

A Uf_Yh]b[a UhYf]U`]Yb`j cb`7fmdhc`@YbXYf
J cmU[Yf`i bhYf` : 8 =7!GWUbbYf. `6Yf]VX h

?i bXYb`ghY`Yb`ZYghž`XUgg`]\fY`J cmU[Yf!9]b`U[Yb`b]VX h
X]fY_hj cb`XYf` : 8 =7`j Yfg]VX Yfh`g]bX`8Yf`? fmdhc!`?fYX]h[YVYf
gU[hYž`?i bXYb`_`ÒbbhYb`Ui Z; Y`XYf`ni [fY]ZYbž` bUW`XYa`Y]b
5Vgh]a a i b[g!`i bX`6Yhfi [gdfAj Ybh]cbgd fcnYgg
UV[YgW`cggYb`]gh`J cmU[Yfž`XYf
? fmdhc k Å\fi b[g_fYX]h[YVYfž`XYf`X]YgY`K cW`Y`?cb_i fg
Ub[Ya Y`XYh`\Uhž`ghY`h`]a`F Ua dYb`]VX h`ZØf`X]Y`5fhi bX
K Y]gYž`k]Y`Yf`gY]bY`9]b`U[Yb`cbhYb`Ub`6Ybi hnYf
j Yfa Uf_hYh`\Uh`8Yf`? fmdhc!`?fYX]h[YVYf`\UhY`ÒZYb`h`]VX
[YgU[hž`XUgg`8c`UfY]b`U[Yb`Ui Z[fi bX`Y]bYf`DUf`hbYfgW`UZh
a]h`XYf`A Yhfc`dc`]hUb`7ca a YfW]U`6Ub`_j cb`XYf` : YXYfU`
8Ydcg]h`bgi fUbW`7cfdcfUh]cb`j Yfg]VX Yfh`g]bX`8Ug
K U`ghfY`Yh`xi fbU`VYf]VX hYhY`Ua`8cbbYfghU[ž`XUgg`Y]b
8YnYa VYf`&\$%-`5i ggU[Y`5i ZXYf`K YVg]hY`j cb`J cmU[Yf
k]fX`VY`Ui dhYhž`?i bXYb`k ØfXYb`Y]bY`j c`gh`ÅbX][Y
F ØW_YfghUhi b[`Yf`U`hYbž`/ Ua d^Y`]d/

- ?i bXYb`ghY`Yb`ZYghž`XUgg`]\fY`J cmU[Yf!9]b`U[Yb`b]Wk h X]fY`_hj cb`XYf` : 8 ⇒ `j Yfg]Wk Yfh`g]bX
- 8Yf`? fmdhc!`?fYX]h[YVYf`gU[hYž`?i bXYb`_ÖbbhYb`Ui Z ; Y`XYf`ni [fY]ZYbž` bUWkXYa`Y]b`5Vgh]a a i b[g!`i bX 6Yhfi [gdfÄj Ybh]cbgdfcnYgg`UV[YgWk`cggYb`]gh

J cmU[Yfž`XYf`? fmdhck Ä\fi b[g_fYX]h[YVYfž`XYf`X]YgY`K cWk Y ?cb`_i fg`Ub[Ya Y`XYh`\Uhž`ghY`\h]a`F Ua`dYb`]Wk hZØf`X]Y`5fh`i bX K Y]gYž`k]Y`Yf`gY]bY`9]b`U[Yb`_cbhYb`Ub`6Ybi hnYf`j Yfa`Uf`_hYh`\Uh`

8Yf`? fmdhc!`?fYX]h[YVYf`\UhY`ÖZYbh`]Wk` [YgU[hž`XUgg 8c`UfY]b`U[Yb`Ui Z[fi bX`Y]bYf`DUfhhYfgWk UZh`a`]h`XYf`A Yhfcd`c`]hUb 7ca`a`YfW]U`6Ub`_j cb`XYf` : YXYfU`8Ydcg]h`ϕgi`fUbW`7cfdcfUh]cb j`Yfg]Wk Yfh`g]bX`

8Ug`K U`ghfYYh`xci`fbU`VYf]Wk hYh`Ua`8cbbYfghU[ž`XUgg`Y]b 8YnYa`VYf`&\$%-`5i`ggU[Y`5i`ZXYf`K`YVg]hY`j`cb`J cmU[Yf`k`]fX VY`\Ui`dhYhž`?i`bXYb`k`ØfXYb`Y]bY`j`c`ghÄbX][Y`F`ØW`YfghUhh`i`b[Yf`\U`hYbž`]b`XYa`gY`hYbYb` : U`ž`XUgg`⇒fY`I`G8! ; Y`XYf`Ui`Z[fi`bX XYg`J`YfgU[Ybg`XYg`I`bhYfbY`\a`Ybg`cXYf`i`bgYfYg`6Ub`_dUfhhYfg [YZÄ`fXYh`g]bX` "

5VYf`X]Y` [`Y]Wk Y`5i`ggU[Y`k`i`fXY`Y`hnh`j`YfÄbXYfh`J`Yfk`Y]gY`Ui`Z XYb`6Ub`_dUfhhYf`cXYf`g]Wk`gY`Vgh`ni`YbhZYfbYbž`]bXYa`G]Y`Y`hnh Y]bZUW`gU[Yb.`ϕ`XYa`gY`hYbYb` : U`ž`XUgg`⇒fY`I`G8! ; Y`XYf` _ca`dfca`]hh]Yfh`k`YfXYbž`k`]fX`⇒bYb`Y]bY`j`c`ghÄbX][Y` F`ØW`YfghUhh`i`b[`fM]g`ni`&)`\$"\$\$\$`I`G8`Ł`[`UfUbh]Yfh`

6Ya`Yf`_Ybgk`Yfh`]ghž`XUgg`X]Y`J cmU[Yf!FY[Y`bi`f`ZØf`X]Y 8c`UfY]b`U[Yb`XYf`?i`bXYb` []`h` `b]Wk hZØf`? fmdhcUb`U[Yb`"8]Y ?i`bXYb`XYg`?fYX]h[YVYfg`\UVYb` : fi`gh`[YÄi`»`Yfh`b]Wk h]b`XYf @U[Y`ni`gY]bž`Ui`Z]\fY` ; Y`XYf`ni`ni` [fY]ZYbž`i`bX`g]bX`VYgc`bXYfg

VYgcf[hž'bUWXYa 'g]Y'Y]b'Yf\YV']WYg'9b[U[Ya Ybh]b'XYa
i a _Àa dZhYb'? fmdhc!<YX[YZcbXg'H\ fYY'5ffck g'7Ud]hU'
Ui Z[YXYW_h'\UVYb"

JcmU[Yf'[Y\Òfhini 'Y]b][Yb'i bhYfbY\ a Ybž'X]Y'j cb'g]b_YbXYb
? fmdhck À\fi b[gdfY]gYb'i bX'Y]bYf'@]ei]X]hÀhg_f]gY'Ui ZXYa 'A Uf_h
[YhfcZYb'k i fXYb"'BUW'XYa '9]bZf]YfYb'j cb'5V\YVi b[Yb'i bX
XYa '<UbXY''Ui ZgY]bYf'D'UhhZcfa 'a Y'XYhY'XUg'i bhYfbY\ a Yb
=bgc'j Ybn'Ub'i bX'gU[hYž'X]Y'?i bXYb'k ØfXYb']\fY'; Y'XYf'bUW'XYf
l a ghfi _hi f]Yfi b['Yf\U'hYb"'9g'\Uh[YgU[hž'XUgg'Yg'a Y\ f'U'g') \$
A]''cbYb'8c''Uf'']b'VUf'VY]'XYf'A Yhfcdc`]hUb'7ca a YfW]U''6Ub_
\À'h"

=gY]bYa '5i ggU[Y'5a '*"'ž']gU[hY'J cmU[Yfž'XUgg'?i bXYb'a]h
8c''UfY]b'U[Yb'Ni [Ub['ni ']\fYb'; Y'XYfb'Yf\U'hYb'k ØfXYbž
bUW'XYa 'Y]b' 5Vgh]a a i b[g! 'i bX'6Yhfi [gdfÀj Ybh]cbgd fcnYgg
a]h'XYf'A Yhfcdc`]hUb'7ca a YfW]U''6Ub_'UV[YgW'cggYb'gY]"'5VYf
Yg'k i fXY'b]W'hZYgh[Y'Y[hž'k]Y''Ub[Y'XUg'XUi Yfb'k ØfXY"

9]b][Y'?i bXYb'\UVYb''Ui h'H\Y'æi fbU''[YfUXY'Yfgh
\YfUi g[YZ] bXYbž'XUgg']\fY'9]b'U[Yb'b]W'h'gc'j Yfg]W'Yfh'g]bXž'k]Y
g]Y'i fgdfØb['W'XUW'hYb"'9g'gW'Y]bhž'XUgg'X]Y'J cmU[Yf'Y]b
G]W'Yf\Y]hgbYhn'[UfUbh]Yfh'\Uh' 'cVk c\`Yg'Y][Ybh]W'_'Y]bYg'[]Vh
']bXYa 'g]Y'\Y]a 'W'j YfdUW_h'\Uhž'k]Y']\fY'9]b'U[Yb'j Yfg]W'Yfh
g]bX"

8]Y'j]bX]j]Xi Y''Yb'?i bXYb'_cbhYb'XYf':]fa U'_ca a Yb'ZØf'Y]bY
J Yfg]W'Yfi b['b]ZfU[Yž'YXcW'bi f']a ' : U''Y'Y]bYg'5i gZU''g'Xi fW
X]Y'A Yhfcdc`]hUb'7ca a YfW]U''6Ub_' "8]Y'BYk 'Mcf_Yf'6Ub_'
[Y'_Àfh'XUgg'X]YgY'K cW'Y' [YgU[h'k]fXž'XUgg'X]Y': 8=7!
J Yfg]W'Yfi b['bi f'j YfZØ[VUf'k ÀfYž'k Ybb'X]Y'6Ub_'gY'Vgh'gW'Y]hYfh
i bX'b]W'h'a ' : U''Y'XYg'GW'Y]hYfbg'XYf'J cmU[Yf"'9g'ZØ[hY'\]bni ž
XUgg'Yg'Y]b'?cbhc'ZØf'J cmU[Yf!?'i bXYb'i bhYf\À'hž'X]Y'bi f'i G!
8c''Uf'i bX'_Y]bY'? fmdhcUb'U[Yb'VYg]hnYb"

9-B 'B i hni b [gVYX]b [i b [YbXUg'j cb'6Ybi hnYfb'cZh'Y]W'h
ØVYfgY\Yb'k YfXYb'_Ubbž'Ui ZXYf'K YVg]hY'j cb'J cmU[Yf'nY][hž
XUgg'XYf': 8=7!GW'i hn'bi f' [fY]Zhž'k Ybb'X]Y'DUfhbYfVUb_'Ui gZÀ'h"

8]YgY`J Yfk YW`g`i b[`VYn0[`]W`X`Yg`GW`i hnYg`j cb` ; Y`XYfbž`X]Y
ØVYf`X]Y`A Yhfcdc`]hUb`7ca`a`YfW]U`6Ub`_]b`J`cmU[Yf`]bj`Ygh]Yfh
k`i`fXYbž`\Uh`6Yf]W`hYb`ni`Zc`[Y`X]Y`5i`Za`Yf_gUa`_Y]h`XYf` : 8 ⇒ `Ui`Z
g]W`[Ync[Ybž`i`bX`X]Y`5[Ybhi`f`i`bhYfgi`W`h`bi`b`XUg
A`Uf_Yh]b[`a`UhYf]U`XYg`?fYX]h[YVYfg"

J`cf`k`Yb][Yf`U`g`nk`Y]`A`cbUhYb`_ØbX][hY`X]Y` : 8 ⇒ `U`F`Y`[Y`XUg
J`YfVch`Y`XYf`b`UhØf`]W`Yb`c`XYf`f`gh]gW`Yb`DYfgcbž`X]Y
9]b`U[Ybg]W`Yfi`b[`XYf`5[Ybhi`f`Z`gW`]W`Yfk`Y]gY`ni`bi`hnYbž`XU
X]Yg`XUg`J`YfhfUi`Yb`]b`fYW`ha`À»][`j`Yfg]W`YfhY`6Ub`_Yb
i`bhYf[fUVYb`_ØbbhY`"8Ug`5a`h`ZØf`Z]bUbni]Y`Yb`J`YfVfUi`W`YfgW`i`hn
**Ub[YgdfcW`Yb`X]Y`5i`g[UVY`Ua`gY`VYb`HU[`i`bX`\cV`X]Y`F`]g]_Yb
\Yf`cfž`X]Y`J`YfVfUi`W`Yfb`j`cb`Ui`ZghfVYbXYb` :]bUbniUb`U[Yb`k`Y
?fmdhc`k`À`fi`b[Yb`Ui`g[YgYhnh`g]bX`"**

8`Ub]Y`6Yg]_c`Zž`Y]b`DUf`hbYf`XYf`5bk`U`hg`_Ubni`Y]`@c`YV`/`@c`YV`]b
B`Yk`M`cf`ž`gU[hYž`XYf`b`gc`j`YbnUbhfU[`j`cb`J`cmU[Yf`gY]Y]bY
bY[Uh]j`Y`9bhk`]W`_i`b[`ZØf`gY]bY`?`cbhc]b`UVYfž`j`cb`XYbYb`Y]b][Y
?fmdhc`Ub`U[Yb`]b`A`]`cbYb`\Ø`Y`Ui`Z]\`fYb`?`cbhYb`\]Y`hYb`"

J`cmU[Yf`8][`]hU`VY`\UbXY`h`X]YgY`?`cbhc]b`UVYf`]a`K`YgYbh`]W`Yb
U`g`i`b[Yg]W`YfhY` ; `Ài`V][Yf`i`bX`gW`À[hj`cfž`\fY` : cfXYfi`b[Yb
a`]h`Y]bYa`DU`_Yhj`cb`A`ØbnYbž`5_h]Yb`XYf`fYcf[Ub]g]YfhYb
J`cmU[Yf`i`bX`UbXYfYb`J`Yfa`Ø[Ybgk`YfhYb`ni`VYZf]YX][Yb`ž`ZØ[hY
Yf`\]bni`"8Yf`K`Yfh`X]YgYg`DU`_Yhg`]gh`i`bVY`_Ubbh`"

: 8 ⇒ `i`bX`J`cmU[Yf`Ubhk`cfhYhYb`b]W`h`gc`Zcfh`Ui`Z`X]Y`5b`ZfU[Y`j`cb
6`c`W`_k`cf`_g`b`UW`Y]bYa`?`ca`a`YbhUf"

<c`Yb`G]Y`g]W`Y`Y`XYb`5VYbX`X]Y`VYghYb`?`fmdhc`!
B`Yi`][`_Y]hYb`i`bX`9f`_Yb`b`hb]ggY`XYg`HU[Yg`]b`⇒`fYb
DcghY]b[Ub[""

8Yf`6Y]hfU[`7fmdhc`@YbXYf`J`cmU[Yf`g`A`Uf_Yh]b[`A`UhYf]U`g`i`bXYf
: 8 ⇒ `GWb`b`Yf.`F`Ydcfh]gh`_Y]bY`Z]bUbni]Y`Y`6YfUhi`b["

6Ygi W\Yb`G]Y`i bg`Ui Z.`_fmdhc!bYk g"Uh