

F Yb hY bdfc V`Ya Uh]_`]a `GUUf`UbX.`K Yb][
9]b_ca a Ybž`[Yf]b[Y`5`hYfgj c fgc f[Y

⇒a `GUUf`UbX`ghY\Yb`j]Y`Y`5fVY]hbY\`a Yf`j cf`Y]bYf`b]YXf][Yb
F Yb hY ž`hfchn`U\fnY\`bhY`Ub[Yf`9]bnU\`i b[Yb`"BYi Y`8UhYb
nY][Yb`VYgc f[b]gYffY[YbXY`F Yb hY bdfc[bcgYb"

⇒a `GUUf`UbX`nY]W\ bYh`g]W\`Y]b`VYgc f[b]gYffY[YbXYg`6]`X`ZØf`j]Y`Y
5fVY]hbY\`a Yf.`Hfchn`U\`fY`Ub[Yf`\UfhYf`5fVY]h`i bX`fY[Y`a`À»][Yf
6Y]hfÅ[Y`ni f`F Yb hY b] Yfg]W\Yfi b[`]gh`X]Y`5i gg]W\h`Ui Z`Y]bY
Ub[Ya YggYbY`F Yb hY`ZØf`fi bX`+, "\$\$\$
gcn]U`j Yfg]W\Yfi b[gdZ]W\h][Y`J c``nY]hVYgW\`ÀZh][hY`hfØV`"BUW\`()
↵\fYb`a]h`Xi fW\ [`Àb [][`]cbghUb hY b`9]b_ØbZhYb`k ØfXYb`X]YgY
`YX][`]W\`Y]bY`F Yb hY`j cb`V]g`ni`%" "\$`9i fc`Yf\U`hYb`"8]Yg[Y\h
Ui g`Y]bYf`U_hi Y``Yb`5bhk cfh`XYf`6i bXYgfY[]Yfi b[`Ui Z`Y]bY
5bZfU[Y`j cb`GU\fu`K U[Yb_bYW\hž`XYf`; fØbXYf]b`XYf`DUfhY`ZØf
Gcn]U`Y`; YfYW\h][`Y]h`f6GK Łi bX`6i bXYghU[gUV[YcfXbYhYbž
\Yfj cf"

8]Y`U`Ufa]YfYbXYb`NU\`Yb`VY`Y[Ybž`XUgg`]a `GUUf`UbX`]bg[YgUa h
_bUdd`&)" "\$\$\$`A YbgW\Yb`VY`]Y]bYf[`Y]W\V`Y]VYbXYb
; Y\U`hgYbhk]W`i b[`bUW\`(` \$`↵\fYb`J Yfg]W\Yfi b[gnY]h`YVYbZU`g
i bhYf`X]YgYf`a U[]gW\Yb`F Yb hY ba Uf_Y`V`Y]VYb`k ØfXYb`"8cW\`XUg
6i bXYgUfVY]hga]b]ghYf]i a `U`h`Ui Z`X]Y`j cb`; fUi`K U[Yb_bYW\h
Ui Z[YZØ\fhYb`5bbU\`a Yb`fYU[]Yfh`i bX`VYhcbhž`XUgg`X]Y`ni [fi bXY
`Y[YbXYb`6YfYW\bi b[Yb`i bfYU`]gh]gW\`gY]Yb`"9g`k]fX`Yfk UfhYhž
XUgg`X]Y`Xi fW\gW\b]h`]W\Yb`@Ø\`bY`i bX`gca]h`X]Y`F Yb hY b`]a
@Ui ZY`XYf`↵\fY`ghY][Ybž`k Ug`X]Y`dYgg]a]gh]gW\Yb`NU\`Yb
fY`Uh]j]YfYb`_ØbbhY"

F Yb hY b Y]b hf]hhgU`hY f`i b X`6Y]hfU[gdZ]W\h

8]Y`FY[Y`i b[`XYg`FYbhYbY]bhf]hgu`hyfg`j]b`8Yi`hgW`UbX`\Uh`g]W`
gY]h`&\$%&`XfUgh]gW`j`YfAbXYfh`G`W`f]h`k`Y]gY`k`]fX`XUg`fY[i`AfY`
FYbhYbY]bhf]hgu`hyf`j`cb`*)`Ui`Z`*`+`j\`fY`Ub[Y`cVYb`"i`a`i`b`XYb`
;`Ybi`gg`Y]bYf`5`hyfgfYbhY`Z0f`Ub[`A`f][`J`Yfg]W`YfhY`ni`_`ca`a`Yb`z`
g]bX`")`6Y]hfU[g`U`fY`YfZcfXYf`W`":`0f`X]Y`5`hyfgfYbhY`Z0f`
VYgcbXYfg`Ub[`A`f][`J`Yfg]W`YfhY`g]bX`gc[Uf`(`) `j\`fY`Ub`
6Y]hfU[gnU`i`b[Yb`b`ch`k`YbX]["6YgcbXYfY`FY[Y`i`b[Yb`i`[Y`hYb`Z0f`
j\`f[`Ab[Y`z`X]Y`j`cf`%-`*(`[YVcfYb`k`i`fXYb`z`X]Y`X]Y`A`0[`]W`_Y]h`
\UVYb`z`Zf0`Yf`i`bX`c`b`Y`5VgW`A`[Y`]b`FYbhY`ni`i`[Y`Yb`z`gcZYfb`g]Y`
a`]bXYghYbg`")`j\`fY`Y]b[YnU`h`\UVYb`"

:`0f`U`Y`z`X]Y`UV`%-`*(`[YVcfYb`k`i`fXYb`z`[]`h`Y`XcW`X]Y`FY[Y`i`b[z`
XUgg`g]Y`Ui`W`b`UW`")`6Y]hfU[g`U`fYb`XUg`fY[i`AfY`
FYbhYbY]bhf]hgu`hyf`j`cb`*`+`j\`fYb`YffY]W`Yb`a`0ggYb`zi`a`i`c`b`Y`
5Vn0[Y`]b`FYbhY`[Y`Yb`ni`_`0bbYb`"6Y](`) `J`Yfg]W`Yfi`b[g`U`fYb`
VYghY`h`h`]b[Y[Yb`X]Y`A`0[`]W`_Y]h`z`j`cfnY]h][]b`FYbhY`ni`i`[Y`Yb`z`
k`Ug`Z0f`j`]Y`Y`Y]bY`k`YgYbh]W`Y`9f`Y]W`hYfi`b[`XUfghY`Yb`_`0bbhY`"

6YhfUW`hi`b[`XYf`5`hyfgj`c`f`g`c`f[Y`

8]YgY`NU`\Yb`k`YfZYb`Y]b`@]W`h`Ui`Z`X]Y`<YfUi`gZcfXYfi`b[Yb`z`j`cf`
XYbYb`j`]Y`Y`5fVY]hbY`a`Yf`ja`GUUF`UbX`ghY`Yb`"8]Y`FYU`]h`A`h`XUgg`
gY`Vgh`b`UW`j\`fnY`b`hYb`b`UfhYf`5fVY]h`X]Y`Z]b`Ubn]Y`Y`5Vg]W`Yfi`b[
]a`5`hyf`a`0[`]W`Yfk`Y]gY`b]W`h`Ui`gfY]W`h`z`]gh`U`Ufa`]YfYbX`"8]Yg`
_`0bbhY`]bgVYgcbXYfY`Z0f`X]Y`Yb][Yb`VYgcf[b]gYffY[YbX`gY]b`z`X]Y`
_Y]bY`A`0[`]W`_Y]h`ni`i`\`0`YfYb`9]b`_0b`ZhYb`\U`hYb`c`XYf`]b`
6fUbW`Yb`UfVY]hYb`z`X]Y`b]W`h`i`[i`h`Yb`h`c`b`h`k`YfXYb`"

J`YfgW`]YXYbY`:`U`_`hc`fYb`hfU[Yb`ni`X]YgYf`VYgcf[b]gYffY[YbXYb`
G]hi`Uh]cb`VY]z`XUfi`bhYf`X]Y`9bh`k`]W`_i`b[Yb`Ui`Z`XYa`5fVY]hga`Uf`_`h`z`
X]Y`c`Zh`j`cb`i`bg]W`Yf`Y]hYb`[Ydf`A`[h`g]bX`z`i`bX`X]Y`HUhgUW`Y`z`XUgg`
b]W`h`U`Y`6fUbW`Yb`[`Y]W`Y`9]b`_`ca`a`Ybga`0[`]W`_Y]hYb`V]YhYb`"
8]Y`X]g`_i`h]YfhY`DfcV`Ya`Uh]_`VYn0[`]W`X`Yf`5`hyfgj`Yfgcf[i`b[`hi`h`
b]W`h`bi`f`XYa`9]bnY`bYb`k`Y`z`gc`bXYfb`Z0`fh`Ui`W`ni`Y]bYf`
VfY]hYfYb`8]g`_i`gg]cb`0VYf`X]Y`:`YfYW`h][_Y]hi`bX`HfU[Z`A`][_Y]h`
XYg`XYi`hgW`Yb`FYbhYbgmghY`a`g`"

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