

HfU[]gW\Yf'I bZU``Ui Z'XYf'6%- +.
, \$!>À\ f][Yf'gh]fVh'bUW\ '7fUg\ 'a]h'6Ui a

9]b'+\$!>À\ f][Yf'_c``X]YfhY']b'A YW_YbVi f['a]h'Y]bYa '6Ui a ž
k Ug'ni 'Y]bYa 'h0X`]W\Yb'6fUbX'Z0\fhY"'5V`Yb_i b['Xi fW\'; DG
gd]Y`hY`Y]bY`F`c``Y"

9]b'hfU[]gW\Yf'J Yf_Y\fgi bZU``\Uh'Ua 'GcbbhU[UVYbX`]b`XYf
A YW_YbVi f[]gW\Yb'GYYbd`UhhY`Z0f`VYgh0fnhY`F`YU_h]cbYb'[Ygc f[h"
9]b'+\$!>À\ f][Yf'5i hcZU\fyf'j Yf'cf`X]Y'?cbhfc``Y`0VYf'gY]b
: U\fnYi ['Ui Z'XYf'6i bXYgghU»Y'6%- +'nk]gW\Yb'GUXY`_ck`i bX
: f]YX`UbXž'k Ug'ni 'Y]bYa `j Yf\YYfYbXYb'5i ZdfU``[Y[Yb`Y]bYb
6Ui a `Z0\fhY"'8UVY][Yf]Yh`XUg: U\fnYi [`]b: `Ua a Yb`i bX`XYf
: U\fyf'k i fXY`Ui g`XYa `VfYbbYbXYb'5i hc`VYZfY]hž`_cbbhY`YXcW\
b]W\h[YfYhhYh'k YfXYb"

8]Y'9]bgUhm_fÄZhY'j cb: Yi Yfk Y\fi bX'Dc`nY]'k UfYb'gW\by``j cf
Cfhž'i a`ni `Y`ZYb"'Hfchn`U`Yf'6Ya 0li b[Yb`XYf`F`Yhi b[ghYUa g
ghY`hY`Y]b`BchUfnh`XYb`HcX`XYg`A`UbbYg`ZYghž`U`g`Yf`VYfY]hg`Ub
gY]bYa `GhYi Yf'hc`h`Ui Z[YZi bXYb`k i fXY"'8Yf'J Yf_Y\f`Ui Z'XYf'6%- +
k i fXY`Z0f`Yhk U`nk Y]'Ghi bXYb'[Yghcddhž'i a`9fa]hhi b[Yb
Xi fW\ni Z0\fyb`i bX`X]Y`I bZU`ghY`Y`ni `g]W\Yfb"

I fgUW\Yb`XYg`I bZU``g

6YfYW\bi b[Yb`i bX`YfghY`&Zcfa`Uh]cbYb`Y[Yb`bU\Yž`XUgg
5V`Yb_i b[Yb`Xi fW\`XUg'; DG!GmghYa `XYg: U\fnYi [g`Y]bY`F`c``Y
VY]'XYa `h0X`]W\Yb`I bZU``[Ygd]Y`h`\UVYb`_0bbhYb"'6Yf]W\hYb
ni Zc`[Y`k Uf`XYf`gW\k Yfj Yf`YhhY`A`Ubb`Xi fW\`UbXYfY
GY\Yb`gk 0fX][_Y]hYb`UV[Y`Yb`hž`X]Y`Ui Z'XYa `; DG`Ub[YnY][h
k i fXYb"'Gc`W\Y`5V`Yb_i b[Yb`g]bX`Y]b`]a a Yf`\Äi Z][Yf
k YfXYbXYg`DfcV`Ya `]a `GhfU»Ybj Yf_Y\fi bX`j YfXYi h]W\Ybž`k]Y

X]Y`a cXYfbY`HYW.bc`c []Y`gck c\`Y]bY`<]`ZY`U`g`Ui Wk`Y]b`F]g]_c
gY]b`_Ubb"

8]Y`hfUi f][Y`B UWk f]Wk`h`j YfVfY]hYhY`g]Wk`gWk`bY``i bX`gc f[hY`Ui Wk`
Ui »Yf\U`V`XYf`F`Y []cb`ZØf`VYhfcZYbYg`A]h[YZØ\`""DUggUbhYb
VYa Yf_hYb`X]Y` [fc»Y`NU\`j`cb`FYhhi b[gZU\fnYi [YbžX]Y`ni f
l bZU`ghY``Y`Y]`hYbž`i bX`hfi [Yb`XUni`VY]ž`XUgg`X]Y`K`i Wk`h`XYg
l bZU`g`gWk`bY``]a` ; YXÅWk`hb]g`j]Y`Yf`A`YbgWk`Yb`V`Y]Vh`9g`k]fX
Yfk UfhYhž`XUgg`X]Y`6Y\ØfXYb`X]Y` [YbUi Yb`l`a`ghÅbXY`XYg`J`cfZU`g`
k Y]hYf`i bHyfgi Wk`Ybž`i a` _`Ufni ghY``Ybž`k`Y`Wk`Y` : U_hcfYb`]a`Gd]Y`
k UfYb"

J Yf_Y`f`gg]Wk`Yf`Y]h`i bX`5V`Yb`_i b[Yb`]a
GhfU» Ybj Yf_Y`f`

8Yf`J`cfZU``k]fZhi: fU[Yb`ni f`J`Yf_Y`f`gg]Wk`Yf`Y]h`Ui Zž`XU
5V`Yb`_i b[Yb`Xi fWk`X][]hU`Y` ; YfÅhY`k]Y`Ga Ufhd`cbYg`i bX` ; DG!
GmghYa Y`]a`a`Yf`\Åi Z][Yf`ni`gWk`YfYb`l`bZÅ`Yb`ZØ`fYb`" `b`XYb
`YhnhYb`]X`Yb`U`h`a`Ub`ni bY`a`YbX`Y`fUi g[YZ`bXYbž`XUgg`Ui Wk`
XUg`BUj] []YfYb`a`]h`Y]bYa` ; DG!GmghYa`j`cb`Y]bYf` : U`fh`UV`Yb`_Yb
_Ubbž`k`cfUi Z`j]Y`Y`J`Yf_Y`f`gYl`dYfhYb`VYfY]hg`\]b[Yk`]YgYb`\UVYb`
GhUh]gh]_Yb`VY`Y[Ybž`XUgg`5V`Yb`_i b[\]bHyf`XYa`GhYi Yf`Y]bY`XYf
\Åi Z][ghYb`l`bZU``i fgUWk`Yb`]gh"

8]YgYf`hfU[]gWk`Y`J`cfZU``fY]\`h`g]Wk`]b`Y]bY`GYf]Y`Å`b`]Wk`Yf`l`bZÅ`Y
Y]b`i bX`gc`hY`U`g`Y]bXf]b[`]Wk`Y`K`Ufbi b[`X]YbYb`"CV`† b[Y`cXYf
U`hY` : U`fYfž`YXYf`_Ubb`CdZYf`j`cb`5V`Yb`_i b[Yb`k`YfXYbž`i bX`cZn
g]bX`X]Y` : c` [Yb`j`Yf`Y`YfYbX`"8]Y`8YVUhhY`ØVYf`X]Y`B`chk`YbX][`_Y]h
Y]bYf`i`a`ZUggYbXYb`GYbg]V`]g]Yfi b[`ni`f`J`Yf_Y`f`gg]Wk`Yf`Y]h
[Yk`]bbh`Ub`8f]b[`]Wk`_Y]h"

8]Y`A`YW`_YbVi f[]gWk`Y`GYYbd`UhhY` []`h`bUWk`k`]Y`j`cf`U`g`VY`]YVhYg
N]Y`ZØf`Hci f]ghYb`i bX`BUhi f`]YV`UVYf`"J]Y`Y`A`YbgWk`Yb`_ca`a`Ybž
i`a`X]Y`UhYa`VYfUi`VYbXY`BUhi`f`ni` [Yb]Y»Yb`i`bX`g]Wk`ni
YbhgdUbbYb`"8Ug`cV][Y`l`b[`ØW`_nY][`h`Y`XcWk`ž`k`]Y`ZfU[]`gc`Wk`Y
J`Yf[bØ[i b[Yb`gY]b`_ØbbYbž`k`Ybb`hYWk`b]gWk`Y` ; YfÅhY`b]Wk`h`a`]h
XYf`bØh][Yb`J`YfU`b`k`cfhi b[` [Ybi`hnh`k`YfXYb`"

8]Y`I bZU`ghU[h]g]_Yb`VY`Y[Ybž`XUgg`Yg`]b`8Yi hgW`UbX`]a a Yf
bcW`YXYb`HU[`nU`fY]WXY`J Yf_Y`fgi bZ`Y`[]Vhž`X]Y`Xi fW
5V`Yb`_i b[Yb`j Yfi fgUW`h`k YfXYb`"J Yf_Y`fgg]WXYf`Y]h`V`Y]Vh`Y]b
k]W`h][Yg`H`Y`a Už`XUg`b]W`h`j YfbUW``Àgg][`h`k YfXYb`XUfZ`i bX
YXYf`9]bnY`bY`U`h`X]Y`J YfUb`h`k c`f`h`i b[ž`g]W`i bX`Ub`XYfY`]a
GhfU» Ybj Yf_Y`f`ni `gW`Ø`h`Yb`"9g`]gh`i bYf`Àgg`]W`ž`g]W`XYf
; YZU`fYb`VYk`i ggh`ni `gY]b`i bX`U`Yg`ni `hi bž`i a `UV`Yb`_Yb`XY
: U`hc`fYb`ni `a]b]a]YfYb`"

8]Y`HfUi Yf`i a `XYb`j]Y`ZUW`VYhfc`ZZYbYb`: U`fYf`k]fX`Ui W`]b`XYf
_ca a YbXYb`NY]h`k`Y]hYf`Ub`U`h`Yb`"K `À`fYb`X`X]Y`6Y`Ø`fXYb
k`Y]hYf`]b`Ub`5i Z`Àfi b[ga U» bU`a Yb`UfVY]hYb`ž`gc`h`Yb`Ui W`k`]f
U`Y`Ø`VYf`i bgYfY`Y][YbYb`: U`f[Yk`c`b`Y]hYb`bUW`XYb`_Yb`i bX
g]WXYfghY`Ybž`XUgg`k`]f`i bgYfY`j`c`Y`5i Za Yf_gUa`_Y]h`XYa
GhfU» Ybj Yf_Y`f`k`]Xa Yb`"Bi`f`gc`_Ø`bbYb`k`]f`XUni`VY]hfU[Ybž`XUgg
g]W`À`b`]WXY`HfU[ØX]Yb`b]W`h`k`]YXYf`c`Yb`"

J Yf_Y`f`gg]WXYf`Y]h`i bX`5`hYfg[fi`ddY`XYf
: U`fYf`

8]Y`J Yf_Y`f`gg]WXYf`Y]h`i]gh`Y]b`nYbhfU`Yf`5gdY`hž`XYf`gck`c`l`ZØf
Øb[YfY`U`g`Ui W`ZØf`À`hYfY`: U`fYf`j`cb`6YXYi`hi`b[`]gh`@Ui`h
6Yf]W`hYb`XYf`6Yfi`Zg[Ybc`ggYbgW`UZh`ZØf`G]WXYf`Y]h`i`bX
; Ygi`bX`Y]h`[]Vh`Yg`gdYn]Z]gWXY`F`]g]_Ybž`X]Y`À`hYfYb`: U`fYfb`c`Zh
VY[Y[bYb`"5`hYfi`b[gdfcnYggYž`k`]Y`bUW`UggYbXY`GY`_fUZh`i`bX
FYU`_h]cbg[YgW`k`]bX][`_Y]hž`_Ø`bbYb`X]Y`: U`fg]WXYf`Y]h
VYY]bhf`À`W`h][Yb`"Æ`8Yi`hgW`UbX`]gh`X]Y`5`hYfg[fi`ddY`XYf`Ø`VYf
*)`!`À`f][Yb`ZØf`Y]bYb`g][b]Z]_Ub`hYb`5`bhY]`XYf`J Yf_Y`f`gi`bZ`Y`
j`YfUb`h`k`c`f`h]W`ž`Ui`W`k`Yb`b`g]Y`b]W`h`X]Y`<`Ui`d`hi`fgUW`Y`]`fYf
l`bZ`Y`g]bX`"

Æ`XYb`Y`h`hYb`Δ`fYb`UVYb`a`Y`fYfY`Æ]h]Uh]j`Yb`ni`f
J`YfVYggYfi`b[`XYf`J`Yf_Y`f`gg]WXYf`Y]h`ZØf`À`hYfY`A`Yb`gW`Yb
ghUh[YZ`bXYb`"Dfc[fUa`a`Y`V]YhYb`GYb]c`fYb`: U`fhfU]b]b[g`Ubž`i`a
]`fY`: `À`][`_Y]hYb`ni`j`YfVYggYfb`"8]Yg`l`]Zhž`XUg`6Yk`i`gghY]b`ZØf
]`fY`9]bgW`f`À`b`_i`b[Yb`ni`gW`À`fZYb`i`bX`[`Y]W`nY]h][`X]Y
GY`Vghgh`À`bX][`_Y]h`ni`k`U`fYb`"

F Y`Yj UbhY`GhUh]gh]_Yb`ni f

J Yf_Y`f`gg]W`Yf`Y]h

⇒ `U\`f`&`\$`%`k`i`f`X`Y`b`]`b`8`Y`i`hg`W`X`U`b`X`Ø`V`Y`f`&`*`\$`\$`J`Y`f`_`Y`\`f`g`i`b`Z`Ä`Y`
UVgc`j`j`Y`f`h`ž`V`Y`]`X`Y`b`Y`b`Ä`h`Y`f`Y`5`i`hc`Z`U`\`f`Y`f`V`Y`h`f`c`Z`Y`b`k`U`f`Y`b`"8`Y`g`
ghY`h`Y]b`Y`b`5`b`gh]Y[`j`c`b`%`ž`i` `]a` `J`Y`f`[`Y]W`X`ni`a` `J`c`f`U`\`f`X`U`f`ž`k`j`Y`
j`c`b`X`Y`f`G`h`U`h]g`h]g`W`X`Y`b`6`i`b`X`Y`g`U`a`h`V`Y`f]W`X`h`Y`h`
⇒ h`Y`f`Y`gg`U`b`h`Y`f`k`Y]g`Y`j`Y`f`Y`h`n`Y`b`g]W`X`Ä`h`Y`f`Y`: `U`\`f`Y`f`\`Ä`i`Z][`V`Y]`Y]b`Y`a`
l`b`Z`U`ž`X`U`g]Y`]a` `;`Y[`Y`b`g`U`h`n`i` `]`\`f`Y`b` `Ø`b[`Y`f`Y`b`5`h`Y`f`g[`Y`b`c`g`g`Y`b`
k`Y`b][`Y`f`_`Ø`f`d`Y`f`]W`X`f`c`V`i`g`h`g]b`X`"8`j`Y`G`h`U`h]g`h]_`Y`b`n`Y][`Y`b`U`i`W`X`ž`X`U`g`g`
Ä`h`Y`f`Y`: `U`\`f`Y`f`b`c`Z`h`b`c`W`X`]a` `6`Y`g]h`n`Y]b`Y`g`: `Ø`\`f`Y`f`g`W`X`Y]b`g`g]b`X`ž`U`i`W`X`
k`Y`b`b`g]Y`]a` `Ø[`]W`X`Y`f`k`Y]g`Y`G`W`X`k`j`Y`f][`Y]h`Y`b`\`U`V`Y`b`ž`g]W`X`Y`f`n`i`
Z`U`\`f`Y`b`"

8]Y`J`Y`f`k`U`h`i`b[`j`c`b`J`Y`f`_`Y`\`f`g]W`X`Y`f`Y]h`i`b`X`
J`Y`f`_`Y`\`f`g`_`c`a`a`]gg]c`b`Y`b`U`f`V`Y]h`Y`b`_`c`b`h]b`i`j`Y`f`]W`X`U`b`X`Y`f`5`b`U`m`g`Y`
X]Y`g`Y`f`8`U`h`Y`b`ž`i`a` `[`Y`n]Y`h`Y`A`U`»`b`U`a`Y`b`n`i`f`G`Y`b`_`i`b[`X`Y`f`
l`b`Z`U`n`U`\`Y`b`n`i`d`U`b`Y`b`"5`i`Z`X`Y`f`6`U`g]g`X]Y`g`Y`f`⇒`Z`c`f`a`U`h]c`b`Y`b`
k`Y`f`X`Y`b`D`f`c[`f`U`a`a`Y`Y`b`h`k`j]W`X`Y`h`ž`i`a`X`U`g`: `U`\`f`j`Y`f`\`U`h`Y`b`Ä`h`Y`f`Y`f`
5`i`hc`Z`U`\`f`Y`f`n`i`j`Y`f`V`Y`g`g`Y`f`b`i`b`X`X`U`a`]h`X]Y`U`"[`Y`a`Y]b`Y`
J`Y`f`_`Y`\`f`g]W`X`Y`f`Y]h`n`i`Y`f`\`Ø`\`Y`b`"

8YhU]`g

6Ygi W`X`Y`b`G]Y`i`b`g`U`i`Z`b`!`U[`X`Y`