

5gd\U`h]Yfi b[gUfVY]hYb']b'Hmf`UWX]b[. GdYffi b['XYf'Gh&%*'UV'&, "'5i[i gh

5gd\U`h]Yfi b[gUfVY]hYb`Ub`XYf`GhUUhgghfU»Y`Gh&%\$*`]b Hmf`UWX]b[.`GdYffi b['j ca '&, "'5i [i gh'V]g'%' "'GYdhYa VYf" I a `Y]hi b[Yb`VYUWXhYb"

± XYf'_`Y]bYb'; Ya Y]bXY'Hmf`UWX]b[']a '@UbX_fY]g'HfUi bghY]b
ghY\Yb'VYXYi hYbXY'JYfÀbXYfi b[Yb'Ubž'X]Y'UV'A]hhk cWXž'XYa
&, "'5i [i ghž'X]Y'JYf_Y\fgghfÒa Y']b'XYf'FY[]cb'Yf\YV`]WX
VYY]bZi ggYb'k YfXYb"'8]Y'GhUUhgghfU» Y'Gh&%\$*'k]fX'ZØf'XfY]
K cWXYb'[YgdYffhž'XU'X]Y'5gd\U`h]Yfi b[gUfVY]hYb'ni f'9fbYi Yfi b[XYf'CfhgXi fWXZU\fh'VY[]bbYb"'8]YgY'A U» bU\a Y']gh'HY]`'Y]bYg
`Ub['À\f][Yb'Dfc'Y_hYgž'XUg'Ui Z'Y]bY'JYfVYggYfi b['XYf'JYf_Y\fg!i bX'@YVYbgei U`]hÀh']b'Hmf`UWX]b['UVn]Y`h"

8]Y'[Yd`UbhY'GdYffi b['k]fX'j cfUi gg]W\h`]W\'V]g'ni a '%' "GYdhYa VYf'&\$&('XUi Yfb"'8Yf'8i fW\[Ub[gj Yf_Y\f'k]fX'XU\Yfi a [Y`Y]hYhž'i bX'nk Uf'ØVYf'X]Y'Gh&%\$) 'j cb'H]hha cb]b['V]g K]Yga Ø\`'i bX'XUbb'ØVYf'X]Y'Gh&\$-' 'bUW\'DU``]b['gck]Y'X]Y ?fY]gghfU» Y'HG(&']b'F]W\hi b['?]fW\k Y]XUW\"'8]Yg'VYhf]ZZh'b]W\h bi f'X]Y'Gh&%\$*'nk]gW\Yb'HfcghVYf['i bX'H]hha cb]b['ž'gcbXYfb Ui W\'X]Y'i a `]Y[YbXYb'?fY]gghfU» Ybž'X]Y'j cb'cXYf'bUW\Hmf`UW\]b['ZØ\fYb"

8Yf: cfhgWlf]hh XYf 6Ui a U» bU\a Yb

Hmf`UW\]b[`\Uh`]b`XYb``YhnhYb`;\J\fYb`VYfY]hg`j]Y`Y
6Ui a U» bU\a Yb`Yf`YVhž`X]Y`Ui Z`X]Y`9fbYi Yfi b[`XYf`_ca a i bU`Yb
J Yfgcf[i b[g`Y]hi b[Yb`UVn]Y`hYb"`8UVY]`k i fXYb`Ui W\`X]Y
: U\fVU\b`i bX`X]Y`; Y\k Y[Y`]b`k YgYbh`]W\Yb`5VgW\b]hhYb
YfbYi Yfh"`9]b`VYgcbXYfYg`5i [Yba Yf_``U[`Ui Z`XYf`J YfVYggYfi b[

XYf: i » [Àb[Yfei Yfi b[Ybž:ZØf:X]Y:Y]b:: U\fVU\bhY]`Yf:]b:XYf Cfhga]hhY:Yff]W\hYh'k i fXY":8]YgYf:gc```\Y`ZYbž:X]Y; YgW\k]bX][_Y]hYb:Ua 'k Ygh`]W\Yb:CfhgY]b[Ub['ni 'fYXi n]YfYbž]bgVYgcbXYfY:]b:XYf'BÀ\Y:XYf'ZfY]k]``][Yb:: Yi Yfk Y\f"

8]Y'j cb'XYb'5gd\U`h]Yfi b[gUfVY]hYb'VYhfcZZYbY': `ÀW\Y'k]fX'Y]bY
Yf\YV`]W\Y'JYfVYggYfi b['XUfghY``Ybž'XU'X]Y'bYi Y
5gd\U`hXYW_gW\]W\h'X]Y'JYf_Y\fgg]W\Yf\Y]h'Yf\Ò\Yb'k]fX"'8]YgY
`YhnhY'D\UgY'XYf'5fVY]hYb']gh'YbhgW\Y]XYbXž'i a 'X]Y': i b_h]cbU`]hÀh
XYf'GhfU» Y'ni '[Yk À\f`Y]ghYb'i bX'ni _ØbZh][Yb
9f\U`hi b[qa U» bU\a Yb'j cfni VYi [Yb"

JcfVYfY]hi b[Yb`i bX`=bZcfa Uh]cbYb`ZØf 5b`]Y[Yf

8]Y'5b`]Y[Yf']b'XYf'CfhgXifWXZU\fh'kifXYb'VYfY]hg'jcb'XYf nighÀbX][Yb'6UiZ]faU'ØVYf'XYb'[Yd`UbhYb'9]bVUihYfa]b]bZcfa]Yfh"8UVY]'k]fX'X]Y'; YaY]bXY'UiWaa]h'XYb 6i gibhYfbY\aYb'nigUaaYbUfVY]hYbž'ia'X]Y GWXØ'YfVYZÒfXYfib['VYghaÒ[`]WX'ni'_ccfX]b]YfYb"'Hfchn'XYf 9]bgWXfÀb_ib[Yb'kÀ\fYbX'XYf'5gd\U'h]Yfib[gUfVY]hYb'k]fX jYfgiWXhž'XYb'5bkc\bYfb'XYb'Ni[Ub['ni']\fYb'<ÀigYfb'ni Yf'Y]WXhYfb"

8]Y'JYfUbhk cfh`]W\Yb'XYg'GhUUh`]W\Yb'6Ui Ua hYg'HfUi bghY]b
V]hhYb'U``Y'JYf_Y\fghY]`bY\a Yf'i a 'JYfgh\\bXb]g'i bX'; YXi `X
k \\A\fYbX'X]YgYf'bchk YbX][Yb'6Ui a U» bU\a Yb"'6Y]'[i hYa 'K YhhYf
_\ObbhYb'X]Y'5fVY]hYb']bbYf\U`V'XYg'[Yd`UbhYb'NY]hfU\a Ybg
UV[YgW\`cggYb'k YfXYb\z'gcXUgg'X]Y'5bk c\bYf'i bX
JYf_Y\fghY]`bY\a Yf'VU`X'k]YXYf'j cb'Y]bYf'j YfVYggYfhYb
\\\D\ZfUghfi_hi f'dfc\Z|h]YfYb'_\ObbYb"

 $8]Y' = bj Ygh]h]cb']b'X]Y'9fbYi Yfi b['XYf'GhUUhgghfU'' Y']gh'b]WXh'bi f Y]bY': fU[Y'XYf'JYfVYggYfhYb'JYf_Y\fgg]WXYf\Y]hz'gcbXYfb'V]`XYh Ui WX'Y]bY'; fi bX`U[Y'ZØf'Y]bY'bUWX\U`h][Y'9bhk]W_`i b['XYf FY[]cb'''8]Y'i a ZUggYbXYb'5fVY]hYb'_ObbhYb'XUni 'ZØ\fYbz'XUgg Hmf`UWX]b['ZØf'X]Y'JYf_Y\fghY]`bY\a Yf'UhhfU_h]j Yf'k]fX'i bX'gca]h Ui WX'bYi Y'=a di `qY'ZØf'X]Y'Ofh`]WXY'K]fhgWXUZh'[]Vh''$

GWX`i ggVYhfUWX hi b['ni f'6YXYi hi b['XYf 6Ui a U» bU\a Yb

8]Y'VYj cfghY\YbXYb'5gd\U'h]Yfi b[gUfVY]hYb']b'Hmf`UWX]b[g]bXY]b'k]W\h][Yf'GWXf]hh'ni f'AcXYfb]g]Yfi b['XYf'fY[]cbU`Yb

\[DZfUghfi _hi f''G]Y'j YfXYi h`]WXYb'X]Y'Bchk YbX][_Y]hž'VYghY\YbXY

JYf_Y\fgghf`OaY'ni 'cdh]a]YfYb'''\D'Y]bYf'NY]hž']b'XYf'AcV]`]hÀh'j cb
]aaYf'[fO`> YfYf'6YXYi hi b[']ghž'k]fX'X]Y'9fbYi Yfi b['XYf'GhfU>Yb]WXh'bi f'X]Y'@YVYbgei U`]hÀh'XYf'5bk c\bYf'j YfVYggYfbž'gcbXYfb
Ui WX'XUni 'VY]hfU[Ybž'X]Y'G]WXYf\Y]h'Ui Z'XYb'GhfU>Yb'ni 'Yf\O\Yb''
Gc`WXY'AU>bU\aYb'g]bX'YbhgWXY]XYbXž'i a'X]Y'FY[]cb
ni _i bZhgZÀ\]['ni 'aUWXYb''

8]Y'5gd\U`h]Yfi b[gUfVY]hYb']b'Hmf`UW\]b['g]bX'HY]`'Y]bYg
i a ZUggYbXYb'Dfc[fUa a g'ni f'JYfVYggYfi b['XYf
JYf_Y\fg]bZfUghfi _hi f']b'`ÀbX`]W\Yb'FY[]cbYb"'Gc`W\Y'DfcY_hY
g]bX'b]W\h'bi f'ZØf'X]Y'JYf_Y\fgg]W\Yf\Y]h'k]W\h][ž'gcbXYfb'gd]Y`Yb
Ui W\'Y]bY'YbhgW\Y]XYbXY'Fc``Y'ZØf'X]Y'`c_U`Y'K]fhgW\UZh'i bX'X]Y
@YVYbgei U`]hÀh'XYf'5bk c\bYf"'9]bY'[i h'Ui g[YVUi hY'GhfU»Y'_Ubb
XYb'Ni [Ub['ni'; YgW\ÀZhYb'i bX'8]Ybgh`Y]ghi b[Yb'Yf`Y]W\hYfbž
k Ug'k]YXYfi a 'dcg]h]j Y'9ZZY_hY'Ui Z'X]Y'`c_U`Y'K]fhgW\UZh'\Uh'

9]b'k Y]hYfYf'5gdY_hž'XYf']b'X]YgYa 'Ni gUa a Yb\Ub['VYhfUW\hYh k YfXYb'gc``hYž']gh'X]Y'6YXYi hi b['j cb'bUW\\U`h][Yb'6Ui dfU_h]_Yb"8 Yf'9]bgUhn'i a k Y`hZfYi bX`]W\Yf'A UhYf]U`]Yb'i bX'HYW\b]_Yb'VY]GhfU» YbVUi dfc Y_hYb'k]fX'j cb'j YfgW\]YXYbYb'\Dgh]hi h]cbYb[YZÒfXYfhž'i a 'X]Y'l a k Y`hVY`Ughi b['ni 'a]b]a]YfYb"'8]YgYH\Ya Yb'g]bX'VYgcbXYfg'fY`Yj Ubh']b'Y]bYf'NY]hž']b'XYf'XYf?`]a Uk UbXY`'i bX'X]Y'FYXi n]Yfi b['j cb'9a]gg]cbYb']a A]hhY`di b_h'XYf'dc`]h]qW\Yb'5[YbXU'ghY\Yb"

8]Y'9bhk]W_`i b['XYf'JYf_Y\fgfY[]cb HfUi bghY]b

 $= a \cdot @UbX_fY]g \cdot HfUi \cdot bghY]b \cdot [UV \cdot Yg \cdot]b \cdot XYb \cdot YhnhYb \cdot *JV fYb \cdot nUV \cdot Yf]WXY \\ = b]h]Uh]j \cdot Yb \cdot ni \cdot f \cdot JYfVYggYfi \cdot b[\cdot XYf \cdot JYf_YV fg]b ZfUghfi _hi \cdot f'' \cdot 8 Uni \\ [YV Ofh \cdot b]WX h \cdot bi \cdot f \cdot XYf \cdot 5i \cdot gVUi \cdot j \cdot cb \cdot GhUUhgghfU \cdot Yb z \cdot gc \cdot bXYfb \cdot Ui \cdot WX$

8]Y'5bk c\bYf']b'Hmf`UW\]b['i bX'i a `]Y[YbXYb'; Ya Y]bXYb'XØfZYb
[YgdUbbh'gY]bž'k Y`W\Y'k Y]hYfYb'A U» bU\a Yb']b'XYb'_ca a YbXYb
*\U\fYb'i a [YgYhnh'k YfXYb"'8]Y'?ccfX]bUh]cb'nk]gW\Yb'XYb
6Ui i bhYfbY\a Ybž'XYf'GhUXhj Yfk U`hi b['i bX'XYb'VYhfcZZYbYb
6Øf[Yfb']gh'YbhgW\Y]XYbX'ZØf'Y]bYb'fY]Vi b[g`cgYb'5V`Ui Z'XYf
Dfc'Y hY"

8 Y hU]`q

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