

@UbXYgfY[]Yfi b['Yfk Y]hYfh
HYgha Ò[`]W\ _Y]hYb

8Yf'9]bgUhn'j cb'GW\ bY`hYghg']gh'Y]bY'XYf'k]W\ h][ghYb
A U» bU\ a Yb'ni f'6Y_Àa dZi b['j cb'DUbXYa]Yb'"8]Y
ÿbXYfi b['XYf'7cfc bU!J YfcfXbi b['ghY`h'_Ufž'k Y`W\ Y
DYfgcbYb'i bX'? ÒfdYfgW\ UZhYb'XUg'9f[YVb]g'j cb
GW\ bY`hYghg'ZØf'XUg'7cfcfbUj]fi g'j cb'bi b'Ub'cZZ[n]Y`
VYgW\ Y]b][Yb'_ÒbbYb"BYVYb'XYb'5<5!FY[Y`b'i bX
?cbhU_hVYgW\ fÀb_i b[Yb'gck]Y'XYf'æ dZ_Ua dU[bY']gh'XYf
9]bgUhn'j cb'GW\ bY`hYghg'Y]bY'k YgYbh]W\ Y'A U» bU\ a Y'ni f
6Y_Àa dZi b['j cb'DUbXYa]Yb'"æ'Y]b][Yb'6YfY]W\ Yb']gh'XYf
BUW\ k Y]g'Y]bYg'bY[Uh]j Yb'GW\ bY`hYghYf[YVb]ggYg'VYfY]hg
J c fUi ggYhni b['ZØf'XYb'Ni [Ub['ni 'Y]bYf'9]bf]W\ hi b['fh'"6"
ncc'c[]gW\ Y'i bX'VchUb]gW\ Y'; ÀfhYbŁ'cXYf'ZØf'X]Y
æUbgd fi W\ bU\ a Y'Y]bYg'8]YbghYg'fh'"6'"6Ygi W\ 'VY]a
: f]gYi fŁ'"æ'6UXYb!K ØfhYa VYf['[]'h'igY]h'XYa '%-'5df]ž
XUgg'DYfgcbYbž'X]Y / Ua d^Y`]d/

8Yf'9]bgUhn'j cb'GW\ bY`hYghg']gh'Y]bY'XYf'k]W\ h][ghYb
A U» bU\ a Yb'ni f'6Y_Àa dZi b['j cb'DUbXYa]Yb'"8]Y
ÿbXYfi b['XYf'7cfc bU!J YfcfXbi b['ghY`h'_Ufž'k Y`W\ Y
DYfgcbYb'i bX'? ÒfdYfgW\ UZhYb'XUg'9f[YVb]g'j cb
GW\ bY`hYghg'ZØf'XUg'7cfcfbUj]fi g'j cb'bi b'Ub'cZZ[n]Y`
VYgW\ Y]b][Yb'_ÒbbYb"

BYVYb'XYb'5<5!FY[Y`b'i bX'?cbhU_hVYgW\ fÀb_i b[Yb'gck]Y'XYf
æ dZ_Ua dU[bY']gh'XYf'9]bgUhn'j cb'GW\ bY`hYghg'Y]bY'k YgYbh]W\ Y
A U» bU\ a Y'ni f'6Y_Àa dZi b['j cb'DUbXYa]Yb'"æ'Y]b][Yb
6YfY]W\ Yb']gh'XYf'BUW\ k Y]g'Y]bYg'bY[Uh]j Yb
GW\ bY`hYghYf[YVb]ggYg'VYfY]hg'J c fUi ggYhni b['ZØf'XYb'Ni [Ub['ni
Y]bYf'9]bf]W\ hi b['fh'"6'"ncc'c[]gW\ Y'i bX'VchUb]gW\ Y'; ÀfhYbŁ'cXYf
ZØf'X]Y'æUbgd fi W\ bU\ a Y'Y]bYg'8]YbghYg'fh'"6'"6Ygi W\ 'VY]a

: f]gYi fl" ð'6UXYb!K ØfhYa VYf[[]`h'gY]h'XYa %- "'5df)ž'XUgg
DYfgcbYbž'X]Y'XcddY'h[Y]a dZi'k i fXYb'cXYf'g]W'j cb'Y]bYf
?cfc bU]bZY_h]cb'Yf\c'h\UVYbž'X]Y'b]W'h'Àb[Yf'U'g'gYW'g'A cbUhY
ni fØW_]Y[hž'k Y]h[Y\YbX'a]h'DYfgcbYb' [`Y]W[YgYhnh'k YfXYbž'X]Y
bY[Uh]j [YhYghY'h'k i fXYb"'8]Y'J Yfk YbXi b['j cb'GW'by'hYghg]gh
Ui W'ZØf'k Y]hYfY'² ZZbi b[ggW'f]hh'k YgYbh]W/G]Y'V]`XYb'Y]bY
k]W'h[Y'GÀi `Y']bbYf\U'V'XYf'HYghghfUhY[]Y'XYg'@UbXYg"

A]h'XYa 'K YW'gY`]b'7cfc bU!FY[Y'i b['9g'k]fX'_`Uf[YghY`hž
k Y'W'Y'DYfgcbYb'i bX'? ØfdYfgW'UZhYb'XUg'9f[YVb]g'j cb
GW'by'hYghg'ZØf'XUg'7cfc bUj]fi g'j cb'bi b'Ub'cZZ]n]Y`nYfh]Z]n]YfYb
_ØbbYb"

9g'k i fXY'VYfØW_g]W'h[hž'XUgg']bgVYgcbXYfY']b`ÀbX']W'Yb
FY[]cbYb'XYf'Ni [Ub['ni 'HYghg']a 'F U\ a Yb'XYf'HYghg'ZØf'ZfY]Y
6Øf[Yf'bcW'gW'k]Yf[Yf']gh"'8U\Yf'ghY`Yb'_ØbZh]['8]Ybgh'Y]ghYf
k]Y'6"'<U]fXfYggYfgž'ZØf'XYfYb'J Yfk YbXi b[`Y]b'hÀ[`]W'Yf
GW'by'hYgh'YfZc'fXYf']W'j]ghž'cZZ]n]Y`Y'6Yk Y]gY'Ui g' ž'_ØbX][hY'XYf
; Ygi bX\Y]hga]b]ghYf'Ub' A Ub b Y '@i W U'Ua 'A cbhU[ž' "'A U]ž]b
Ghi hh[Ufh"

5i gghY`i b['cZZ]n]Y`Yf'HYghnYfh]Z]_UhY']b'j]Yf
?cbghY`Uh]cbYb

Ni 'z'(U'7cfc bU!J Yf c f X bi b['8]Y'5i gghY`i b['cZZ]n]Y`Yf
HYghnYfh]Z]_UhY']gh'UV'X]YgYa 'A cbhU[]b'j]Yf'?cbghY`Uh]cbYb
a Ø[`]W'.

- BUW'k]Y'j cf'XØfZYb'cZZ]n]Y`Y'HYghnYbhfYb'i bX
HYghnYbhfYb'fY]bgW'`Y» `]W'5dch\Y_Yb'cXYf'5fnhdfUI YbŁ
GW'by'hYghg'ZØf'XUg'7cfc bUj]fi g'Xi fW'ZØ\fyb'i bX
nYfh]Z]n]YfYb"'8Uni '[Y\ØfYb']bgVYgcbXYfY'X]Y
6Øf[YfhYghgž'bUW'XYbYb'YXYf'6Øf[Yf'a]bXYghYbg'Y]ba U'
dfc'K cW'Y'_cghYb'cg[YhYghY'h'k YfXYb'_Ubb"
- Jcf'_i fnYa 'a i gghYb'5fVY]h[YVYf']\fYb'A]hUfVY]hYfb
Yfa Ø[`]W'Ybž'\fY'A]hUfVY]hYf'V]g'ni 'nk Y]a U'dfc'K cW'Y
Ui Z'XUg'7cfc bUj]fi g'hYghYb'ni `UggYb"'I bhYf'VYgh]a a hYb
6YX]b[i b[Yb'_ØbbYb'Yhnh'Ui W'HYghg']a 'F U\ a Yb'X]YgYf

: i b_h]cbgdfØZi b['nYfh]Z]n]Yfh'k YfXYb"'8 Ug'NYfh]Z]_Uh'_Ubb
XUbb'U'g'UbYf'_UbbhYf'6Yk Y]g'ZØf'Y]b'bY[Uh]j Yg
HYghYf[YVb]g'ZØf'XUg'7cfc bUj]fi g'j Yfk YbXYh'k YfXYb"
A]hUfVY]hYf'a ØggYb'b]W h'ink Y]a U''hÅ[']W h' [YhYghYh
k YfXYbž'k Ybb'g]Y'VY]gd]Y'gk Y]gY'bUW X'Yf'5fVY]h'Y]bYb
8]Ybgh'bi hnYb'a ØW hYbž'ZØf'XYb'Y]b'HYghnYfh]Z]_Uh
YfZcfXYf'W 'jgh"

- 8]Ybgh'Y]ghYfž'X]Y'Y]bYb'bY[Uh]j Yb'GW bY''hYgh'VYbØh][Ybž
i a 'XYb'Ub[YVchYbYb'8]Ybgh'bi hnYb'ni 'ØbbYbž'_ØbbYb
i bhYf'VYgh]a a hYb'6YX]b[i b[Yb'j cf'C fh'Y]bYb'GW bY''hYgh
Xi fW ZØ\ fYb'i bX'ZØf']\ fY'? i bXYb'cXYf'DUh]YbhYb'Y]b
9f[YVb]gnYfh]Z]_Uh'Ui gghY''Yb"'8]YgYg'NYfh]Z]_Uh]gh'XUbb
Y]bYfgY]hg'Y]b'6Yk Y]g'ZØf'X]Y' [Yk ØbgW hY '@Y]ghi b[/
5bXYfYfgY]hg'_Ubb'Yg'Ui W '&('Ghi bXYb'Ub['ZØf'UbXYfY
9]bf]W hi b[Yb'cXYf'8]Ybgh'j Yfk YbXYh'k YfXYbž'X]Y
[YhYghYh'k YfXYb'a ØggYb"
- GW i 'Yb'i bX'?]bXYfhU[YgghÅhYb'\ UVYb'bi b'Ui W'X]Y
A Ø['W _Y]hž'i bhYf'VYgh]a a hYb'6YX]b[i b[Yb'HYghg'gc
Xi fW ni ZØ\ fYbž'XUgg'Y]bY'UbYf'_UbbhY'6YgW Y]b][i b[
ØVYf'XUg'9f[YVb]g'Ui g[YghY''h'k YfXYb'_Ubb"

5i » Yf\U'V'X]YgYf'? cbghY''Uh]cbYb'_ØbbYb'HYghYf[YVb]ggY'b]W h
nYfh]Z]n]Yfh'k YfXYb"'a 'F U\ a Yb'XYf': i b_h]cbgdfØZi b[ž'n"6"ZØf
: Ua]']YbUb[Y\Øf][Y'j cb'5fVY]hbY\ a Yfb'_Y]bY'NYfh]Z]_UhY
Ui g[YghY''h'k YfXYb"

5b[YVch'j cb'GY'VghhYghg'i bX'NYfh]Z]n]Yfi b[XYg'9f[YVb]ggYg

GW i 'Yb'i bX'?]bXYfhU[YgghÅhYbž'5fVY]h[YVYf'i bX'8]Ybgh'Y]ghYf
_ØbbYb'bYVYb'dfcZYgg]cbY''Yb'GW bY''hYghgž'X]Y'Y]bY
Ub[Ya YggYbY'9][bi b['i bX'5i gV]'Xi b['YfZcfXYfbž'Ui W
GY'VghhYghg'ZØf'@U]Yb'UbV]YhYb'i bX'Y]bY'6YgW Y]b][i b['ØVYf'XUg
9f[YVb]g'Ui gghY''Yb"'8]Y'5bk YbXi b['a i gg'j cb'Y]bYf
[YY][bYhYb'DYfgcb'ØVYfk UW h'k YfXYb"'8]Y'?f]hYf]Yb'ZØf'X]Y
9][bi b['XYf'DYfgcb'k YfXYb'j ca 'A]b]ghYf]i a 'ZØf'gcn]U'Y
5b[Y'Y[Yb\Y]hYb'i bX' b hY[fUh]cb'ZYgh[Y'Y[h'8]YgY'DYfgcbYb
a ØggYb'XU\Yf'ni j Yf'Ågg]['i bX'j]b'XYf'@U[Y'gY]bž'X]Y

5bk Y]gi b[Yb'ni f'J Yfk YbXi b['XYg'j Yfk YbXYhYb'HYghg'ni 'YgYb
i bX'ni 'j YfghY\YbžXYb'HYgh'ni 'ØVYfk UWX Yb'i bX'X]Y '[Y'hYbXYb
6Ygh]a a i b[Yb'Y]bni \U'hYb'5<5!FY[Y'bž'i a 'XUg'HYghYf[YVb]g
f]WX h]['ni 'YgYb'i bX'XUg'NYfh]Z]_Uh_cffY_h'Ui gni ghY''Ybž'i bhYf
5b[UVY'U''Yf'YfZc'fXYf']WX Yb' bZcfa Uh]cbYb'i bX']b
, VYfY]bgh]a a i b['a]hXYa '8UhYbgWX i hn"

6Y]gd]Y'gk Y]gY]gh'Yg'Yhnh'a Ò[']WX ž'Y]bYb'ØVYfk UWX hYb'GY'VghhYgh
X]fY_h]j cf'C fh'Xi fWX ni ZØ\ fYbž'k Ybb'G]Y'XYb': f]gYi f'VYgi WX Ybž
XYf'[YgYhn']WX 'U'g'GWX bY''hYgh'VYk YfhY'h'k]fX''K Ybb'XUg'9f[YVb]g
dcg]hj] ']ghž'VYghY\h'Y]bY'J YfdZ]WX hi b['ni f'HfYbbi b["'9g'k]fX
Ui » YfXYa 'Xf]b[YbX'Ya dZc\`Ybž'Y]bYb'dcg]hj] Yb'GWX bY''hYgh'a]h
Y]bYa 'D7F!HYgh'ØVYfd'ØZYb'ni 'UggYb''9g']gh'YXcWX 'b]WX h
a Ò[']WX ž'XYb': f]gYi f'bi f'ni 'VYgi WX Ybž'i a 'Y]bYb'HYgh
Xi fWX ZØ\ fYb'ni 'UggYb''8Yf'8]Ybgh'a i gg['Y]WX nY]h]['[Ybi hnh
k YfXYb"

? cghYb

8]Y'?cghYb'k YfXYb'YXcWX 'b]WX hij cb'6i bX'cXYf'@AbXYfb
[YhfU[Yb''8]Y'8]Ybgh'Y]ghYf'YbhgWX Y]XYb'gY'Vghž'cV'g]Y'X]Y'?cghYb
gY'Vgh'hfU[Yb'cXYf'cV'g]Y'j ca '?i bXYb'ni 'hfU[Yb'g]bX''9g'VYghY\h
Ui WX '_Y]bY'J YfdZ]WX hi b[ž'HYghg'j cf'C fh'Ubni V]YhYb"

9g'VYghY\h'Ui WX '_Y]bY'J YfdZ]WX hi b['ZØf'5fVY]h[YVYfž'GWX i 'Yb
cXYf'?]bXYfhU[Yggh'ÀhhYbž'nYfh]Z]n]YfVUFY'HYghg'Ubni V]YhYb''K Ybb
bi f'GY'VghhYghg'Ub[YVchYb'k YfXYbž'X]Y'b]WX hij cb'Y]bYf
[YY][bYhYb'DYfgcb'ØVYfk UWX h'k YfXYbž'_ÖbbYb'X]YgY'b]WX h
nYfh]Z]n]Yfh'k YfXYb''K Ybb'XUg'HYghYf[YVb]g'dcg]hj] ']ghž'VYghY\h
X]Y'J YfdZ]WX hi b[ž'gcZc'fh'Y]bYb'D7F!HYgh'Xi fWX ni ZØ\ fYb'/9g'k]fX
Xf]b[YbX'Ya dZc\`Ybž'V]g'XU\]b'ZFY]k]''[']b'g'c'Uh]cb'ni '[Y\Yb
i bX'?cbhU_h'ni 'j Yfa Y]XYb"

8]Y'GWX bY''hYghg'k YfXYb'j Yfk YbXYh'ZØf.

- 7`]W_`UbX'A YYh]a '9]bnY'\ UbXY'fHn]XYbn%\$ \$'V]g'%) \$Ł
- 6Ygi WX 'j cb'ncc'c []gWX Yb'i bX'VchUb]gWX Yb'; ĀfhYb
- Bi hni b['j cb': f]gYi f!'cXYf': i » dZY[YX]YbghYb

- 5i gV]`XYf`ja `FU\`a Yb`XYf`GdcfhØVi b[`g]bX`[Ya Å» `XYf FY[Y`i b[`XYf`BchVfYa gY`ni [Y`UggYb
- HYghg`]b`GW`i`Yb
- HYghg`]b`I`bhYfbY\`a Yb`XYf`:`Y]gW`]bXi`ghf]Y`cXYf`]b`XYf GU]gcbUfVY]h]b`XYf`@UbXk`]fhgW`UZh k`]Y
- 9f`Y]W`hYfi b[`XYf`HYghj`YfdZ]W`hi b[Yb`XYg`DYfgcbU`g`XYf DZY[YY]bf]W`hi b[Yb"

5`Y`ϕZcfa Uh]cbYb`XUni`gck`]Y`XUg`YbhgdFYW`YbXY
 \Yfi bhYf`UXVUFY`:`cfa`i`Uf`Z]bXYb`G]Y`Ui`Z`XYf` , VYfg]W`hggY]hY
 XYg`Gcn]U`a`]b]ghYf]i`a`g`ni`a`H\Ya`U`HYghYb"

8]Y`5i`g[UVY`Y]bYg`bY[Uh]j`Yb`HYghYf[YVb]ggYg`c`bY`X]Y
 YbhgdFYW`YbXYb`5bZcfXYfi b[Yb`]gh`Y]bY`CfXbi b[gk`]Xf][`_Y]h`cXYf
 Y]bY`;`Y`XghfUZY"

: fU[Yb`i`bX`5bhk`cfhYb`ni`GY`VghhYghg`i`bX`GW`bY`hYghg

ϕZcfa Uh]cbYb`XYg`Gcn]U`a`]b]ghYf]i`a`g`ni`HYghg`i`bX
 BUW`k`Y]gYb`]a`5fVY]hgi`a`ZY`X`gck`]Y`ni`8]Ybgh`Y]ghYfbž
 ZØf`XYfYb`J`Yfk`YbXi`b[`Y]b`hÅ[`]W`Yf`bY[Uh]j`Yf
 7CJ`=8!%-`!GW`bY`hYgh[Ya Å»`z`(`5Vg`"%`7cfc`bU!
 J`YfcfXbi b[`Y]b[YfY]W`h`k`YfXYb`a`i`gg`fD8: Ł

: U`hV`Uhh`A`Y]b`GW`bY`hYgh`]gh`d`c`g]h]j` `k`Ug`a`i`gg`]W`
 ^Yhnh`hi`b3`fD8: Ł

: cfa`i`Uf.`6YgW`Y]b][`i`b[`ØVYf`XUg`J`cf`\UbXYb`gY]b`Y]bYg
 bY[Uh]j`Yb`cXYf`d`c`g]h]j`Yb`GW`bY`hYghg`ZØf`G5FG!7cJ!&
 fD8: Ł

K`Y]hYfY`ϕZcfa Uh]cbYb`ni`a`7cfc`bUj`]fi`g`]b`6UXYb!
 K`ØfhhYa`VYf[

A`]hi`bgYfYf`?`i`f]YfX]Ybgh`G]Y`Yf\U`hYb`]a`a`Yf`U`Y`Y`bXYfi b[Yb
 i`bX`k`]W`h][`Yb`ϕZcfa Uh]cbYbž`X]Y`U`_hi`Y`g]bXž`U`g`Di`g\!BUW`f]W`h
 Ui`Z`≠fYa`A`cV]`hY`YZcb"

...

⇒gd]f]Yfhj cb'@UbXYgfY[]Yfi b['6K

8YhU]`g

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