A]h'A U_Ym@UV`ni f`X][ ]hU`Yb`Ni`\_i`bZh`
A U_Yf': U]fY`< Ubbcj Yf`VY[Y]ghYfh
> [YbX`]WXY

5i ZXYf`A U\_Yf': U]fY`< Ubbcj Yf`df`AgYbh]Yfh`XUg`8`#MA U[Un]b
A U_Y`Ua`'%"`i bX`%, "'5i [i gh`XUg`]bbcj Uh]j Y
9l dYf]a Ybh]Yf_]h'A U_Ym@UV`Z0f`> [YbX`]WXY`Z'i a
Dfc[fUa`a`]Yfi b[`i bX`l`a`k`Y`hVYk`i`gghgY]b`ni`Z0f`XYfb`

< Ubbcj Yf`'5i ZXYf`A U_Yf': U]fY`>X]Y`Ua`'%"`i bX`%, "'5i [i gh]b
< Ubbcj Yf`ghUhhZUbX`>k`i`fXY`Y]b`bYi`Ufh][ Yg`9l dYf]a Ybh]Yf_]h
bUa`Ybg`A U_Ym@UV`j`cf[YghY`h`z`XUg`gdYn]Y`Z0f`> [YbX`]WXY`
_c`bn]d]Yfh]gh`'8`Ug`8`#MA U[ Un]b`A U_Y`>]b`Ni`gUa`a`YbUfVY]h`a`]h
XYf`#`H!K`Yf`_ghUhh`XYg`l`a`k`Y`h!`7`Ua`di`g`6]f`_YbZY`X`XYf`
< cW`gW`i`Y`Hf]Yf`z`j`Yf`Zc`[`h`a`]h`X]YgYa`Dfc`Y`_h`XUg`N]Y`>`0b[`YfY`
;`YbYfUh]cbYb`Z0f`X][ ]hU`Y`HYW`bc`c[ ]Yb`i`bX`l`a`k`Y`h`h`Ya`Yb`ni
gYbg]V`]g]YfYb`

8 Ug`N]Y`j`c`b`A U_Ym@UV

8 Ug`A U\_Ym@UV!Dfc`Y`\_h`U`h`b]W`h`b`i`f`X]Y`5`Vg]W`h`z`h`Y`W`b]g`W`Y`
: `A`\\][`\_]h`Y`b`ni`Z0f`XYfb`>`gc`b`XYfb`Y`[`h`Ui`W`K`Y`fh`Ui`Z`X]Y`
6`Y`XY`i`hi`b[`j`cb`l`a`k`Y`h`VYk`i`gghgY]b`" `K`]f`a`0`W`h`Y`b`X`Y`b`
> [YbX`]WXY`b`nY][ Yb`>`k`]Y`g]Y`X][ ]hU`Y`HYW`bc`c[ ]Yb`bi`h`nY`b`
_`0`bb`Y`b`>`i`a`U`h`A[`]W`Y`l`a`k`Y`h`U`gd`Y`\_h`Y`V`Y`gg`Y`f`k`U`\\f`ni`b`Y`\\a`Y`b`>`
Yf`\_`A`fh`8`Ub]Y`6`U`W`Z`Y`X`>`7`\\Y`Z`f`Y`X`U`_h`Y`i`f`X`Y`g`A`U`\_Y`!`A`U[`Un]`bg`

J YfhY]`i`b[`j`c`b`@YYf!D`Uh]bYb

#a`F`U`\\a`Y`b`X`Y`f`A`U`\_`Y`f`':`U]`f`Y`k`i`f`X`Y`b`'+`\$\$`@`Y`Y`f`!`D`U`h]`b`Y`b`']`b`':`c`f`a`
X`Y`g`A`U`g`_`c`h`h`W`Y`b`g`A`U`_`Y`m`\_`c`g`h`Y`b`Z`f`Y`_`U`b`X]Y`6`Y`gi`W`X`Y`f`j`Y`fhY]`h`
8]Y`g`Y`D`U`h]b`Y`bj`Y`f`g]c`b`g`c`X`U`g`#`h`Y`f`Y`gg`Y`i`b`X`X]Y`?`f`Y`U`h]j`]h`A`h`X`Y`f`

† b[Yb`N]Y`[fi ddY`UbFY[ Yb"9]b`E F!7cXY`Ui Z`XYf`D`Uh]bY`ZØ\ fh`ni
ni g`Àh`n`]WXYb`≠Zcfa Uh]cbYb`ØVYf`X]Y`Bi hni b[ `i bX`XUg`DchYbn]U`
XYg`?]hg"

DfU_h]gWXY`5bk YbXi b[ Yb`i bX`9I dYf]a YbhY

8 Ug`< YfnghØW`XYg`A U\_Ym@UV`]gh`Y]bY`A]_fcWc`bhfc`Yf!D`Uh]bY`ž
X]Y`XYb`Bi hnYfb`Y]bY`[fUZ]gWXY`Dfc[ fUa`a]Yfi`a [ YVi`b[`V]YhYhž
À\b`]W`k]Y`VY]`XYa`VY`Ub`bhYb`7U``]cdY!7ca`di`hYf"8]Y
]bhY[f]YfhYb`GYbgcfYb`Yfa`Ò[ `]WXYb`Ygžj`YfgW]YXYbY
I`a`k`Y`hXUhYb`k ]Y`HYa`dYfUhi`fž`@`ZhZYi`W`h][`\_Y]hi`bX`@`Zh[`ØhY`ni
a`YggYb"8]Yg`YfØZbYh`XYb`š [YbX`]WXYb`X]Y`A`Ò[`]W`_Y]hž
dfU_h]gWXY`9I`dYf]a`YbhY`Xi`fW`ni`ZØ\`fYbž`X]Y`X]fY`\_h`a`]h]\`fYa
5``hU[`j`YfVi`bXYb`g]bXž`VY]gd]Y`gk`Y]gY`XUg`A`YggYb`XYg
7C`&!;`Y`U`hg`]b`XYf`@`Zh`cXYf`X]Y`5b`U`mgY`W`Ya`]gWYf`Dfc`nYggY
VY]a`6fchVUW`_Yb"

J Yfa]hh`i b[ `j`cb`HYW`bc`c [ ]Yk]ggYb

8]Y`A`U`\_Yf`:`U]fY`<`Ub`bcj`Yfž`X]Y`gY]h`&`\$`%`fY[`Y`a`À»][`ghUhhZ]bXYhž
V]YhYhY]bY`D`UhhZcfa`ZØf`≠gd]fUh]cb`i`bX`?`fYUh]j`]h`Àh"8]Y
J`Yf`Ub`ghU`hi`b[ `ghY``h`Y]bY`J`YfV]bXi`b[`nk`]gWXYb`HYW`b]_ž
<`Ub`Xk`Yf`_`i`bX`?`i`bgh`\`Yf`i`bX`\`Uh`g]W`ni`Y]bYa`VY`]YVhYb
9fY][`b]g`]b`XYf`]bhYfbUh]cb`U`Yb`A`U`\_Yf!`GnYbY`Yb`hk`]W`_Y`h"8`i`fW
XUg`A`U`\_Ym@UV`V]YhYb`k`]f`ZØf`š [YbX`]WXYb`X]Y`7`\`Ub`W`ž`c`\`bY
J`cf`_Y`bb`hb]ggY`]b`X]Y`K`Y`h`XYf`Dfc[`fUa`a`]Yfi`b[ `i`bX
I`a`k`Y`hhYW`b]\_Y]bni`hUi`WXYb`žgc`6UW`ZY`X`k`Y]hYf"

DUfhbYf`i`bX`6c`hgW`UZhYf`XYf`A`U`\_Yf`:`U]fY

8Yf`I`a`k`Y`h!7Ua`di`g`6]f`\_YbZY`Xž`VY`Ub`bh`U`g`8Yi`hgW`Ub`Xg
[`fØbghYf`<`c`W`gW`i`gh`Ub`Xc`fhž`i`bhYfghØmh`XUg`Dfc`Y`_h`i`bX`k`]fX
YVYbZU`g`Ui`Z`XYf`A`U`\_Yf`:`U]fY`j`YfhfYhYb`gY]b"8]YgY`DUfhbYfgW`UZh
i`bhYfghfY]W`h`XYb`I`a`k`Y`hZc`\_i`g`XYg`Dfc`Y`_hYg"8]Y`A`U`\_Yf`:`U]fY
<`Ub`bcj`Yf`ghY`\`h`i`bhYf`XYf`G`W`]fa`Y`ffgW`UZh`XYf
6i`bXYgV`]Xi`b[`ga`]b]ghYf]b`6Yhh]b`U`GhUf`!`K`Uhn]b[`Yf`i`bX`k`]fX`j`cb
GhYZZYb`?`fUW`ž`XYa`fY[`]cbgd`f`Àg]XYbhYb`j`cb`<`Ub`bcj`Yfž`U`g

6chgWk UZhYf'i bhYfghØhnh"

: Un]h

⊕g[YgUa h'V]YhYh'XUg'A U_Ym@UV'Y]bY'j]Y'j YfgdfYWk YbXY
D'UhhZcfa ži a 'š [YbX']Wk Yb'XUg'⊕hYfYggY'Ub'X][ ]hU'Yb
HYWk bc'c [ ]Ybž'B Uhi fk]ggYbgWk UZhYb'i bX'! a k Y'h\Ya Yb
bÀ\Yfni Vf]b[Yb" '8i fWk 'X]Y' ?ca V]bUh]cb'Ui g'gd]Y'Yf]gWk Ya
@YfbYb'i bX'dfU_h]gWk Yb'5bk YbXi b[Yb'k]fX'XUg'Dfc'Y_h'XUni
VY]hfU[Ybž'Y]b'6Yk i gghgY]b'ZØf'X]Y'X][ ]hU'Y'K Y'hi bX'XYfYb
9]bZi gg'Ui Zi bgYf'hÀ [']Wk Yg'@YVYb'ni 'gWk UZZYb"

: Øf'k Y]hYfY' ⊕Zcfa Uh]cbYb'ØVYf'XUg'A U_Ym@UV'i bX'X]Y'A U_Yf
: U]fY' < Ubbcj Yf'_ØbbYb'⊕hYfYgg]YfhY'Ui Z'X]Y'⊕hYfbYhgY]hY'XYg
A U_Y!A U[Un]bg[Y\Yb"

' B 5;

8YhU]`g

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