

GWX`Y]a Yf`ĭ VY`hØVYf`Dc_U`g]Y[.`9]b
VYgcbXYfYf`Hf]i a d\`]a `@i Xk][gdUf_

@_Ug`GWX`Y]a Yf`ZY]Yfh`a]h`XYa `: 7B`Y]bYb`Ya ch]cbU`Yb
Dc_U`g]Y[`Y[Yb`GUUfVfØW_Yb"9]b`9`Za`YhYf`YbhgWXY]XYh]a
8YfVm`

⇒ a`8: 6!Dc_U`gYhnhY`XYf`%": 7`BØfbVYf[`Y]b`ghUf_Yg`NY]WXYbž`U`g
g]Y`g]WXY]a`gdUbbYbXYb`8i`Y`[Y[Yb`XYb`%": 7`GUUfVfØW_Yb
Xi fWXY]b`9`Za`YhYfgWXY]»Yb`a`]h`*.(`Xi fWXY]gYhnhYb"6YgcbXYfg
\Yfj`cfni`YVYb`]gh`@_Ug`GWX`Y]a`Yfž`XYf`b]WXY]h`bi`f`ZØf`gY]bYb
JYfY]bž`gcbXYfb`Ui`WXY]Ui`g`dYfgØb`]WXY]f`G]WXY]hž`Y]bYb`VYXYi`hgUa`Yb
G]Y[`YffUb["

GWX`Y]a Yfž`XYf`]b`XYf`GU]gcb`&\$&\$#&%`Y]\k`Y]gY`VY]a`8f]h`][]ghYb
gd]Y`hYž`Yf`YVhY`XcfhY]bY`gWXY]k`]Yf][Y`NY]h`A`]h`bi`f`XfY]`9]bg`ÀhnYb
]b`XYf`GhUfhY`Z[Y\ØfhY`X]YgYg`U\`f`ni`XYb`\`ÀfhYghYb`gY]bYf
V]g\Yf][Yb`?Uff]YfY"8Yb`bc`WXY]ž`k`]Y`Yf`gY`Vgh`ni`[UVž`\Uh]\b`X]Y
9fZU\fi`b[`dYfgØb`]WXY]k`Y]hYf[YVfUWXY]h"⇒WXY]\UVY`a`]WXY][YZfYi`hž
\Yf\Yfni`_ca`a`Ybž`k`]YXYf`Y]b`dUUF`U`hY`; Yg]WXY]hYf`ni`gY\Yb"⇒WXY]
k`c`hY`\]Yf`UVYf`Ui`WXY]i`bVYX]b[h[Yk`]bbYb`i`bX`V]b`Zfc`\ž`XUgg`Yg
[Y`_Uddh`\Uh`ž`Yf`_`ÀfhY`XYf`&(!`À\`f][Y`bUWXY]XYa`Gd]Y"

9]b`VYgcbXYfg`Ya`ch]cbU`Yf`G]Y[

6YgcbXYfg`ZØf`GWX`Y]a`Yf`\Uh`X]YgYg`Gd]Y`Y]bY`VYgcbXYfY
6YXYi`hi`b[ž`XU`Yf`Ui`g`Hf]Yf`ghUa`a`hi`bX`gca`]h`Y]b[Yk`]ggYg
8YfVm: YY`]b[`j`YfgdØfhY"8Ug`k`Uf`gWXY]cb`Y]b`Yhk`Ug`VYgcbXYfYf
G]Y[ž`k`Y]`X]Y`Hf]YfYf`i`bX`GUUfVfØW_Yf`Yhnh]b]WXY]h`i`bVYX]b[h`X]Y
: fYi`bXY`g]bX`ž`gc`XYf`C`ZYbg]j`!5`fc`i`bXYf"5i`WXY]gY]bY`@Y]ghi`b[
k`Uf`VYUWXY]h]WXY].8Yf`Gd]Y`Yf`j`Yfk`UbXY`hY`Y]bYb`YbhgWXY]XYbXYb
9`Za`YhYfž`bUWXY]XYa`Yf`ni`j`cfž`hf`ch`GWXY]k`]Yf][_Y]hYb`[Y[Yb`X]Y

8YZYbg]] Y`XYf`GUUvfØW_Yfž`U`Yg`[Y[YVYb`\"Uhhy"

⇒a`@`Xk`][`gdUf`_ghUX]cb`gU\`Yf`a`]h`gY]bYb`A`]hgd]Y`Yfbž`k`]Y`g]W\`
XYf`8`fi`_W`\"Ub[`gUa``Ui`Z`Ui`hYž`V]g`gW\`]Y`»`]W\`XUg`
9`Za`YhYfgW\`]Y`»`Yb`YbhgW\`Y]XYb`a`i`gghY`\"GW\`Y]a`Yfg`6Y]hfU[`ni`
X]YgYa``9fZc`[`k`Uf`ZØf`X]Y`A`UbbgW\`UZhj`cb`YbhgW\`Y]XYbXYf`
6YXYi`hi`b[`\"GY]b`YbhgW\`c`ggYbYf`9]bgUhn`i`bX`XYf`K`]`Yž`gY]bYa`
Y\Ya`U`][`Yb`J`YfY]b`ni`nY][`Ybž`XUgg`Yf`[`Yk`UW\`gYb`]ghž`a`UW\`hYb`
XYb`I`bhYfgW\`]YX`Ui`g"

J]`\"UXgYbg`\"YfUi`gZcfXYfbXYg`8YVØh

9VYbZU`g]b`XYb`:`c`_i`g`fØW`_hY`C`\"j`Yf`J]`\"UXgYbž`Y]b`bYi`Yf`Ni`[`Ub[`
XYg`:`7Bž`XYf`Yfg`ha`U`g`ZØf`X]Y`B`ØfbVYf[`Yf`Ui`Z`XYa``D`Uhn`ghUbX`
8Yf`&&!`Å\`f][`Yž`XYf`ZØf`)`\$\$\"\$\$\$\$`9i`fc`Ui`g`B`cfXg`UY`\"UbX`
j`YfdZ]W\`hY`h`k`i`fXYž`gc`f[`hY`ZØf`5i`ZgY`Ybž`U`g`Yf`V]g`ni`f`%%`,`
A`]bi`hY`gd]Y`hYž`VYj`cf`]b`?`fÅa`dZY`XUni`nk`Ub[`Ybž`XUg`Gd]Y`j`cb`
XYf`GY]hYb`b]Y`ni`VYc`VUW\`hYb`\"HfU]bYf`A`]fc`g`Uj`?`cgY`Åi`»`YfhY`
g]W\`ni`X]YgYa`YfghYb`5i`Zh]h`i`bX`_ØbX][`hY`Ubž`XUgg`Yg`bi`b`
:`]hbYgg!HYghg`ZØf`XYb`Gd]Y`Yf`[`YVYb`k`YfXYž`i`a`gY]bYb`Ni`ghUbX`
ni`ØVYfd`fØZYb"

×hnh`_ca`a`Yb`X]Y`[`Ub`nYb`HYghgž`X]Y`Yf`a`UW\`Yb`a`i`gg`\"8Ua`]h`k`j`
gY\Ybž`k`c`Yf`ghY`h`ž`gc`?`cgY`\"Hf`ch`n`_`Y]bYf`
5Vgh]a`a`i`b[`gd`fc`V`Ya`Y`a`]h`gY]bYb`bYi`Yb`A`]hgd]Y`Yfb`\"Uh`
J]`\"UXgYb`XYb`bc`W\`Y]bYb`[`Y`i`b[`YbYb`9]b`ghUbX`\"b[`Y`Y[`h`\"GY]bY`
9bhgW\`c`ggYb`Y]h`i`bX`XYf`?`Ua`dZ[`Y]gh`k`i`fXYb`j`cb`XYb`:`7B!`
5b`\"Åb[`Yfb`\"c`b`c`f]Yfh"

8]Y`<`YfUi`gZcfXYfi`b[`ž`g]W\`i]b`Y]bYb`bYi`Yb`A`UbbgW\`UZhj`YfVi`bX`
Y]bni`cfXbYb`i`bX`[`Y]W\`nY]h][`\"c`\"Y`9fk`Ufhi`b[`Yb`ni`Yf`ZØ`Ybž`]gh`
ZØf`YXYb`Gd]Y`Yf`b]W\`h`Y]bZUW\`\"J]`\"UXgYbg`9b[`U[`Ya`Ybh`i`bX`X]Y`
6YfY]hgW\`UZhž`V]g`ni`f`YhnhYb`A`]bi`hY`ni`_`Åa`dZYbž`nY][`Yb`YXcW\`ž`
XUgg`Yf`VYfY]h]ghž`U`Yg`ZØf`XYb`9fZc`[`XYg`J`YfY]bg`ni`[`YVYb"

⇒g[`YgUa`h`k`Uf`XUg`Gd]Y`b]W\`h`bi`f`Y]b`k`]W\`h][`Yf`G]Y[`]a`Dc`_`U`ž`
gc`bXYfb`Ui`W\`Y]bY`A`ca`YbhUi`ZbU`\"a`Yž`k`]Y`nk`Y]Gd]Y`Yf`
GW\`bY]a`Yf`i`bX`J]`\"UXgYb`i`Ui`g`i`bhYfgW\`]YX`]W\`Yb`i`fØbXYb`XUVY]

k UfYbž'\fY`]bX]j]Xi Y`Yb`<YfUi gZcfXYfi b[Yb`ni`a`Y]ghYfb" `ÀfY
@Y]ghi b[Yb`Ui Z`X]YgYa` \Ò\YfYb`@Yj Y`nY][Ybž`XUgg`XYf` : 7
B ØfbVYf[`Ui Z`Y]bYa` [i hYb`K Y[`]ghž`X]Y`?cb_i ffYbn`]b`XYf`@[U
Yfbgh\UZh`\YfUi gni ZcfXYfb"

8]Y`5i gg]W\ h`Ui Z`X]Y`_ca`a`YbXY`GU]gcb

A]h`X]YgYa`G]Y[`]a`F ØW_Yb`Yb`hk]W_Y`h`g]W\`XYf` : 7`B ØfbVYf[
k Y]hYf`i bX`XYa`c bghf]Yfhž`XUgg`XYf`J YfY]b`VYfY]h`]ghž`Y]bY`bYi`Y
HU_h]_ni`j YfZc`[Ybž`Ui W\`k Ybb`XUg`VYXYi hYhž`[Ubn`bYi`Y
Gd]Y`Yf`Ya`Yb`hY`]b`X]Y`A`UbbgW\UZh`ni`]b`hY[f]YfYb" `8]Y`b`ÀW\ghYb
K`c`W\Yb`k`YfXYb`Yb`hgW\Y]XYbX`gY]bž`b]W\h`bi`f`ZØf`J`]`UXgYbž`XYf
gY]bY` :]hbYgg`i bX`5Vgh]a`a`i b[`j`YfVYggYfb`a`i`ggž`gcbXYfb`Ui`W\
ZØf`X]Y`[YgUa`hY`A`UbbgW\UZhž`X]Y`k`Y]hYf\]b`Ub`]\fYf
HYUa`XmbUa`]_`UfVY]hYb`k`]fX"

8]Y` : Ub`g`XØfZYb`[YgdUb`b`h`Ui Z`X]Y`9b`hk]W_`i b[Yb`]a`HYUa`gY]bž`
]bgVYgcbXYfY`XUfUi Zž`k]Y`X]Y``b`hY[fUh]cb`XYf`bYi`Yb`HU`Yb`hY
j`c`f`Ub`g`W\`fY]hY`hi bX`c`V`XYf` : 7`B`Ub`X]YgY` : c`fa`Ub`_b`ØdZYb`_Ubbž`
i`a`Ui`W\`]b`X`Yb`_ca`a`YbXYb`Gd]Y`Yb`ghUf`_Yb`8fi`W_`Ui`gni`ØVYb"

8 Yf`9]bZ`i`gg`XYg`8 : 6!Dc`_U`g`Ui Z`X]Y

J`Y`f`Y]b`g[`Y`g`W\`]W\`h`Y

8 Yf`8 : 6!Dc`_U` \Uh`ZØf`j]Y`Y`J`YfY]bY`]b`8Yi`hgW\`Ub`X`Y]bY
]a`a`YbgY`6YXYi`hi b[" `9g`]gh`b]W\h`bi`f`Y]b`K`Yh`VYk`YfVž`XYf`X]Y
A`Ò[`]W\`_Y]h`V]Yh`Yhž`g]W\`[Y[Yb`A`UbbgW\UZhYb` \Ò\YfYf`@[Yb`ni
a`YggYbž`gcbXYfb`Ui`W\`Y]bY`D`Uh`Zc`fa`ž`i`a`]a`F`Ua`dYb`]W\h`ni
ghY`Yb" `8]Y`Z]b`Ub`n]Y`Yb`5b`fY]n`Yž`X]Y`a`]h`XYa`K`Y]hYf`_ca`a`Yb
j`YfVi`b`X`Yb`g]b`Xž`_Øb`b`Yb`ZØf`7`i`Vgž`]bgVYgcbXYfY`]a`i`b`hYfYb`@[U!
6YfY]W\ž`Yb`hgW\Y]XYbX`gY]b" `9]b`[i`hYg`5VgW\`bY]XYb`_Ubb
VY]gd]Y`gk`Y]gY`Yf\Ò\hY`HJ!5b`hY]Y`i`b`X`Gd`c`b`g`c`f`Y`b`j`Y`f`h`À[Y`b`UW\
g]W\`n]Y`Yb"

8 Yf`%` : 7`GUUfVfØW_Ybž`XYf`]b`XYf`GU]gcb`&\$&\$#&%]b`XYf`Xf]hYb
@[U`gd]Y`hYž`\Uh`X]Y`d`c`g]h]j`Yb`5i`gk`]f`_i`b[Yb`XYg`Dc`_U`!9fZc`[g
VYfY]hg`Yf`YVh" `8 Yf`5i`Zgh]Y[`]b`X]Y`nk`Y]hY`F`i`b`XY`XYg`Dc`_U`g`_Ubb

XYb`K Y[`ZØf`_ØbZh][Y`9fZc`[Y`YVbYbž`gck c\`Z]bUbn]Y``U`g`Ui W`]b
XYf`A Uf_YbYbhk]W`i b[" `<]ghcf]gW` [YgY\Ybž`\UVYb`J YfY]bY`k]Y
XYf` : 7`Gh`DUi` `]cXYf`XYf`A GJ`8i`]gVi f[` [YnY][hž`k]Y`XYf`8 : 6!
Dc_U`XUni`VY]hfU[Yb`_Ubbž`Y]bY` [fc» Y` : UbVUg]g`ni`a`cV`]g]YfYb
i bX`XYb`7`i`V`]b`XYf` : i » VU`!@UbXgW`UZh`g]W`hVUfYf`ni`a`UW`Yb`"

8]Y`F c`Y`Y`i b[Yf`Gd]Y`Yf`]a`a`cXYfb]g]YfhYb
? UXYf

A]h`Gd]Y`Yfb`k]Y`C`]j Yf`J]`UXgYb`gYhnh`XYf`%": 7`BØfbVYf[`Ui Z
↑ b[Y`HU`YbhYž`X]Y` [fc» Y`9bYf[]Y`i bX`Zf]gW`Yb`K]bX`]b`XUg`HYUa
Vf]b[Yb`_ØbbYb`"8]YgY`GhfUHy[]Y`]gh]b`XYf`\Yi h][Yb
: i » VU``UbXgW`UZh`ni bY`a`YbX`dcdi`Äf`"J]Y`Y`J YfY]bY`gYhnhYb`Ui Z
X]Y`9bhk]W`i b[`i bX`æhY[fUh]cb`↑ b[Yf`HU`YbhY`]b`X]Y`YfghY
A UbbgW`UZh`8]Yg`Vf]b[h`b]W`h`bi`f`Zf]gW`Y`Gd]Y`Yf`]b`X]Y`GhUfhY`Zž
gcbXYfb`ZØfXYfh`Ui W`X]Y`Gd]Y`_i`hi`fi bX`HYUa`XmbUa`_]"

I bhYfgi W`i b[Yb`nY][Ybž`XUgg`↑ b[Y`Gd]Y`Yf`cZh`Y]bY`cZYbg]j Y
i bX`XmbUa`]gW`Y`Gd]Y`k Y]gY`a`]hVf]b[Ybž`X]Y`X]Y`U``[Ya`Y]bY
Gd]Y`k Y]gY`Y]bYg`HYUa`g`d`cg]h]j`VYY]bZi`ggYb`_Ubb`"8Yf`9]bgUhn
j`cb`J]`UXgYbž`XYf`hfc`hn`gY]bYf`? fÅa`dZY`V]g`ni`f`%%, "A]bi`hY`Ui Z
XYa`D`Uhn`k`Ufž`j`YfXYi`h]W`h`XUg`J`YfhfUi`Ybž`XUg`HfU]bYf`A`]fc`g`Uj
?`cgY`]b`X]Y`Øb[YfYb`5`_hYi`fY`Y[h`Gc`W`Y`9bhgW`Y]Xi`b[Yb
_ØbbYb`_Ub[Zf]gh][`YbhgW`Y]XYbX`ZØf`XYb`J`YfY]b`gY]bž`gck`c\`]b
XYf`9bhk]W`i b[`j`cb`HU`YbhYb`U`g`Ui`W`]b`j`YfÅbXYfhYb
Gd]Y`_cbnYdhYb`"

:]bUbn]Y``Y`5gdY`_hY`XYg`8 : 6!Dc_U`g

8Yf`8 : 6!Dc_U`V]YhYh`b]W`h`bi`f`gdcfh]W`Y`<YfUi`gZcfXYfi`b[Ybž
gcbXYfb`Ui`W`Yf\YV`]W`Y`Z]bUbn]Y``Y`5bfY]nY`"8]Y`9]bbU`a`Yb`Ui`g
H]W`Yhj`Yf`_Äi`ZYbž`HJ`!FYW`hYb`i`bX`Gdcbgcf]b[`k`Å`fYbX`XYg
Dc_U`k`YhVYk`YfVg`_ØbbYb`ZØf`j`]Y`Y`J`YfY]bY`j`cb`YbhgW`Y]XYbXYf
6YXYi`hi`b[`gY]b`"8]Y`9f`ÖgY`Ui`g`Y]bYa`Y]bnY`bYb`Dc_U`gd]Y`
_ØbbYb`Y]bYb`g][`b]Z`_UbhYb`6Y]hfU[`ni`a` ; YgUa`hVi`X[`Yh`Y]bYg
J`YfY]bg`Y]ghYb`i`bX`\Y`ZYbž`X]Y`Z]bUbn]Y``Y`GhUV`]hÅ`h`ni`g]W`Yfb`"

@Ui h'5b[UVYb'XYg'8: 6`U['XYf'[YgUa hY'I a gUhn'XYg'8: 6!Dc_U`g
]a 'x\ f'&\$%- 'VY]`ØVYf'%) \$'A]``]cbYb'9i fcž'k Ug'j YfXYi h]W hž'k]Y
Ui W'_'Y]bYfY'J YfY]bY'j cb'XYf'HY]'bU\ a Y'dfcZ]h]YfYb'_'ÖbbYb"
8]YgY'; Y'XYf'_'ÖbbYb']b'X]Y'`bZfUghfi _hi fž'B UWk i W'gZÖfXYfi b[
cXYf'gc[Uf']b'HfUbgZYfg'j cb'bYi Yb'Gd]Y`Yfb']bj Ygh]Yfh'k YfXYbž
k Ug'X]Y'K YhhVYk YfVgZÄ\[[_Y]h'XYg'J YfY]bg'bUW\ U'h]['ghÄf_h'"9]b
YfZc`[fY]WYf'Dc_U`j Yf`Ui Z']gh'U`gc`b]W'h'bi f`Y]bY'gdcfh]WYž
gcbXYfb'Ui W'Y]bY'ghfUhy[]gW'Y'9bhgW'Y]Xi b["

8YhU]`g

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