

K Ug`]gh`D9D93`' =gh`XUg`X]Y`b`ÅW ghY` [fc» Y A Ya YWc]b 3

5`h8Yf`D9D9!A Ya YWc]b`gWY]bh`Y]bY`9fk Y]hYfi b[`XYg
nm_]gWYb`A Uf_hj Yf\U`hYbg`]b`XYf`? fmdhck Å\fi b[gVfUbWY
ni`gY]bž`k c`Yg`\]b`i bX`k]YXYf`Y]bYb`VfUbXbYi Yb`A Ya YWc]b
[]Vh`i bX`XYf`< mdY`i a`]\b`\Yfi a` j`c`ghÅbX][`ØVYf\UbX
b]a`a`h`'`k`Yb][`Yf`U`g`Y]b`dUuf`A`cbUHYbž`gY]h`Yg`XUg`@]W`h
XYf`K`Y`h`YfV`]W_hYž`[`Y`Ub[`Y`g`XYa`D9D9!A Ya YWc]bž`]b`X]Y
Hcd!%\$\$!Dfc`Y_hY`Y]bni`ghY][`Yb`i bX`Y]bY
A Uf_h_Ud]hU`]g]Yfi b[`j`cb`gUhhYb`(\$\$`A`j`)]cbYb`8c`Uf`ni
YffY]W`Yb`" `k`X]YgYa`@Y]hZUXYb`k`YfXYb`k`]f`i`bg`[`YbUi`Yf
UbgY\Ybž`k`Ug`X]Y`D9D9!A Ya YWc]b`]ghž`k`Yf`g]Y`YfghY`h`\Uh
i`bX`k`Ufi`a`" `K`]f`k`YfXYb`i`bg`Ui`W`];`YgW`]W`hYb`j`cb
A`YbgW`Yb`UbgY\Ybž`X]Y`ØVYf`BUW`h`ni`A`j`)]cb`ÅfYb`k`i`fXYb
i`bX`cV`g]Y`\fYb`FY]W`hi`a`[`Yb]Y»Yb`/`Ua`d`Λ`Y`]]d/



5`h8Yf`D9D9!A Ya YWc]b`gWY]bh`Y]bY`9fk Y]hYfi b[`XYg`nm_]gWYb
A Uf_hj Yf\U`hYbg`]b`XYf`? fmdhck Å\fi b[gVfUbWY`ni`gY]bž`k c`Yg
\]b`i bX`k]YXYf`Y]bYb`VfUbXbYi Yb`A Ya YWc]b`[]Vh`i bX`XYf`< mdY
i`a`]\b`\Yfi a` j`c`ghÅbX][`ØVYf\UbX`b]a`a`h`

⊕'k Yb][Yf'U`g`Y]b`dUUf`A cbUhYbž`gY]h`Yg`XUg`@]W h`XYf`K`Y`h
YfV`]W`hYž`[Y`Ub[`Yg`XYa`D9D9!A Ya YWc]bž]b`X]Y
Hcd!%\$\$!Dfc`Y`_hY`Y]bni`ghY][Yb`i bX`Y]bY`A Uf`_h`Ud]hU`]g]Yfi`b[`j`cb
gUhhYb`(\$`\$`A`j``cbYb`8c``Uf`ni`YffY]W`Yb"

⊕`X]YgYa`@]hZUXYb`k YfXYb`k]f`i bg`[YbUi`Yf`UbgY`Ybž`k Ug`X]Y
D9D9!A Ya YWc]b`]ghž`k Yf`g]Y`YfghY`h`Uhi`bX`k Ufi`a`"K`]f`k YfXYb
i`bg`Ui`W` ; YgW]W`hYb`j`cb`A YbgW`Yb`UbgY`Ybž`X]Y`ØVYf`B`UW`h`ni
A`j``cb`ÅfYb`k`i`fXYb`i`bX`c`V`g]Y`j`fYb`F`Y]W`hi`a`[Yb]Y»Yb`_`ÖbbYb
cXYf`b]W`h`"HUi`W`Yb`k`]f`Y]b"

K Ug`]gh`Y]b`A Ya YWc]b 3

A Ya Yg`g]bX`]a`⊕`hYfbYh`ZYghj`YfXfU`hYh`"G]Y`YI`]gh]YfYb`gY]h`XYb
5bZ`Åb[Yb`j`cb`K`YV%i`bX`k YfXYb`k U`fgW`Y]b`]W`V]g`k`Y]h]b`X]Y
Ni`_i`bZi`]bY]b`VYghY`Yb`V`Y]VYb"

9g`gc``hY`b]W`h`ØVYffUgW`Ybž`XUgg`g]Y`Ui`W`a`]h`XYf
?fmdhck`Å`fi`b[`g]bXi`ghf]Y`UbY]bUbXYf[YfUhYb`g]bX`"K`Å`fYbX`g]W`
X]Y`a`Y]ghYb`A`ØbnYb`Ui`ZY]bY`5fh`Bi`mYb`_`cbnYbhf]YfYbž
_`cbnYbhf]YfYb`g]W`A`Ya`YWc]bg`XUfUi`Zž`Xi`fW`X]Y`YI`d`c`g]j`Y`BUhi`f
j`cb`A`Ya`Yb`i`bX`k`]Y`gW`bY``g]Y`g]W`j`YfVfY]hYbž`j`]fU`ni`k`YfXYb"

6Y]gd]Y`Y`g]bX`8c[YWc]b`fBC;`9E`XYf`YfghY`A`Ya`YWc]bž`XYf
A`UggYbUi`Za`Yf`_gUa`_Y]h`YffY[hY`i`bX`gY]bYb`D`Uhn`i`bhYf`XYb`Hcd!
?fmdhck`Å`fi`b[Yb`gY]h`j`]Y`Yb`Å`fYb`ZYgh][h`5bXYfY`g]bX`G`]VU
⊕i`fG<`⊕Łž: `c_]`⊕i`fi`@C?`⊕i`bX`gc`k`Y]hYf"

Ni`[`i`hYf`@Yhnh`UVYb`k`]f`X]Y`D9D9!A Ya YWc]b`Y]bY
?fmdhck`Å`fi`b[ž`X]Y`YVYbZU`g`]b`]fYf`Dcdi`Uf]h`h`gc`YI`d`c`X]Yfh
]ghž`k`]Y`Yg`j`]Y`Y]W`h`bcW`_Y]bY`UbXYfY`A`Ya`YWc]b`ni`j`cf`[YhUb
`Uh"

? i fnY ; YgW]W`hY`XYf`D9D9`A Ya YWc]b

8Yf`D9D9!A Ya YWc]b`k`i`fXY`A`]hY`5df]`&\$&`Y]b[YZØ`fhž`k`cVY]

XYf'YfghY'9]bgh]Y[gdi b_hUi Z'9h\YfgWU b'XYf'%,"'5df]'k Uf"

K Yb][Yf'U'g'XfY]'K cWXYb'gdAhYf'\UhhY'X]Y'? fmdhcK A\fi b['Y]bY
A Uf_h_Ud]hU]g]Yfi b['j cb'ØVYf'(&\$'A ']'cbYb'i G!8c''Uf'i bX'k U[hY
g]W\]b'X]Y '@]ghY'XYf'Hcd!%\$!A ØbnYb'bUW
; YgUa ha Uf_h_Ud]hU]g]Yfi b["

Ni a 'NY]hdi b_h'XYf'9fghY''i b['X]YgYg'5fh]_Y'g'k]fX'D9D9'Ub
[fc»Yb'6ØfgYb'k]Y'<i cV]ž'A 9L 7ž'C?L'i bX'UbXYfYb'[Y\UbXY'h"
5V[YgY\Yb'XUj cb']gh'Yg'Ui W\Ub'a Y\fyfYb'XYnYbhfU'Yb'6ØfgYb
k]Y'n'i b]gk Ud"

K Ug']gh'D9D9'A Ya YWł]b 3

8 YZ]b]h]cb'i bX'<]bhYf[fi bX

@Ui h'XYf'cZ]n]Y''Yb'K YVg]hY'gc''X]Y'D9D9!A Ya YWł]b' X]Y
XYb_k ØfX][ghY'A Ya YWł]b'gY]bž'X]Y'Yg'[]Vh "'8]Y'GY]hY'Yb'h\À'h
a Y\fyfY'J Yfk Y]gY'Ui Z'UbXYfY'VY']YVhY'Hc_Yb'k]Y'G\]VU'ž i
fG< 6Łž:'c_]i'ž i'fi @C? 4ž'8c[YWł]b'fBC; 9Ł'i bX'gc'k Y]hYf"

D9D9'\Uhj cb'BUhi f'Ui g'_Y]bYb']bbYfYb'K Yfhi bX'X]Yg'k]fX'Ui Z
XYf'K YVg]hY'XYi h]W\Ub[Y[YVYb.

D9D9']gh'Y]b'A Ya 'Wł]b'c\ bY']bbYfYb'K Yfh'cXYf'9fk Ufhi b['Y]bYf
Z]bUbn]Y''Yb'F YbX]hY"'9g'[]Vh'_Y]b'Zcfa Y''Yg'HYUa 'cXYf'Y]bY
FcUXa Ud"8Yf'Wł]b']ghj Ò''['bi hm'cg'i bX'X]Ybh'bi f'ni
I bhYf\U'hi b[gnk YW_Yb"

9g']gh'Yfk A\bYb'gk Yfhž'XUgg'X]Yg']a '? fmdhcVYfY]W\]b]W\hg'BYi Yg
]gh"'ž'XYf'J Yf[Ub[Yb\Y]h'g]bX'a Y\fyfY'A Ya YWł]bg'Yb'ghU bXYbž
X]Y'_Y]bY'6Y\Ui dhi b[Yb'Ui ZghY''Yb'i bX'X]Y'6Ybi hnYf'[YfUXYni
U'Ufa]YfYbž'XUgg'g]Y'_Y]bYf'Y]'K Yfh'\UVYb"

J YfV]bXi b['ni 'DYdY'h\Y': fc['A Ya Y

K A\fybX'g]W\XUg'HYUa '\]bhYf'D9D9'Ui Z'XUg'VY']YVhY'A Ya Y
j Yf'Àgghž'i a'j]fU'ni 'k YfXYbž'Yf\YVh'Yg'_Y]bY'6Y\Ui dhi b[Yb

ØVYf'Y]bY'J YfV]bXi b['a]h'DYdY'h\Y': fc["

D9D9'Wc]b '\ Uh'_Y]bY'J YfV]bXi b['ni 'A Uhh': i f]Y
cXYf'gY]bYf'? fYUh]cb 'DYdY'h\

'K]_]dYX]U

Y': fcgWk "

æ ; Y[YbhY]' 'XUg'N]Y'XYg'Hc_Ybg']gh'Ygž' Y]bZUW'Y]bYa 'A Ya Y
ni '\i 'X][Ybž'XUg'k]f'U''Y''YVYb'i bX'_YbbYb "

5`g'Y]b'V]ggWYb'<]bhYf[fi bX'ni 'DYdY'h\Y': fc[' 'Yg']gh'Y]bY
NY]WYbhf]W_Z][i fž'X]Y'j ca '7Ufhccb]ghYb'A Uhh': i f]Y' [YgW UZZYb
k i fXY''DYdY'XYVØh]YfhY'&\$\$) ']b': i f]Yg'7ca]Wž b[Yb'7'i V''

Nk YW'_i bX'J]g]cb 'XYg'D9D9'A Ya YWc]b

8 Ug'HYUa 'gWYfnh'XUfØVYfž'_Y]bYf'Y]'D`ÀbY'ni '\UVYbž'\Uh'UVYf
Y]b][Y'9fk Ufhi b[Yb']b': cfa 'j cb'XfY]j YfgW]YXYbYb'FcUXa Ud!
D\UgYb'ZYgh[Y'Y[hž'X]Y'i bhYb'ni 'gY\Yb'g]bX.

'C ZZ]n]Y''Y'K YVg]hY

Hc_Ybca]_

8 Ug[YgUa hY'Hc_Yb!5b[YVchj cb'D9D9'VYhfÀ[h
(&\$"* - "\$\$\$\$ "\$\$\$ "\$\$\$ "\$\$\$ '5b'g]W']gh'X]Y'Bi a a Yf'Y]bY'<ca a U[Y'Ub
X]Y'VY']YVhYb'A Ya Y!Bi a a Yfb'(.&\$'i bX'* - "

- ' ž%i' 'XYg'5b[YVchg'k i fXYb'Ub'XYb'@]ei]X]hÀhgdcc`'[YgYbXYhž
X]Y'@!Hc_Yb'k i fXYb'j YfVfUbbh'i bX'XYf'J YfhfU['gY'Vgh'k i fXY
[Y_ØbX][h"

8]Y'fYgh]WYb'*ž- i'XYg'; YgUa hUb[YVchg'k YfXYb']b'Y]bYa 'A i'hj!
G][!K U''Yh[Y\U'hYb'i bX'gc''Yb'ZØf'ni '_ØbZh][Y'Bch]Yfi b[Yb'Ub
nYbhfU'g]YfhYb'6ØfgYbž'@]ei]X]hÀhgdcc`g'i bX'6f]X[Yg'j Yfk YbXYh
k YfXYb''8 Ug[Y\h'ni a]bXYgh'Ui g'XYf'cZZ]n]Y''Yb'K YVg]hY'\Yfj cf"

GjY`_ÖbbYb`X]YgY`6f]YZhUgWXY`Ui W`a]hXYa`9BG!BUa Yb
dYdYWfI k U`Yh"Yh\`j YfZc`[Yb"

D9D9`A Ya YWł]b!² _cgmghYa

8Ug`A Ya YWł]b!² _cgmghYa`j cb`D9D9`k ÅWłgh]j cb`HU[`ni`HU["
Ni a`NY]hdi b_h`X]YgYg`GWłfY]VYbg`Ua`%"`A U]ž`Yhk U`nk Y]`K cWłYb
bUWł`gY]bYf`YfghYb`9]bZØ\fi b[ž`Uh`XYf`Hc`_Yb`Ui h`9h\YfYgWłb
VYfY]hg`gUhhY`*) "\$\$\$`b\UVYf"

`9h\YfgWłb

GY]bY`cZZ]n]Y`Y`HY`Y[fUa`!; fi ddY`\Uh`ØVYf`&) "\$\$\$`A]h[`]YXYf`i bX
NY\b!ž`k Ybb`b]Włh`<i bXYfhUi gYbXY`j cb`BUWłf]WłhYb`dfc`HU["

GY]b`cZZ]n]Y`Yg`Hk]hhYfž`cVkc`Yg`Yfgh]a`5df]`YfghY`h`k i fXYž`Uh
VYfY]hg`a Y`f`U`g`%`' "\$\$\$`: c`ck Yf"

`Hk]hhYf

F]g]_Yb`i bX`< YfUi gZcfXYfi b[Yb

K]Y`VY]`XYb`a Y]ghYb`A Ya YWł]bgž`X]Y`XUni`bY][Ybž`j]fU`ni
k YfXYbž`V]f[h`Ui Wł`X]YgY`Y]b][Y`F]g]_Yb`i bX`< YfUi gZcfXYfi b[Yb"

A Uf_hj c`Uh]`]hÅh

D9D9`]gh`gY]h`gY]bYf`; fØbXi b[`Y]bY`XYf`j c`Uh]`ghYb
?fmdhck Å\fi b[Ybž`i bX`X]Y`DfY]ggWłk Ub`i b[Yb`g]bX`Ybcfa "

Ni a`6Y]gd]Y`\Uh`Yg`Ua`%"`A U]`gY]bYb`DfY]g`a Y`f`U`g`j YfXcddY`h
i bX`]gh`ZØf`XYb`HU[`i a`ØVYf`%\$\$`i`[Ygh]Y[Yb`8]Yg`a U[`nk Uf
VYgcbXYfg`UhhfU_hj]`_]b[Ybž`Yg]gh`YXcWł`Ui Wł`k]Włh][`ni
VYUWłhYbž`XUgg`Yg`Y]bY`F Y]\Y`j cb`F]g]_Yb`V]f[h"

9g[]Vh`Y]b`VY]YVhYg`Gdf]Włk cfh]b`?fmdhcž`XUg`gc`Ui hYh.

8Yf`DfY]g`Vf]b[h`X]Y`HfYddY`bUWł`cVYb`i bX`XYb`5i Zni [`bUWł

i bhYb"

8]Yg`XYi hYh`XUfUi Z`]\bž`XUgg`D9D9`nk Uf` bi f`ghY][Yb`gWXY]bhž
UVYf`[YbUi gc`gWbY`gY]bYb`[YgUa hYb`U_hi Y`Yb`K Yfhj Yf`YfYb
_ÖbbhY" 8Yb_Yb`G]Y`XUfUbž`XUgg`X]Y`GW ÖdZYf`gY`Vgh`[YgU[h
\UVYbž`XUgg`Yg`UVgc`i h`_Y]bYb`]bbYfYb`K Yfh`\Uhž`U`gc`]gh`Yg`ja
K YgYbh]WYb`bi f`gc`j]Y`k Yfhž`k]Y`Ya UbX`VYfY]h]ghž`XUZØf`ni
nU\`Yb"i bX`cVkc`c`\`X]Yg`ZØf`j]Y`Y`8]b[Y`[]`hi bX`XUg
K Yfh`cbnYdh`gY`Vgh`Y]b`gcn]U`Yg`?cbghfi`_h]ghž`k YfXYb`X]Y`F]g]_Yb
VY]`Zf]gW`[YdfÄ[hYb`A Ya YWc]bgž`X]Y`Ui g`XYa`B]W`hg`_Ua Ybž
VYgcbXYfg`j YfghÄf`_h"

8 UfØVYf`\]bUi g`[]Vh`Yg`Ub`j]Y`Yb`nYbhfU`]g]YfhYb`6ÖfgYb`k Y]hYfY
DfcV`Ya Yž`X]Y`a]h`XYa`A Ub[Y`Ub`bchk YbX][Yf`@ei]X]hÄ`hni f
5i gnU\`i b[`XYf`; Yk]bbY`j YfVi bXYb`g]bX" 8 Ug`VYXYi hYhž`XUgg
gY`Vgh`k Ybb`Ya UbX`XYb`HfUXY`gY]bYg`@YVYbg`UVgW`\Y» Yb`_Ubbž
Yf`a Ö[`]WYfk Y]gY`b]W`h`ØVYf`[YbØ[YbX`@ei]X]hÄ`hij YfZØ[hž`i a
gY]bY`Dcg]h]cb`ni`XYW`_Yb"

8]Yg`]gh`X]Y` ; YgW`]W`hY`Y]bYf`DYfgcbž`X]Y`Y]bY`ϕj Ygh]h]cb`j cb`&+
l G8`]b`D9D9`]b`gUhhY`%A]`]cb`l G8`j Yfk UbXY`hYž`UVYf`Ui Z[fi bX
j YfgW`]YXYbYf`@ei]X]hÄ`hgd`fcV`Ya Y`b]W`h`j c`ghÄ`bX][`Ui gnU\`Yb
_cbbhY"

K Ybb`D9D9`XYb`HYgh`XYf`NY]h`VYghY`\hi bX`Ub`nYbhfU`]g]YfhYfYb
6ÖfgYb`bch]Yfh`k]fXž`k c`X]Y`@ei]X]hÄ`h`hYbXYbn]Y`h]YZYf`]ghž
_ÖbbhYb`X]YgY`6YXYb`_Yb`bUhØf`]W`j YfV`UggYb"

G]WXYf\Y]hg`F]g]_cg

×`dcdi`ÄfYf`Y]bY`A Ya YWc]b`k]fXž`XYghc`a Y`f`gW`YW`hY
GWUi gd]Y`Yf`j Yfgi WYbž`XUfUi g`? Ud]hU`ni`gW`U[Yb`i bX
A YbgWYb`i a`i`\f`\Ufhj YfX]YbhYg; Y`X`ni`VYhfØ[Yb"

8]Yg`]gh`ni a`6Y]gd]Y`Y]bY`B UW`f]W`h`j cb`XYf`cZZ]n]Y`Yb`D9D9!
HY`Y[fUa`!; fi ddY.

9]b][Y`7ca`a`i`b]hm!A]h[`]YXYf`\UVYb`g]W`VYnØ[`]W`

8 i gh]b[#Hc_Yb!6Yhfi ['Ub'i bg[Yk UbXhž'XYf']b'i bgYfYa '8Yd`cmYf!
K U`Yh'gck]Y'XYa '79L!K U`Yh'ghUhhZ]bXYh" >XYf' _Ubb'Y]bY
HfUbgU_h]cb'ZÄ`gWXYb'i bX'X]YgY'Hc_Yb'Ub'i bgYfY'K U`Yhg'gYbXYb"
=W`k ØfXY'gU[Ybž'XUgg'YXYf'Y]bnY`bY'WŁ]b'X]Yg'ni 'hi b']gh'Y]b
6Yhfi ["J]Y'Y'6Yhfi [gYbhk]W`Yf'ghUi VYb'i bgYfY'6f]YZhUgWXYb'UVž
XUa]h'Yg'gc'Ui gg]Y\hž'U'g'k ØfXYb'k]f'a]h'\fYb'Hc_Yb'Ui g'XYf
@ Zh'ZU`Yb'cXYf'HfUbgU_h]cbYb'Xi fWŁZØ\fybž'i a '@Yi hY'XUni 'ni
Vf]b[Ybž'a]h'\bYb'ni ']bhYfU[]YfYb"?Ui ZYb'G]Y'_Y]bY'X]YgYf
Hc_Yb'i bX']bhYfU[]YfYb'G]Y'b]WŁh'a]h'XYb'JYfhfÄ[Ybž'XU'g]Y'XUg
F]g]_c'VYf[Ybž'Äfy'6f]YZhUgWXY'ni 'YYfYb"

æ '5`[Ya Y]bYb']gh'Yg'VY]'YXYf' ðbhYfU_h]cb'a]h'XYa '8Y:]!
² _cgmghYa 'i bVYX]b[h'YfZcfXYf']WŁž'g]WŁYfni ghY`Ybž'XUgg'G]Y
Y]b][Y' [fi bX'Y[YbXY'?fmdhc!G]WŁYf\Y]hgh]ddg'VYZc`[Ybž'XUa]h'G]Y
b]WŁh'VYhfc[Yb'k YfXYb"

K Y]hYfY' ðZcfa Uh]cbYb'ni 'XYb'cVYb'[YbUbbhYb'Di b_hYb'Z]bXYb
G]Y']b'i bgYfYa 'Ui gZØ\f']WŁYb '@Y]hZUXYb'\]Yf"

5 VgWŁ`i gg

Ni gUa a YbZUggYbX`Äggh'g]WŁ'gU[Ybž'XUgg'Yg'XYf'D9D9!A Ya YWŁ]b
nk Y]ZY`cg'[Y'i b[Yb']ghž'Ui ZXYa '?fmdhck Ä\fi b[ga Uf_h'ZØf
5i ZgY\Yb'ni 'gcf[Yb'i bX']bbYf\U`V'j cb'nk Y]K cWŁYb'bUWŁ']\fYf
9]bZØ\fi b['Y]bY'UXfYgg]YfVUfY'; YgUa h_Ud]hU`g]Yfi b['j cb'ØVYf
(\$ \$ 'A]`]cbYb'i G!8c`Uf'ni 'YffY]WŁYb"

J]Y'Y'n]Y\Yb'JYf[`Y]WŁY'nk]gWŁYb'D9D9'i bX'UbXYfYb'A Ya YWŁ]bg
k]Y'G< ðž'8C; 9ž: @C? =i bX'gc'k Y]hYfž'UVYf'bi f'X]Y'NY]h'k]fX
nY][Ybž'cV'X]YgYg'A Ya Y!]bgd]f]YfhY'Hc_Yb'\]Yf'V`Y]VYb'k]fX"

...

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