

9`GU`j UXcfg` 6]hWc]b`6cbXg !D`Ub`k]fX j cb` : cbXga UbU[Yfb`j cfg]W h][Ui Z[Ybca a Yb

5b`Y]\Y]bj YghcfYb`\UVYb`X]Y`D`AbY`9`GU`j UXcfgž`Y]bY`
A]`]UfXY`I`G!8c``Uf`Ui`Zni`bY`a`Ybž`i`a`Y]bY`j`cb`J`i`_`UbYb`
Ub[`Yhf]YVYbY`6]hWc]b!GhUXh`ni`Z]bUb]YfYbž`XØghYfYf`
A`Y]bi`b["`DfÅg]XYbh`B`Um]V`6i`_Y`Yž`XYf`6]hWc]b`]a`
GYdhYa`VYf`]b`XYa`nYbhfU`Ua`Yf]_Ub]gW`Yb`@UbX`ni`a`
[`YgYhn`]W`Yb`NU`i`b[`ga`]hhY`[`Ya`UW`h`\`UhhY`ž`gU[`hY`Ua`
GcbbhU[`ž`XUgg`X]Y`<`Å`ZhY`XYg`9f`ØgYg`ZØf`XYb`?`Ui`ZXYf`
?`fmdhck`Å`fi`b[`j`Yfk`YbXYh`k`YfXY`i`bX`XYf`F`Ygh`ZØf`
`bZfUghfi`_`hi`f`i`bX`6]hWc]b!A`]b]b[`j`Yfk`YbXYh`k`YfXY`"8]Y`
A`UbU[`Yf`j`cb`9a`Yf[`]b[`A`Uf`_Yhg!:`cbXg`nY][`hYb`k`Yb][`
`b`hYfYggY`Ua`?`Ui`ZXYf`bYi`Yb`5b`Y]\Ybž`X]Y`9`GU`j`UXcf`]a`
b`ÅW`ghYb`š`J`f`a`]hY]bYa``Å`f`]W`Yb`?`i`dcb`j`cb`*`ž`Dfc`nYbh`
VY[`YVYb`k`]``8]Yg`Y[`h`k`Y]h`i`bhYf`XYa`j`cf`\YffgW`YbXYb`
N]bggUhn`ZØf`X]Y`VYghY`\YbXYb`,`VYfgY`Y`Ub`Y]\Yb`XYg`
/`Ua`d`^`Y``]d/`

5b`Y]\Y]bj YghcfYb`\UVYb`X]Y`D`AbY`9`GU`j UXcfgž`Y]bY`A]`]UfXY`
I`G!8c``Uf`Ui`Zni`bY`a`Ybž`i`a`Y]bY`j`cb`J`i`_`UbYb`Ub[`Yhf]YVYbY`
6]hWc]b!GhUXh`ni`Z]bUb]YfYbž`XØghYfYf`A`Y]bi`b["`

DfÅg]XYbh`B`Um]V`6i`_Y`Yž`XYf`6]hWc]b`]a`GYdhYa`VYf`]b`XYa`
nYbhfU`Ua`Yf]_Ub]gW`Yb`@UbX`ni`a`[`YgYhn`]W`Yb`NU`i`b[`ga`]hhY`
[`Ya`UW`h`\`UhhY`ž`gU[`hY`Ua`GcbbhU[`ž`XUgg`X]Y`<`Å`ZhY`XYg`9f`ØgYg`
ZØf`XYb`?`Ui`ZXYf`?`fmdhck`Å`fi`b[`j`Yfk`YbXYh`k`YfXY`i`bX`XYf`F`Ygh`
ZØf`bZfUghfi`_`hi`f`i`bX`6]hWc]b!A`]b]b[`j`Yfk`YbXYh`k`YfXY`"

8]Y`A`UbU[`Yf`j`cb`9a`Yf[`]b[`A`Uf`_Yhg!:`cbXg`nY][`hYb`k`Yb][`
`b`hYfYggY`Ua`?`Ui`ZXYf`bYi`Yb`5b`Y]\Ybž`X]Y`9`GU`j`UXcf`]a`
b`ÅW`ghYb`š`J`f`a`]hY]bYa``Å`f`]W`Yb`?`i`dcb`j`cb`*`ž`Dfc`nYbh`

VY[YVYb'k]''8]Yg`Y[h'k Y]hi bhYf'XYa `j cf\YffgWXYb
N]bggUhn'Z0f'X]Y'VYghY\YbXYb', VYfgYYUb`Y]\Yb`XYg'@UbXYgž
XYfYb`F YbX]hYb`]b`X]YgYa `š\`f'[Ygh]Y[Yb`g]bXžXU`X]Y'5b`Y[Yf
[Y[Yb`X]Y'ni bY\`a YbX`i bcfh\`cXcl Y`F]W`hi b[`XYf
K]fhgW`UZhgd`c`h]_j cb`6i _Y`Y'ni f0W_gW`fYW_Yb"

K Ufi a `k 0fXYb`G]Y`]\bYb`Ui ZX]YgYf`<0\Y'; Y`X`Y]\Ybž`k Ybb`Yg
g]W`i a `Y]bYb`bchY]XYbXYb`?fYX]h`\UbXY`h3 `gU[hY`?Yj]b`8U`mž
: cbXga UbU[Yf`VY]'5VYfXYb`GhUbXUfX`žj Ygha Ybhg" `G]Y`g]bX
Ui g`XYa `0W`bj Ybh]cbU`Q5b`Y]\Yba Uf_hž`XUa]h'g]Y`g]W`b]W`h'gc
Z]bUbn]YfYb`_0bbYb" `W`k Y]» `b]W`hž`k Yf`X]YgY'5b`Y]\Yb`_Ui ZYb
k]fXž`UVYf`k]f`k YfXYb`Yg`VYgh]a a`h`b]W`h'g]Y]b"

8Yf`5i gj Yf_Ui ZXYf`gU`j UXcf]Ub]gW`Yb`5b`Y]\Yb`gYhnhY`g]W`Ua
A cbhU[`Zcfh`i bX`Xf0W_hY`X]Y`F YbX]hY`Y]bYf`5b`Y]\Y`a]h': A`][_Y]h
&\$' &'Ui Z0VYf`%' `DfcnYbh"8Ug`@UbX`j YfZ0[h`0VYf`%\$
]bhYfbUh]cbU`Y`8c`UfUb`Y]\Yb`]a `K Yfh`j cb`+ž*) `A fX" `I G!8c`Ufž
Yhk U" \$`DfcnYbh'gY]bYg`6fi hhc]b`UbXgdfcXi _hg`i bX`Yhk U`Y]b
8f]hY`gY]bYf`[YgUa hYb`GhUUhgW`i `XYb"

8]Y`b`A`W`ghY`G`W`i `XYb]`[i b[`]gh`Y]bY', \$\$!A]`]cbYb!8c`Uf!
5b`Y]\Y`a]h': A`][_Y]h]a `š\`bi Uf`&\$&' "8]YgY'5b`Y]\Y`k]fX`XYfnY]h
ni `Y]bYa `DfY]g`j cb`k Yb][Yf`U`g', (`7Ybh`dfc`8c`Uf`[Y\UbXY`h
i bX`Y]bYf`F YbX]hY`j cb`ZUgh`&) `DfcnYbh` `k Ug`Ui ZYf\YV`]W`Y
6Ygcf[b]g`0VYf`X]Y': A`][_Y]h`9`GU`j UXcf`g`\]bXYi hYhž`X]Y`NU`\`i b[
ni `Y]ghYb`"

8]Y`bYi Yb` `6]hW`]b!6cbXg ž`X]Y`]b`HfUbW`Yb`j cb`%\$\$`I G!8c`Uf`]b
Y]bYa `j cb`XYf`?fmdhc!60fgY`6]hZ]bYi `ni `UffUb[]YfYbXYb`8YU`
j Yf_Ui Zh`k YfXYbž`_0bbhYb`VY]'?`Y]bUb`Y[Yfb`i bX`?fmdhc!
9bh\i g]UghYb`Y]b`Ui Z[YgW`cggYbYfYg`Di V`]i a `Z]bXYb"

8]YgYg'5b`Y]\YUb[YVch]gh`Yhk Ugž`XUg`i bgYfYf`A Y]bi b[`bUW`Z0f
Y]b`VfY]hYg`GdY`hfi a `j cb`5b`Y[Yfb`UhhfU_hj`gY]b`k]fXž`j cb
?fmdhc`k A`\fi b[g]bj Yghc`fYbž`F YbX]hYgi W`YbXYbž`<cX`Yfb` `i bX
Y]bZUW`Yb`@Yi hYb ž`gU[hY`GUa gcb`A ck ž`7\]YZ`GhfUhY[m`C ZZ]W`f
XYg`6`cW`W`U]b!HYW`bc`c[]Yi bhYfbY\`a Ybg`6`cW`ghfYUa `VYf`A`h`X]Y
F Y[]Yfi b[]j cb`6i _Y`Y'ni `XYb`D`A`bYb" `K]f`[`Ui VYbž`XUgg`X]YgY

5b`Y]\Y`XUg`DchYbn]U``\Uhž`X]Y`<mdYfV]hWŁ]b]g]Yfi b[`ni
VYgW`Yi b][Yb`i bX`Y]b`bYi Yg`:]bUbngmghYa `ni `gW UZZYbž`XUg`Ui Z
6]hWŁ]b`Ui ZVUi h" `

⊕\UVYf`XYf`5b`Y]\Y`k ØfXYb` GcbXYfX]j]XYbXYb `j YfX]YbYbž`X]Y
Xi fW` [YghUZZY`hY`@]ei]XUh]cb `XYf`6]hWŁ]b!6YghÅbXY`j cb`9`
GU`j UXcf`[YbYf]Yfh`k YfXYbž`gU[hY`A ck "

9]bY`DYfgcbž`X]Y`Ub`XYf`9a]gg]cb`j cb`5b`Y]\Yb`UfVY]hYhYž`gU[hYž
X]Y`A ch]j Y`j]Y`Yf`dchYbn]Y``Yf`5b`Y[Yf`gY]Yb`b]W h`fY]b`Z]bUb]Y``Yf
BUh`i f" ` 9g`VYghY`h`XYf`K`i bgWŁž`HY]`j cb`Yhk Ug`gc
6U`bVfYW`YbXYa `ni `gY]b ž`gU[hY`X]Y`DYfgcb"

8]Y`Gh]a a i b[`]gh`d`cg]h]j ž`XYbb`]a `6YfY]W`XYf`X][]hU`Yb`Hc`_Yb
ghY`W`h`VYfY]hg`j]Y``? Ud]hU``"HUhgÅW`]W` \UVYb`k Y]h`k Yb][Yf
ØVYfnYi [YbXY`Dfc`Y`_hY`a Y`f`⊕hYfYggY`[Yk YW`h ž`ZØ[hY`X]Y
DYfgcb` \]bni "

8]Y`⊕\UVYf`XYf`VYghY`YbXYb`5b`Y]\Yb`9`GU`j UXcf`g`VYZØfW`hYb
`YXcWŁž`XUgg`XUg`Dfc[fUa`a`X]Y`U``[Ya`Y]bY`?fYX]hk ØfX][_Y]h`XYg
@UbXYg`k U`fgW`Y]b`]W`b]W`h`j YfVYggYfb`k]fXž`]bgVYgcbXYfY
k Ybb`XYf`9fZc`[`6i`_Y`Yg`F`Y[]Yfi b[`XUj`cb`ØVYfnYi [hž`\fY
:]bUb]Yb`a`]h`i bhYfghØhni b[`XYg`⊕ : `ni `gUb]YfYb"@Ui h`5bU`mghYb
n]Y`Yb`g]W`X]Y`J`Yf`UbX`i b[Yb`a`]h`XYa` :`cbXg`XUg`[Ub]Y`⊕\f
\]b`i bX`Yg`[]Vh`_Ui`a`5i`gg]W`hYb`Ui Z`Y]bYb`8i`fW`Vfi W"

9g`k ØfXY`a`]W`b]W`h`k`i bXYfbž`k Ybb`Yg`]bYb`[Y`Åb[Yž`XUg`; Y`X
ni `VYgW UZZYb ž`gU[hY`7Uf`cg`XY`Gci`gUž`DcfhZc`]ca`UbU[Yf`VY]
J`cbhcVY`5ggYh`A`UbU[Ya`Ybh" `5VYf`a`Ø[`]W`Yfk`Y]gY`a`UW`Yb`X]Y
6]hWŁ]b!6cbXg`X]Y`K`U`fgW`Y]b`]W`_Y]h`Y]bYg`⊕ :`!Dfc[fUa`a`g`bcW
[Yf]b[Yfž`k`Y]`g]Y`gU[Ybž`XUgg`k`]f`Yg`[YgW UZZh`\UVYbž`Y]bY`bYi`Y
:]bUb]Yfi b[gei`Y``Y`ni`Z]bXYb"

9`GU`j UXcf`\UVY`c`bY`XUg`DchYbn]U`Y]bYf`ni`_ØbZh][Yb
I`bhYfghØhni b[`Xi`fW`XYb`⊕ :`_Ui`a`5i`gg]W`h`Ui`Z`Y]bYb
K`]YXYfYf`Ub[Yb`XYg`Ni [Ub[g`ni`XYb`5b`Y]\Ya`Åf`_hYbž`gU[hY`XY
Gci`gU`i`bX`ZØ[hY`\]bni ž`XUgg`Yg`c`bY`A`Uf`_hni [Ub[
GW`k`]Yf][_Y]hYb`\ÅhYž`gY]bY`5b`Y]\Y`&\$&'`ni`fØW`_ni`nU`\Yb"

8]Y'6Yn]Y\i b[Yb'ni 'XYb'I G5'YffY]W\hYb'Ua 'A cbhU['Y]bYb
k Y]hYfYb'H]YZdi b_hž'U`g'K Ug\]b[hcbg'j cf`Ài Z][Yf'; YgW\ÀZhghfÀ[Yf
]b'9`GU`j UXcfž'ŸUb'A UbYgž'[YbUbbh'g]Y`k ØfXY'XUg'@UbX
j Yf`UggYb"

K]f'a UWYb'Y]bY'DUi gYž'k Y]'X]Y'FY[]Yfi b['j cb'9`GU`j UXcf
_Y]b'ϑhYfYggY'XUfUb'nY][hž'X]Y'6Yn]Y\i b['ni 'j YfVYggYfb ž'gU[hY
g]Y]b'Y]bYa 'c_U`Yb'B UWf]W\hYb]bhYfj]Yk "

E i Y`Y.:]bUbW]U`H]a Yg

8YhU]`g

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