga U»bU\a Yb'Y]bni `Y]hYb
i bX'[Yn]Y'h'[Y[Yb'?f]a]bU`]hÀh'j cfni [Y\Yb"'

: cfgWXi b['i bX'5i gV]`Xi b[']b'XYf Dc`]nY]UfVY]h

8]Y'5igV]`Xib['ibX'_cbh]bi]Yf`]W\Y'KY]hYfV]`Xib['jcb Dc`]nY]VYUahYb'gd]Y`h'Y]bY'YbhgW\Y]XYbXY'Fc``Y'XUVY]ž'k]Y YZZY_h]j'X]Y'Dc`]nY]'UiZ'JcfZÀ``Y'fYU[]YfYb'_Ubb"' =aaYf'aY\f Dc`]nY]VY\ÒfXYb'gYhnYb'UiZ'gdYn]Y``Y'GW\i`ib[gdfc[fUaaYž'X]Y 6YUa hY`Ui Z`X]Y`< YfUi gZcfXYfi b[Yb`]a `I a [Ub[`a]h 8fc[Yb_f]a]bU`]hÀhii bX`; Yk U`hij cfVYfY]hYb"`Ni gÀhn`]W\`k]fX`X]Y 6YXYi hi b[`XYf`DgmW\c`c[]Y`]b`XYf`Dc`]nY]UfVY]hini bY\a YbX Yf_Ubbhži a `]b`_f]h]gW\Yb`G]hi Uh]cbYb`VYgcbbYb`fYU[]YfYb`ni _ObbYb"

9]b'6Y]gd]Y`ZØf'gc`WXY'GWXi`i b[ga U»bU\a Yb']gh'XUg'HfU]b]b[']b8YYg_U`Uh]cbghYWXb]_Ybž'XUg'XUfUi Z'UVn]Y`hž'?cbZ']_hY'c\bY; Yk U`h'ni '`ÒgYb"'8Yf'9]bgUhn'j cb'XYYg_U`]YfYbXYb'HU_h]_Yb']ghb]WXh'bi f'ZØf'X]Y'G]WXYf\Y]h'XYf'6YUa hYb'j cb'6YXYi hi b[ž gcbXYfb'hfÀ[h'Ui WX'ni f'JYfhfUi YbgV]`Xi b[']bbYf\U`V'XYf; Ya Y]bgWXUZh'VY]"

8 Y hU]`q

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'b!U["XY