

F i gg]gW\ Y `Dc gh'gY hnh'6 `c W_ W\ U]b!
HYW\ bc `c []Y `VY]`XYf`DU_Yhj YfZc `[i b[`Y]b
`6 `c W_ W\ U]b

8 Yf`bUh]cbU`Y`Dc ghVYhfY]VYf`F i gg`UbXg`d`Ubh`X]Y`9]bZ0\ fi b[
Y]bYg`DU_Yhj YfZc `[i b[ggmghYa gž`XUg`Ui Z`6 `c W_ W\ U]b!
HYW\ bc `c []Y `VUg]Yfh"8]Y`9]bZ0\ fi b[`XYg`bYi`Yb`8]YbghYg`]gh
HY]`XYf`X][]hU`Yb`HfUbgZc`fa`Uh]cbggghfUhY []Y`XYf`fi`gg]gW\Yb
Dcgh`i`bX`gc``X]Y`NU\``XYf`j`Yf`c`fYbYb`GYbXi`b[Yb
fYXi`n]YfYb``6 `c W_ W\ U]b!VUg]YfhYg`HfUW_]b[!GmghYa ž`XUg`XYf
fi`gg]gW\Yb`Dcgh`\]`Zž`NY]hi`bX`F`Yggci`fW`b`ni`gdUfYb`a
FU\`a`Yb`XYf`6Ya`0\`i`b[Yb`i`a`X]Y`9bhk`]W_`i`b[`gY]bYf
8]YbghY]ghi`b[Yb`i`bX`X]Y`J`YfVYggYfi`b[`XYf`9ZZ]n]Ybn`gY]bYf
@`c []gh]_ž`DcW\hU`F`cgg]]ž`c`XYf`X]Y`fi`gg]gW\Y`Dcghž`Yfk`À[h
j`YfgW\]YXYbY`C`dh]cbYbž`Y]bgW\`Y»`W\`XYf`a`d`Ya`Ybh]Yfi`b[
XYf`6 `c W_ W\ U]b!HYW\ bc `c []Yž`gU[hY`Y]b`J`YfhfYhYf`XYg
I`bhYfbY\`a`Ybg`[Y[Yb0VYf`J`YXca`cgh]"`N]h]Yfh`X]Y`GhfUhY []Y
XYg`Dc ghVYhfY]VYfg`Z0f`X]Y`X][]hU`Y`HfUbgZc`fa`Uh]cbž`X]Y
; YgW\`À`ZhghU[YgnY]hi`b[`[Ya`Y`XYh`XUgg`X]Y`YfghYb`D]`c`hYb`]b
/ Ua`d`^`Y``d/

8Yf`bUh]cbU`Y`DcghVYhfY]VYf`Fi gg`UbXg`d`Ubh`X]Y
9]bZØ\fi b[`Y]bYg`DU_Yhj YfZc`[i b[ggmghYa gž`XUg`Ui Z
6`cW_WX U]b!HYWxbc`c[]Y`VUg]Yfh"8]Y`9]bZØ\fi b[`XYg
bYi Yb`8]YbghYg`]gh`HY]`XYf`X][]hU`Yb
HfUbgZcfa Uh]cbgghfUhY[]Y`XYf`fi gg]gWXYb`Dcghi bX`gc``
X]Y`NU\`XYf`j Yf`cfYbYb`GYbXi b[Yb`fYXi n]YfYb"

6`cW_WX U]b!VUg]YfhYg`HfUW_]b[!GmghYa ž`XUg
XYf`fi gg]gWXYb`Dcgh`\]`Zhž`NY]h`i bX
F Yggci fWYb`ni `gdUfYb

⇒ F U\ a Yb`XYf`6Ya Ø\i b[Yb`i a `X]Y`9bhk]W_`i b[`gY]bYf
8]Ybgh`Y]ghi b[Yb`i bX`X]Y`J YfVYggYfi b[`XYf`9ZZ]n]Ybn`gY]bYf
@[]gh]_ž`Dc WX hU`F c gg]]ž`cXYf`X]Y`fi gg]gWXYb`Dcghž`Yfk Å[h
j YfgWXYXYbY`C dh]cbYbž`Y]bgWXY`Y» `]WXYf`⇒ d`Ya Ybh]Yfi b[`XYf
6`cW_WX U]b!HYWxbc`c[]Yž`gU[hY`Y]b`J YfhfYhf`XYg`I bhYfbY\ a Ybg
[Y[YbØVYf`J YXca`cgh]"N]h]Yfh`X]Y`GhfUhY[]Y`XYg`DcghVYhfY]VYfg
ZØf`X]Y`X][]hU`Y`HfUbgZcfa Uh]cbž`X]Y` ; YgWXY`ZghU[YgnY]hi b[`
[Ya Y`XYh`XUgg`X]Y`YfghYb`D`chYb`]b`XYb`_ca`a YbXYb`↵\fYb
Yfk UfhYh`k YfXYb"

8]Y`fi gg]gW\Y`Dc gh`VYUVg]W\h][hž]\f`6`c_W_W\U]b!VUg]YfhYg
HfUW_]b[!GmghYa`VYfY]hg`&\$&`Y]bni ZØ\fyb"8Yf`bYi Y`8]Ybgh`k]fX
a Uf_hcf]Ybh]Yfh`gY]bž`gU[hY`J`UX]a]f`i fVUbg_mž`8]fYWhcf`cZ`8][]hU`
DfcXi Whg"9f`Yf_`ÀfhY`k Y]hYfž`XUgg`X]Y`fi gg]gW\Y`Dc gh`HY]`Y]bYf
@c[]gh]__YhhY`gY]i bX`VYhcbhYž`XUgg`XUg`GmghYa`Yg]\f
Yfa Ò[`]W\Yb`k]fXž`UbXYfYb`i bhYfbY\`a Yb`9bX!hc!9bX!HfUW_]b[!
⊖Zcfa Uh]cbYb`ni f`J YfZØ[i b[`ni`ghY`Yb"

J YXca cgh]n]h]Yfh`Y]bY`E i Y`Y`Ui g`XYf`#H!6fUbW\Yž`X]Y
_ca a Ybh]YfhYž`XUgg`XUg`6`c_W_W\U]b!Dfc`Y`_h`XUfUi Z`UVn]Y`hž`X]Y
5bnU\`j Yf`c`fYbYf`DU`_YhY`ni`VY[fYbnYb"8Yf`9I dYfhY`[`Ui Vhž
XUgg`X]Y`bYi Y`D`UhhZcfa`XYb`VYghY\`YbXYb`HfUW_]b[!
A YW\Ub]ga i g`XYf`F i gg]gW\Yb`Dc gh`YfgYhnYb`i bX`NY]hi bX`A Ø\Y
VY]`XYf`Gi W\Y`bUW`j Yf`c`fYbYb`GYbXi b[Yb`gdUfYb`_Ubb"8Ug
VYXYi hYh`Ui W\ž`XUgg`k Yb][Yf`DYfgcbYb`]b`XYb`DfcnYgg`]bj`c`j]Yfh
g]bX"

...

8]Y`X][]hU`Y`HfUbgZcfa Uh]cbggghfUhy[]Y`XYg`Dc gh`VYhfY]VYfgž
Y]bgW\`Y`Y`W\Y`Y]bYf`F cUXa Ud`ZØf`XYb`6`c_W_W\U]b!HfUW_]b[!
8]Ybghž`k]fX`XYfnY]hj ca`A]b]ghYf]i a`ZØf`X][]hU`Y`9bhk]W`i b[ž
?ca a i b]_Uh]cb`i bX`A UggYba YX]Yb`ØVYfd`fØž"9]bY`YbX[Ø`h][Y
9bhgW\Y]Xi b[`ghY\`Y`bcW\`Ui gž`gU[hY`A]b]ghYf`A U`gi h`G\UXUYj
XYf`NY]hi b["⊖`X]YgYa` : U`k]fX`X]Y`GhfUhy[]Y`XYa
J Yfk U`hi b[gfUhiXYg`i bhYfbY\`a Ybg`j cf[YghY`h"6Y]
; YbY\`a][i b[`k YfXYb`V]g`9bXY`&\$&)`⊖]Ygh]h]cbYb`]a`K Yfh]cb
, ž&A]`]UfXYb`F i VY`fZUgh) &) `A]`cbYb`i G!8c`UfE[YhÀh][h"

8]Y`fi gg]gW\Y`Dc gh`VYgW\Àžh][h`g]W\`gY]h`Y]b][Yf`NY]h`a]h
6`c_W_W\U]b!HYW\bc`c[]Ybž`\Y]h`Yg`]b`XYa`6Yf]W\h"⊖`C`_hcVYf
&\$%+`[UV`XYf`; YbYfU`X]fY`_hcf`B]_c`U]DcX[i ncj`D`ÀbY`ni f
I a gYhni b[`VY`_Ubbh`6`c_W_W\U]b`@Øgi b[Yb`ni f`VYggYfYb
?cbhfc`Y`XYf` :]bUbnhfUbgU_h]cbYb`XYg`i bhYfbY\`a Ybg"

K]f`\UVYb`YXYb`HU[` - `A]`]UfXYb`F i VY`Ub`HfUbgU_h]cbYb"i a
X]Y`G]W\Yf\`Y]h`X]YgYf`HfUbgU_h]cbYb`ni`[Yk`À`f`Y]ghYbž`]gh`Yg
Xi fW\Ui g`a Ò[`]W\ž`XUgg`k]f`X]Y`6`c_W_W\U]b!HYW\bc`c[]Y

Y]bgYhnYb`i bX`XUfUb`UfVY]hYb ž'gU[hY`X]Y : Ø\fi b[g_fUZhž'n]h]Yfh
j cb`HUgg" `K Å\ fYbX`XYg`Fi gg]U`7U``b[!: cfi a g'gU[hY`DcX[i ncj ž
Yf`Yfk UfhYž`XUgg`X]Yg`X]Y`E i U`h`h`XYf`DcghX]YbghY`j YfVYggYfb
_ÖbbhY"

; `Ui VYb`G]Yž`XUgg`]b`Ni _i bZh`UbXYfY`DcghX]Ybgh`Y]ghYf`Ui Z
6`cW`W U]b!HYW`bc`c[]Yb`gYhnYb`k YfXYb3`GU[Yb`G]Y`Yg
i bg`ja `?ca a YbhUfVYfY]W`i bhYb"

6]`XbUW`k Y]gY. `G\i hYfghcW_ž`D]l UVUmž`K]_]`7ca a cbg

fØ bWh]cbfXž'gž']XŁ`o`j Uf`'gž`Z'g`1`X"[Yh9`Ya Ybhg6mHU[BUa YfgŁQ\$Q'
]ZfK"[Yh9`Ya Ybh6m`Xf]XŁŁ`fYhi fb/'`g`1`X"WfYUhY9`Ya YbhfgŁ/'`g"]X`1
]X/'`g"gfWl "\hhdg. #WcbbYWh"ZUW`Vcc_"bYh#YbSl G#gX_"`g. l ZVa `1`%
j Yfg]cb1 j ' "&"/Z'g"dUfYbhBcXY"]bgYfh6YZcfYf'gž`Z'gŁ/qfKcW a Ybhž
fgWf]dhfž`fZUW`Vcc_!`ggX`fŁŁ/

8YhU]`g

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