

GWÅ U`_Y`\$(.`A Uhf]W]Ub]`ghY`h`j`cf`K`YWÅ gY` ni`K`U`X`cZ`A`Ubb`Y]a

<Ybb]b[`A Uhf]W]Ub]`_ÖbbhY`GWÅ U`_Y`\$(`VU`X`j`Yf`UggYb`
; YgdfÅWÅ Y`a`]h`K`U`X`cZ`A`Ubb`Y]a``Ui`ZYbž;`Y`U`hgZfU[`Yb`
ghY`Yb`]a``F`Ui`a`"

<Ybb]b[`A Uhf]W]Ub]ž`XYf`8`YZYbg]j`gd]Y`Yf`XYg;`7`GWÅ U`_Y`\$(`ž`ghY`h`
cZYbVUf`_i`fn`j`cf`Y]bYa`K`YWÅ gY`ni`Y]bYa`bYi`Yb`J`YfY]b`"8`Yf`
&`!`Å`f][`Yž`XYf`]b`XYf`Y`h`h`Yb`NY]h`VY]`XYb;`Y`gYb_]fWÅ YbYf;`Ubg`
gY`f`VY`]YVh`k`Ufž`n]Y`h]b`9fk`À`i`b[`ž`XUg`HYUa`ni`j`Yf`UggYbž`i`a`
Y]bY`bYi`Y`<YfUi`gZcfXYfi`b[`Ubni`bY`a`Yb"

GY]h`Y]b][`Yb`K`cWÅ Yb`k`]fX`ØVYf`Y]bYb`a`Ö[`]WÅ Yb`HfUbgZYf`XYg`
Y`Y`a`U][`Yb`l`&%!`B`Uh]cb`U`gd]Y`Yfg;`[`YgdfcWÅ Ybž`i`bX`bi`b`k`]fX`
VYf]WÅ hYhž`XUgg`X]Y;`YgdfÅWÅ Y`a`]h`Y]bYa``ð`hYfYggYb`hYbž`XYa`
8f]h`h][`]ghYb`K`U`X`cZ`A`Ubb`Y]a`ž`]b`Y]bYf`Zcfh[`YgWÅ f]h`hYbYb`D`UgY`
g]bX`"@Ui`h`5i`ggU[`Yb`XYg`GdcfhWÅ YZg`5bh`cbmi`@cj`]gc`U`h`XYf`
HfUX]h]cbg`_i`V`[`fc»`Yg`ð`hYfYggY`Ub`A`Uhf]W]Ub]ž`k`Ug`Ui`ZY]bY`
Yfbgh`UZhY`5Vg]WÅ h`h`]bk`Y]gh"

8]Y;`YgdfÅWÅ Y`a`]h`K`U`X`cZ`A`Ubb`Y]a

5bh`cbmi`@cj`]gc`Ài`»`YfhY`g]WÅ`Zc`[`YbXYfa`U»`Yb`ØVYf`A`Uhf]W]Ub].`
9f`]gh`Y]b`]bhYfYggUb`hYf`Gd]Y`Yfž`XYf`i`bg`XYZ]b]h]j`a`]h`gY]bYf`
J`Uf]UV]`]h`h`i`bX`A`Yb`hU`]h`h`j`Yfgh`Å`f`_Yb`k`ØfXY`"`ð`XYb`
_ca`a`YbXYb`HU[`Yb`k`]fX`Yg`XUfUi`Z`Ub`_ca`a`Ybž`cV`VY]XY`DUfhY]Yb`
ni`Y]bYf`9]b][`i`b[`_ca`a`Yb`_ÖbbYb`"8]Y`GdY`i`U`h]cb`ØVYf`Y]bYb`
K`YWÅ gY`nY][`hž`XUgg`gck`c`X`XYf`Gd]Y`Yf`U`g`Ui`WÅ`K`U`X`cZ`
A`Ubb`Y]a`5a`V]h]cbYb`U`UVYbž`X]Y`b`chk`YbX][`]g]bXž`i`a`X]Y`
J`Yf`U`bX`i`b[`Yb`j`cf`Ubni`hfY]VYb"

8]Y'F\Y]b!BYW_Uf!NY]hi b['VYf]W hYhYž'XUgg'VYfY]hg'Y]Zf]['Ub'XYa
HfUbgZYf'[YUfVY]hYh'k]fX"8]Y'VY]XYb'? 'i Vg'a ØggYb'YXcW
_ÀfYbž'i bhYf'k Y'WYb'6YX]b[i b[Yb'A Uhf]W]Ub]'ni f'J YfY]bggd]hY
k YWgY'b'_Ubb"8]Y'Z]bUbn]Y''Yb'<ØfXYb'ghY''Yb'_U_hi Y''X]Y'[fØ» hY
<YfUi gZcfXYfi b['XUf"

:]bUbn]Y''Y'< YfUi gZcfXYfi b[Yb'VY]a
K YWgY'

9]b'[fc» Yg'<]bXYfb]g]b'XYb'J Yf\UbX'i b[Yb']gh'XUg'; Y\U'hž'XUg
A Uhf]W]Ub]'VY]a ' : 7'GWU'_Y'\$('VYn]Y\h" Æf'_U_hi Y''Yf'J YfhfU['Ài Zh
V]g'&\$&*ž'i bX'X]Y'; Y\U'hg]cfghY''i b[Yb'_ØbbYb'XYfnY]h'b]W'h]j cb
XYb'A Ubb\Y]a g'UV[YXYW_h'k YfXYb"9] dYfhYb'gW'ÀmYbž'XUgg'bi f
Y]b'@Y]\ [YgW'ÀZh'a Ø['W'k ÀfYž'k cVY]'GWU'_Y'Y]bYb'HY]'XYg
; Y\U'hg'ØVYfbY\ a Yb'a ØgghY"

8]Y'G\$(!J YfUbhk cfh]WYb'g]bX''Y]XYbgWUZh]W'VYa Ø\hž
A Uhf]W]Ub]'YbX'W'j cb']\fYf'; Y\U'hg]ghY'ni 'VY'_ca a Ybž'i bX
XU\Yf'_ØbbhY'Y]b'@Y]\ [YgW'ÀZh'X]Y'Y]bn][Y'@Øgi b['ZØf'_U''Y
6YhY']][hYb'XUfghY''Yb"8]YgY'? cbghY''Uh]cb']gh'ZØf'VY]XY'GY]hYb
'YXcW' b]W'h']XYU'ž']bgVYgcbXYfY']b'5bVYhfUW'h'XYf'HUhgUW'Yž
XUgg'XUg'HfUbgZYfZYbghYf']b'8Yi hgW'UbX'bi f'bcW'V]g]ni a ' "\$"
5i [i gh[YØZbYh']gh"6]g]ni 'X]YgYa 'HYfa]b'a i gg'Y]bY'9]b][i b[
Yfn]Y'h'k YfXYbž'cXYf'A Uhf]W]Ub]'V'Y]Vh]j cfYfgh'VY]a ' : 7'GWU'_Y
\$("

8]Y'G]hi Uh]cb']gh'Ub[YgdUbbhž'XU'XYf'NY]hXfi W'_ghY][h"9]b
GWY]hYfb'XYf'J Yf\UbX'i b[Yb'_ØbbhY'VYXYi hYbž'XUgg'A Uhf]W]Ub]ž
XYf'g]W'Ui W'XYb'bYi Yb'<YfUi gZcfXYfi b[Yb'ghY''Yb'a ØW'hYž
k Y]hYf\]b'VY]'GWU'_Y'hfU]b]YfYb'a i ggž'k c'X]Y'Gd]Y'Yf[Y\À'hYf
i bX'X]Y'gdcfh]W'Y'DYfgdY_h]j Y'XYfnY]hi b[Yk]gg'g]bX"

Æ'XYf'_U_hi Y''Yb'G]hi Uh]cb'k]fX'XYi h]W'ž'XUgg'XYf'Gd]Y'Yf'bUW
Y]bYf'bYi Yb'<YfUi gZcfXYfi b['gi W'hž'a Ø['W'Yfk Y]gY'i a 'g]W
gdcfh]W'k Y]hYfni Ybhk]W'_Y'b'i bX'a Y\ f'Gd]Y'nY]hni 'Yf\U'hYb" : Øf
GWU'_Y'\$('ghY''h'g]W'X]Y' : fU[Yž'k]Y'g]Y'XYb'? UXYf'ZØf'X]Y
_ca a YbXY'GU]gcb'YZZ]n]YbhYf'[YghU'hYb'_ØbbYbž'c\ bY'U''ni 'j]Y'Y
Z]bUbn]Y''Y'9]bVi » Yb'\]bbY\ a Yb'ni 'a ØggYb"8]Y'J Yf\UbX'i b[Yb

g]bX`Y]b`NY]W\Yb`XUZØfž`XUgg`]b`XYf`6i`bXYg`][`U`XYf`5i`ghUi`gW
j`cb`Gd]Y`Yfb`b]W\h`bi`f`j`cb`XYb`gdcfh]W\Yb`5gdY`hYb`ž`gcbXYfb
Ui`W`j`cb`Z]bUbn]Y``Yb` ; Y[`YVYb`VY]hYb`VY[`Y]hYh`k`]fX"

9]b`6`]W`_`Ui`Z`X]Y`Ni`_`i`bZh

⊖`X]YgYf`D\UgY`_ØbbhY`XYf`5i`g[`Ub[`XYf`J`Yf\UbX`i`b[`Yb`j`cb
YbhgW\Y]XYbXYf`6YXYi`hi`b[`ZØf`A`Uhf]W]Ub]`gY]b``9f`\Uh`XUg
DchYbn]U`ž`Y]bY`GW\`ØggY`fc``Y`VY]`Y]bYa`bYi`Yb`?`i`V
Y]bni`bY`a`Ybž`k`Ug`ZØf`Y]bYb`↑`b[`Yb`Gd]Y`Yf`k`]Y`]`b`j`cb`Ybcfa`Yf
6YXYi`hi`b[`]gh``9g`V`Y]Vh`UVni`k`UfhYbž`cV`Yf`X]Y`A`Ò[`]W`_Y]h
Yf\`À`hž`g]W`VY]`K`U`X`c`Z`A`Ubb`Y]a`ni`VYk`Y]gYbž`cXYf`cV`Yf
`YhnhYbX`]W`VY]a` :`7`GW`U`_Y`\$(`V`Y]Vhž`k`c`Yf`g]W`]a`_`hi`Y``Yb
?`UXYf`VYk`Y]gYb`a`i`gg"

8`Ug` ; YgW\Y`Yb`fi`bX`i`a`A`Uhf]W]Ub]`gd]Y[`Y`h`Y]b`\`Ai`Z[`Yg
D\`À`bca`Yb`]b`XYf` :`i`»`VU`k`Y`h`k`]XYf` :`8`Yf`K`YW`gY`a`Uf`_h]`gh]`ja`a`Yf
]b`6`Yk`Y[`i`b[`ž`Hf`Ubg`U`_h]`cb`Yb`ghYh][`]b`J`Yf\`UbX`i`b[`i`b`X`j`cf`U``Ya
XYf`8`fi`W`_j`cb`c`VYbž`gck`c`\`gdcfh]W\`U`g`Ui`W`Z]bUbn]Y``ž`ZØ`fh
XUni`ž`XUgg`Gd]Y`Yf`c`Zi`V]c[`fUZ]gW\Y`K`YbXYdi`b`_hY`]b`]`fYf
?`Uff]YfY`Yf`YVYb`a`ØggYb``8`Ug`6Y]gd]Y``A`Uhf]W]Ub]`j`YfXYi`h]W\hž
k`]Y`k`]W`h][`Yg]`ghž`XUgg`gck`c`\`?`i`Vg`U`g`Ui`W`Gd]Y`Yf`g]W
UbdUggYb`a`ØggYbž`i`a`XYb`5bZcfXYfi`b[`Yb`XYf`g]W`gh`À`bX][
À`bXYfbXYb` :`i`»`VU``UbXgW`UZh[`YfYW`h`ni`k`YfXYb"

<`Ybb]b[`A`Uhf]W]Ub]`\`Uh`g]W`gY]h`gY]bYf`5b`_i`bZh`VY]`GW`U`_Y`\$(`]a
⋈\`f`&\$&\$`Y]bYb`Z`YghYb`D`Uhm]`ja`HYUa`YfUfVY]hYh`G`Y]bY
J]Y`gY]h][`_Y]h`Ui`Z`XYf`XYZYbg]j`Yb`Dcg]h]cb`\`Uh]`\`b`ni`Y]bYa
k`]W`h][`Yb`6YghU`bXhY]`XYg`GW`U`_Yf`?`UXYfg[`Ya`UW`h`A`Uhf]W]Ub]
k`i`fXY`i`fgdfØb[`]W\`U`g`hU`Yb]h]YfhYf`B`UW`k`i`W`ggd]Y`Yf
VYnY]W\`bYhž`bUW`XYa`Yf`gY]bY`5i`gV]`Xi`b[`]b`XYf`⋈`[`YbX`j`cb
K`YfXYf`6fYa`Yb`Xi`fW`Ui`ZYb`\`UhhY``⊖`XYf
l`&%!`B`Uh]cbU`a`UbbgW`UZh`_`cb`bhY`Yf`Xi`fW`gc`]XY`@Y]ghi`b[`Yb`Ui`Z
g]W\`Ui`Za`Yf`_gUa`a`UW`Yb``8]YgY`9fZc`[`Y`k`UfYb`XYf` :`i`b`_Y`ž`XYf
gY]b`9b[`U[`Ya`Ybh`VY]`GW`U`_Y`YbhmØbXYhY"

8`Yf`K`YW`gY`ni`K`U`X`c`Z`A`Ubb`Y]a`k`ØfXY`Y]bY`F`ØW`_Y`f`Ui`Z`X]Y
6Ø`bY`Y]bYf`UbXYfYb`@[`U`VYXYi`hYbž`X]Y`Y]b`UbXYfYg`a`U[`Y`i`bX

UbXYfY'<YfUi gZcfXYfi b[Yb'a]h'g]W\ Vf]b[h"8]Y
8f]h'h][Ua UbbgW UZh\ Uh]b'XYf'J Yf[Ub[Yb\Y]h'Y]bY'FY]\Y'j cb
Gd]Y'Yfb'j YfdZ]W hYh'X]Y'j]b'XYf'6i bXYg'[U'cXYf'&"6i bXYg'[U
9fZU\fi b[Yb'[YgUa a Y'h\ UVYb"A Uhf]W]Ub]'_ObbhY'X]Y'F c''Y'Y]bYg
YfZU\ fYbYb'Gd]Y'Yfg'ØVYfbY\ a Ybž'i a 'XYb'Øb[YfYb'HU'YbhYb'VY]
K U'X\cZA Ubb\Y]a 'ni '\Y'ZYbž'g]W'k Y]hYfni Yb'k]W_Y'b"

J YfÅbXYfi b[Yb'a]HYUa 'i bX']\ fY 5i gk]f_i b[Yb

8]Y'A Ò[']W_Y]h'Y]bYg'K YW'gY'g'_ObbhY'b]W'h'bi f'A Uhf]W]Ub]g
?Uff]YfY'VYY]bZi ggYbž'gcbXYfb'Ui W'GW'U'_Y'\$(']b'XYf'U_hi Y''Yb
GU]gcb''9]b'5V[Ub[']a 'HfUbgZYfZYbghYf'_ObbhY'X]Y'? UXYfd'Ubi b[
XYf'GW'U'_Yf'Xi fW'Y]bUbXYfVf]b[Ybž']bgVYgcbXYfY'k Ybb'XYf
J YfY]b'UbXYfY'dchYbn]Y''Y'5V[Åb[Y'VYfØW_g]W'h][Yb'a i gg''8]Y
<YfUi gZcfXYfi b[Yb'Ui ZXYa 'HfUbgZYfa Uf_h'g]bX'U_hi Y''Ui W
fYgi 'h]YfYbX'Ui g'XYf'U''[Ya Y]bYb'k]fhgW UZh]W Yb'G]hi Uh]cbž']b
XYf'j]Y'Y'J YfY]bY'j cfg]W'h]['a]h']\fYb'5i g[UVYb'i a [Y\Yb"

⊕'XYf'j Yf[Ub[YbYb'GU]gcb'k Uf'GW'U'_Y']b'Y]bYf'Å\ b']W'Yb
Dcg]h]cbž'U'g'a Y\ fYfY'Gd]Y'Yf'XUg'HYUa 'j Yf']Y» Yb''K Å\ fYbX'XYf
HfUbgZYfU_h]j]hÅhYb'a i gghYb'X]Y'J YfUb'k cfh]W'Yb'?ca dfca]ggY
Y]b[Y\Yb'i bX'g]W'YfghY''Ybž'XUgg'X]Y'A UbbgW UZh'[i h'Ui Z[YghY''h
V'Y]Vh''8Yf'J Yf'i gh'j cb'GW'ØggY'gd]Y'Yfb'\ Uh'cZi'Y]bYb'X]fY_hYb
9]bZi gg'Ui Z'X]Y'; YgUa h'Y]ghi b['Y]bYg'7'i Vg"

@Y]ghi b[gXUhYb 'i bX'GhUh]gh]_Yb

<Ybb]b['A Uhf]W]Ub]' \ Uh'k Å\ fYbX'gY]bYf'NY]h'VY]'GW'U'_Y'\$(']b
j YfgW]YXYbYb'K Yh'VYk YfVYb'Y]bY'g][b]Z]_Ub'hY'5bnU\''j cb
Gd]Y'Yb'UVgc'j]Yfh''⊕'XYf'6i bXYg'[U!GU]gcb'&\$&%#&&
VY]gd]Y'gk Y]gY'gd]Y'hY'Yf']b'&\$'@[Ugd]Y'Yb'i bX'Yfn]Y'hY'XUVY]'%
Hcf''5i W']b'XYf'8: 6!Dc_U'gd]Y'hY'Yf'Y]bY'F c''Yž'k Ug'gY]bYb'K Yfh
ZØf'X]Y'A UbbgW UZh'i bhYfghfY]W'h''⊕'X]YgYf'GU]gcb'\ Uh'Yf'b]W'h
bi f'XYZYbg]j '[Y['Åbnhž'gcbXYfb'Ui W']b'XYf'Gd]Y'YfØZZbi b[
VYa Yf_Ybgk YfhY': Å\][_Y]hYb'[YnY][h"

GhUh]gh]_Yb'nY][Ybž'XUgg'A Uhf]W]Ub]'Y]bY'DUgg[YbUi][_Y]h'j cb
Yhk U'+) 'i 'Ui Zk Y]ghž'k Ug'ZØf'Y]bYb'8YZYbg]j gd]Y'Yf''b'XYf
6i bXYg`][U'Y]b'fYgdY_hUV'Yf'K Yfh']gh''5i W'gY]bY
Xi fW'gW'b]hh]W'Y'5bnU'`'Ub'HUW_Yg'dfc'Gd]Y''VY'Y[h'gY]bY
K]W'h][_Y]h'a '5V'k Y'fgd]Y''æ 'J Yf['Y]W'ni 'UbXYfYb'Gd]Y'Yfb
gY]bYf'Dcg]h]cb'_ÖbbhY'gY]b'K YW'gY''bUW'A Ubb\Y]a 'Y]bY
7\UbW'XUfghY''Ybž'g]W'j]b'Y]bYf'bYi Yb'l a [YVi b['k Y]hYf'ni
VYk Y]gYb"

8YhU]`g

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