

GW Ø`Yf`dZ`UbnYb`) "&) \$`6Äi a Y`]b 6Yf`]bYf`GWXi `k U`X

⇒a`A`Äfn`i`bX`5df]"&\$&(`UVYb`GWØ`Yf]bbYb`i`bX`GWØ`Yf`XYf`6ØWYfk`i`fa`!;`fi`bXgWxi`Y`i`bX`XYf`GWXi`Y`Ua`A`i`a`a`Y`gc`"]b`XYf`<`Öbck`Yf`K`Y]\Yf`_YhhY`Ui`ZY]bYf":`ÄWY`j`cb`%&"\$\$\$`E`i`UXfUha`YhYfb`]bg[`YgUa`h`) "&) \$`↑`b[`Y`6Äi`a`Y`i`bX`GhfÄi`WYf`[`YdZUbnh`"8]YgYg`i`a`ZUb[`fY]WY`DZUbndfc`Y`_hk`i`fXY`j`cb`XYf`l`bhYfYb`BUhi`fgWxi`hVY\`ÖfXY`]b]h]]Yfh`i`bX`j`ca`GhfU»Yb!`i`bX`;`fØbZÄWYbUa`h`XYg`6Yn]f_g`A`UfnU\b!<Y`YfgXcfZi`bhYfghØhnh`"8]Y`GYhn`]b[`Y`_Ua`Yb`Ui`g`XYf":`cfghVUi`a`gWxi`Y`@øfggYb`VY]`A`ØbWYVYf[`ž`k`Ä`fYbX`nk`Y]?`U`hV`i`hdZYfXY`a`]h`XYa`DZi`[`X]Y`DZUbni`fÄVYb`]a`j`ca`GWXi`hh`Xi`fW`gYhnhYb`l`bhYf[`fi`bX`j`cfVYfY]hYhYb`"8Ug`N]Y`XYg`Dfc`Y`_hg`]gh`Ygž`k`Ygh]W`XYf`@ci`]g!`@yk`]b!GhfU»Y`ØVYf`X]Y`X`fY`Y`]bk`Y[`Y]bYb`ghfi`_hi`ffY]WYb`i`bX`_]a`UghUV]`Yb`A`]gW`k`U`X`a`]h`HfUi`VYbY]WYb`i`bX`<U]bVi`WYb`Yb`hghY`Yb`ni`"UggYb`"Ni`gÄhn`]W`/`Ua`d`^Y`]d/`

⇒a`A`Äfn`i`bX`5df]"&\$&(`UVYb`GWØ`Yf]bbYb`i`bX`GWØ`Yf`XYf`6ØWYfk`i`fa`!;`fi`bXgWxi`Y`i`bX`XYf`GWXi`Y`Ua`A`i`a`a`Y`gc`"]b`XYf`<`Öbck`Yf`K`Y]\Yf`_YhhY`Ui`ZY]bYf":`ÄWY`j`cb`%&"\$\$\$`E`i`UXfUha`YhYfb`]bg[`YgUa`h`) "&) \$`↑`b[`Y`6Äi`a`Y`i`bX`GhfÄi`WYf`[`YdZUbnh`"8]YgYg`i`a`ZUb[`fY]WY`DZUbndfc`Y`_hk`i`fXY`j`cb`XYf`l`bhYfYb`BUhi`fgWxi`hVY\`ÖfXY`]b]h]]Yfh`i`bX`j`ca`GhfU»Yb!`i`bX`;`fØbZÄWYbUa`h`XYg`6Yn]f_g`A`UfnU\b!<Y`YfgXcfZi`bhYfghØhnh`"8]Y`GYhn`]b[`Y`_Ua`Yb`Ui`g`XYf":`cfghVUi`a`gWxi`Y`@øfggYb`VY]`A`ØbWYVYf[`ž`k`Ä`fYbX`nk`Y]?`U`hV`i`hdZYfXY`a`]h`XYa`DZi`[`X]Y`DZUbni`fÄVYb`]a`j`ca`GWXi`hh`Xi`fW`gYhnhYb`l`bhYf[`fi`bX`j`cfVYfY]hYhYb`"8Ug`N]Y`XYg`Dfc`Y`_hg`]gh`Ygž`k`Ygh]W`XYf`@ci`]g!`@yk`]b!GhfU»Y`ØVYf`X]Y`X`fY`Y`]bk`Y[`Y]bYb`ghfi`_hi`ffY]WYb`i`bX`_]a`UghUV]`Yb`A`]gW`k`U`X`a`]h`HfUi`VYbY]WYb`i`bX`<U]bVi`WYb`Yb`hghY`Yb`ni`"UggYb`"Ni`gÄhn`]W`/`Ua`d`^Y`]d/`

8Ug`N]Y`XYg`Dfc`Y`_hg`]gh`Ygž`k`Ygh]W`XYf`@ci`]g!`@yk`]b!GhfU»Y`ØVYf`X]Y`X`fY`Y`]bk`Y[`Y]bYb`ghfi`_hi`ffY]WYb`i`bX`_]a`UghUV]`Yb`A`]gW`k`U`X`a`]h`HfUi`VYbY]WYb`i`bX`<U]bVi`WYb`Yb`hghY`Yb`ni`

`UggYb"Ni gÅhn`jW`gc`Yb`j YfgW`jYXYbY`GhfUi W`UfhYb`k`jY
<UgY`bi ggž`<c`i bXYfž`GW`bYYVU`ž`DZUZZYb\ØhW`Yb`i bX`<Ufhf`jY`Y`
Y]bYb`[Yghi ZhYb`K U`XfUbX`V`XYbž`XYf`nU`\fY]W`Yb`ϕbgY`_hYb`i bX
J Ò[Y`b`BU\fi b[`i bX`@VYVbgfUi a `V]YhYh"

8]Y`bYi`YbhghUbXYbY`K U`XZÅW`Y`gc`Ub[Zf]gh[`]b`XYb`i bhYff]W`h
]bhY[f]Yfh`k YfXYbž`XUa`]h`X]Y`GW`Ø`Yf]bbYb`i bX`GW`Ø`Yf`X]Y
9bhk`jW`_i b[`]\fYg`GW`i`k U`XYg`j YfZc`[Yb`i bX`X]Y`_ca`d`YI Yb
Ni gUa`a Yb`Åb[Y`]a`^2`_cgmghYa`i`K U`X`VYggYf`j YfghY`Yb`_ØbbYb"

: Øf`XYb`_ca`a YbXYb`<YfVgh`&\$&(`g]bX`VYfY]hg`k`Y]hYfY
DZUb`nU`_h]cbYb`[Yd`Ubh" `ϕ`Y]b[Yb`6YfY]W`Yb`XYg
@UbXgW`UZhggW`i`hn[YV]Yhg`k`YfXYb`UV[Yghc`fVYbY`DUdd`Y`b
YbhZYfbhž`k`cVY]YfbYi`hF`ØW`_YdZYfXY`ni`f`gW`cbYbXYb
<c`nhfUbgdc`fh`Y]b[YgYhnh`k`YfXYb"8]YgYf`VY`i`hgUa`Y`K`U`Xi`a`VUi
k`j`fX`Ui`W`ni`_ØbZh[`]b`XYf`<Øbck`Yf`K`Y]\Yf`_YhhY`Zc`fh[YgYhnhž`i`a
Y]bYb`[Ygi`bXYb`i`bX`ni`_i`bZhgc`f]Ybh]YfhYb`K`U`X`ni
[Yk`Å`f`Y]ghYb"

8]Y`5bk`c`bYf]bbYb`i bX`5bk`c`bYf`k`YfXYb`U`_hj` `]b`X]Y`DZY[Y
XYg`K`U`XYg`Y]b[YVi`bXYb`i`bX`i`bhYfghØhnYb`VYfY]hg`VY]
j`YfgW`jYXYbYb`A`U»`bU`a`Yb" `ϕ`Ni`_i`bZhgc`Yb`ni`XYa`i`GW`j`XYf
Ui`ZX]Y`bYi`Ub[Y`Y[hYb`6YfY]W`Y`]\bk`Y]gYbž`i`a`XUg`K`UW`ghi`a
XYf`GYhn`]b[Y`cdh]a`U`ni`i`bhYfghØhnYb"

EiY`Y.`k`k`k`"VYf`]b"XY

8YhU]`g

6Ygi`W`Yb`G]Y`i`bg`Ui`Z.`a`Y]b!VYf`]b"bYh