

F U[bUf'5WXY.'8Yf'>c_Yf'XYg': 7? 'g]WXYfh
k]WXh][Yb'5i gk Åfhgg]Y[']b'A ØbghYf

F U[bUf'5WXY'fYZY_h]Yfh'bUWX'XYa 'G]Y[hcf'VY]a '%.\$'XYg': 7?
[Y[Yb'A ØbghYf'ØVYf'gY]bY':]hbYgg'i bX'X]Y'J YfVYggYfi b[
XYf'A UbbgWX UZh"

8Yf'%": 7' ?U]gYfg'Ui hYfb' _Ubb'g]W ['ØW_]W'gW ÅhnYbž'Y]bYb
Gd]Y'Yf'k]Y'F U[bUf'5WXY]b'gY]bYb'F Y]\Yb'ni '\UVYb"8Yf'GhØfa Yf
nY]WbYhY'g]W'Ua '&('5i [i gh&\$&('VY]a '%.\$!5i gk Åfhgg]Y[
[Y[Yb'DfYi »Yb'A ØbghYf'YfbYi h'U'g'A UhWk]bbYf'Ui gž'cVkc\`Yf
b]W'hj c`ghÅbX]['Zh'gh" ð'XYf', *"'A]bi hY'hfUZ'Yf'a]h'Y]bYa
?cdZ/U`'i bX'g]WXYfhY'XUa]h'XYa ': 7? 'XfY]'k]W'h][Y'Di b_hY"
8]YgYf'G]Y['i bhYfghfY]W'h'X]Y'F c`Y'j cb'5WXY'U'g'nYbhfU'Y':][i f']b
XYf'C ZYbg]j Y'XYg'HYUa g"

5WXY'\Uh]b'XYf'YhnhYb'GU]gcb'VYa Yf_Ybgk YfhY'%* 'HcfY]'b'&*
Gd]Y'Yb'Yfn]Y'h'i bX'nY][h'Ui W']b'X]YgYf'Gd]Y'nY]hgY]bY
HfYZYfei chY" ð'bi f' , 'A]bi hYb'U'g'9]bk YW'gY'gd]Y'Yf'Yfn]Y'hY'Yf
VYfY]hg'nk Y]'HcfYž'k Ug'gY]bYf'A UbbgWX UZh']bg[YgUa hij]Yf'Di b_hY
Y]bVfUW'hY"8]YgY'NU\Yb'VY'Y[Ybž'k]Y'j]Y'DchYbn]U`'i bX'9]bZi gg
Yf'Ui ZXYb'D'Uhn'\Uhž'Ui W'k Ybb'Yf'ni fnY]h'bcW']b]W'h'VY]'%\$\$
DfcnYbh]gh"

8]Y'U_hi Y`Yb' < YfUi gZcfXYfi b[Yb

⇒a' ðhYfj]Yk' bUWX'XYa 'Gd]Y'`Ai »YfhY'g]W'5WXY'Ui W'ØVYf'gY]bY
dYfgØb`]WXY': cfa' i bX'gY]bY':]hbYgg'bUWX'XYb
5WXY'`YggY\ bYbdfcV'Ya Ybž'X]Y']\b']b'XYf'J cfVYfY]hi b[
ni fØW_\]Y'hYb" 'Hfcm'X]YgYf' < YfUi gZcfXYfi b[Yb'V'Y]Vh'gY]bY
9]bghY`'i b['d'cg]h]j .: ⇒W'ZØ\Y'a]W' [i h'K]f'\UVYb'X]Y'XfY]
Di b_hY'a]h'bUWX' < Ui gY' [Ybca a Ybž']W' \UVY' [Yhfc ZYb"8 Ug']gh

Y]b`[i hYg; YZØ\` ž'gU[hY`Yfž'k Ug`gY]bY`A ch] Uh]cb`i bhYfghfY]W`h"

8]Y`Gh]a a i b[`]bbYf\U`V`XYg`HYUa g`k i fXY`YVYbZU`g
Ub[YgdfcW`Yb"K Å\`fYbX`XYf': 7?`]b`XYf`@[U`V]g\`Yf`g]YVYb
Di b_hY`Ui g`j]Yf`Gd]Y`Yb`[Y\`c`h`U`h`i bX`g]W`]a`'8: 6!Dc_U`[Y[Yb
≠[c`ghUXh`Xi fW`gYhnYb`_cbbhYž`nY][h`g]W`'5W`Y`VYk i gghž`XUgg`Yg
k Y]hYf\]b`5fVY]h`[]Vh" 8]Y`Gh]a a i b[`]gh`[i hž`UVYf`k]f`a ØggYb
k Y]hYf`XUfUb`UfVY]hYb"8 Ug`k Uf`bUhØf`]W`Y]b`[i hYf`5bZUb[ž`UVYf
k]f`a ØggYb`Ui W`[YbUi`gc`k Y]hYfa UW`Yb ž`Yf`_`ÅfhY`Yf"8]YgY
5i ggU[Y`gd]Y[Y`h`XYb`HYUa [Y]gh`k]XYfž`XYf`]b`XYf`A UbbgW`UZh
\`YffgW`h"

Hfchn`XYf`d`cg]h]j Yb`9f[YVb]ggY`]gh`5W`Y`fYU`]gh]gW`i bX`a Yf`_`h`Ubž
XUgg`Yg`]b`XYf`@[Y]ghi b[ghYW`b]_`bcW`j YfVYggYfi b[gdchYbn]U`
[]Vh"≠gvYgcbXYfY`XUg`Gd]Y`[Y[Yb`A ØbghYf`k Uf`b]W`h`Ui Z`XYa
B]j YUi ž`XUg`g]Y`UbghfYVYb" »Ž`Ui »Yf`[Y[Yb`A ØbghYf"8 Ug`k Uf
Y\`Yf`Xi fW`gW`b]h`]W`"; YbYfY`g]bX`X]Y`@[Y]ghi b[Yb`Y][Yb`h`]W`
[i hž`UVYf`k]f`_`ØbbYb`i bg`XYZ]b]h]j `bcW`j YfVYggYfb ž`VYhc`bhY`XYf`
GhØfa Yf"

8 Yf`9]bZ`i gg`XYg`HfU]bYfg

9]bY`k Y]hYfY`k]W`h][Y`?ca`dcbYbhY`]a`': 7?!?UXYf`]gh`XYf`bYi Y
HfU]bYf`A Uf`_`i g`5bZUb["'5W`Y`VYgW`fY]Vh`X]Y`Ni gUa`a YbUfVY]h
a]h`5bZUb[`U`g`gY\`f`d`cg]h]j "'GY]bY`Gd]Y`]XYY`i bX`X]Y`A ch]j Uh]cbž
X]Y`Yf`]bg`HYUa`Vf]b[hž`k YfXYb`j cb`XYb`Gd]Y`Yfb`[i h
Ub[Ybca`a Yb"9f`\Uh`Y]bY`[i hY`Gd]Y`]XYYž`[Ya`Y]bgUa`a]h`XYa
[YgUa`hYb`HfU]bYfhYUa`"A Uf`_`i g`5bZUb[`Vf]b[h`Y]bY`[i hY
Gh]a a i b[`]b`X]Y`A UbbgW`UZh ž`gc`5W`Y"

A]hY]bYf`cZZYbg]j YfYb`Gd]Y`k Y]gYž`X]Y`5bZUb[`Y]b[YZØ\`fh`\Uhž
ZØ\`h`g]W`'5W`Y`k c\`"8]YgY`A Yh\`cX]_`Yfa Ò[`]W`h`Yg`XYa`HYUa ž
a Y\`f`5b[f]ZZga Ò[`]W`_Y]hYb`ni`gW`UZZYb`i bX`U[[fYgg]j Yf]a`Gd]Y`
ni`U[]YfYb"8]Y[YZÅ`h`a]f`gY\`f`[i h`K]f`gd]Y`Yb`j]Y`a Y\`f
: i »VU`Ui`g`XYa`Y`h`hYb`»\`fž`gU[hYf`i bX`[]Vh`Y]bYb`9]bV`]W_]b
X]Y`YfghYb`GW`f]hY`XYg`bYi Yb`Gd]Y`gh]g`i bhYf`5bZUb["

5a`_`ca`a YbXYb`GUa ghU[`Yfk UfhYh`XYf': 7?`a]h`<Yfh\U`6G7

Y]bYb`Yfbghni bY\ a YbXYb` ; Y[bYf"8Yf`GhØfa Yf`g]Y\h`X]Y`DUfh]Y
U`g`Y]bY`7\UbWž`XYb`V]g\Yf][Yb`9fZc`[Yb`Y]bYb`k Y]hYfYb`G]Y[
\]bni ni ZØ[Yb" G]Y`g]bX`b]W\h`c`d]h]a U`[YghUfhYhž`XUg`_Ubb`XYbYb
gW\cb`Y]b`V]ggW\Yb`k Y\hi b"5VYf`Ua`9bXY`XYg`HU[Yg`a ØggYb
k]f`nY][Ybž`k Ug`k]f`_ØbbYbž`Yf`_`Åfh`5W\Y"8UVY]`U`h`Yf`X]Y
5bgdfØW\Y`Ub`g]W\`gY`Vgh`c`W\`ni [YgYhnh`C`V`Yf`]b`XYf`GhUfhY`Z
ghY\Yb`_Ubbž`k]fX`g]W\`nY][Ybž`UVYf`Yf`V`Y]Vh`c`d]h]a]gh]gW\ž`XUgg
gY]bY` :]hbYgg`k Y]hYf\]b`ni bY\ a Yb`k]fX"

8Yf`6`]W`_`bUW\`j`c`fbY`

F U[bUf`5W\Y`]gh`Y]b`6Y]gd]Y`ZØf`9bhgW\`c`ggYb`Y]h`i bX
9b[U[Ya`Ybh]a` : i »VU``Hfcm`gY]bYf`J`Yf`Ymi b[Yb`i bX`XYf
<YfUi`gZcfXYfi b[Yb`V`Y]Vh`gY]b` : c`_i`g`_Uf`Ui`ZXYb` : 7?`i bX
XYggYb`9fZc`["A`h`gY]bYb` : Å\][_Y]hYb`i bX`gY]bYf`dcg]h]j`Yb
9]bghY``i b[_ØbbhY`Yf`]b`X]YgYf`GU]gcb`Y]b`bcW\`k]W\h][YfYf`
: U`hc`f`ZØf`X]Y`A`UbbgW\UZh`k`YfXYb"8Yb`b`Ui`W\`k`Yb`b`X]Y
@Y]ghi b[Yb`gh]a`a`Ybž`gc`k`Y]»`5W\Yž`XUgg`Yg`]a`a`Yf`F`Ui`a`ZØf`
J`YfVYggYfi b[Yb`[]Vh`8Yf`K`Y[]gh`bcW\`_Ub[ž`i bX`X]Y` : Ubg`XYg
: 7?`_ØbbYb`g]W\`XUfUi`Z`ZFYi`Ybž`k`Ug`X]Y`_ca`a`YbXYb`Gd]Y`Y
Vf]b[Yb`k`YfXYb"

8]Y`@Y]ghi b[Yb`j`cb`F U[bUf`5W\Y`VY]a`%": 7`?`U]gYfg`Ui`hYfb`g]bX
b]W\h`bYi`ž`XcW\`X]Y`U`_hi`Y``Y`GU]gcb`\Uh`VYgcbXYfYg`5i [Yba`Yf`_
Ui`Z`gY]bYb`K`YfXY[Ub[]`[Y`Yb`_h`5W\Yž`XYf`]b`XYf`j`Yf[Ub[YbYb
GU]gcb`VYY]bXfi`W`_YbXY`%*`HcfY`]b`&*`9]bg`ÅhnYb`Yfn]Y`hYž`\Uh
YfbYi`h[YnY][hž`k`]Y`k`Yfhj`c``Yf`ZØf`XUg`HYUa`]ghž`]bgVYgcbXYfY
Xi`fW\`XUg`Yb`hgW\Y]XYbXY`Hcf`[Y[Yb`DfYi`»`Yb`A`ØbghYf"8]Yg`]gh
Y]b`NY]W\Yb`gY]bYf`F`ØW`_Y`f`bUW\`J`Yf`Ymi b[gdUi`gYbž`X]Y`\b`]b
XYf`J`cfVYfY]hi b[`ghUf`_Y]b[YgW\`f`Åb`_h`\UVYb"

8]Y`U`_hi`Y``Y`A`UbbgW\UZh`XYg`%": 7`?`U]gYfg`Ui`hYfb`k`]fX`j`cb
HfU]bYf`A`Uf`_i`g`5bZUb[]`[Y`Y]hYhž`XYggYb`Gd]Y`]XYY`U`g`c`ZYbg]j
i bX`Ub`gd`fY`W\Yb`X`VY`gW\`f]YVYb`k`]fX"8]YgYf`K`Y`W\`gY`]a
HfU]bYfghUV`_ØbbhY`Yb`hgW\Y]XYbX`ZØf`X]Y`9bhk`]W`_i`b[`i`bX
@Y]ghi b[`XYg`HYUa`g`gY]bž`k`Ug`Xi`fW\`X]Y`V]g\Yf][Yb`9f[YVb]ggY
Ui`W\`Ub[YXYi`hY`h`k`]fX"BUW\`j`]Yf`DZ]W\`hgd]Y`Yb`]b`X]YgYf`GU]gcb
\Uh`XYf` : 7?`g]YVYb`Di`b`_hY`]b`XYf`@][U`i`bX`Y]bYb`G]Y[`]a`8` : 6!

Dc_U`Yfn]Y`hž`k Ug`X]Y`dcg]hj Yb`HYbXYbnYb`i bhYfghfY]W`h`

8]Y`F c``Y`j cb`J Yf`Yhni b[Yb`]b`5W`Yg
? Uff]YfY

J Yf`Yhni b[Yb`g]bX`]a`DfcZ]gdcfh`VY`UbbhYfa U» Yb`Y]bY
Yf\YV`]W`Y`<ØfXY``F U[bUf`5W`Y`\Uh]b`XYf`YhnhYb`NY]h`a`]h
5W`]`YggY\`bYb!DfcV`Ya Yb`ni`_`Äa`dZYb`[Y\UVhž`X]Y`gY]bY
Gd]Y`nY]h`i bX`:]hbYgg`VYY]bhf`ÄW`h][h`\UVYb``Gc`W`Y`J Yf`Yhni b[Yb
_`ÖbbYb`Ub[Zf]gh][Y`5i`gk`f`_i b[Yb`Ui ZX]Y`gdcfh]W`Y`9bhk`]W`_i b[
Y]bYg`Gd]Y`Yfg`\UVYbž`]bgVYgcbXYfY`]b`Y]bYa
k YhhVYk YfVg]bhYbg]j Yb`i`a`ZY`X`k`jY`XYf`&``6i bXYg`][U`

⇒ `J Yf[`Y]W`XUni`[UV`Yg`]b`XYf`J Yf[Ub[Yb\Y]hj`]Y`Y`Gd]Y`Yfž`X]Y
Ä`b`]W`Y`<YfUi`gZcfXYfi b[Yb`ØVYfk`]bXYb`a`i`gghYb``Ni`a`6Y]gd]Y`
\UhY`XYf`Y\Ya`U`][Y`GhØfa`Yf`A`]fcg`Uj`?`cgY`]b`gY]bYb
5bZUb[g`U\`fYb`a`]h`J Yf`Yhni b[Yb`ni`_`Äa`dZYbž`VYj`cf`Yf`ni`Y]bYa
XYf`VYghYb`GhØfa`Yf`8Yi`hgW`\UbXg`k`i`fXY``8]YgY`DUfU``Y`Yb
nY][Ybž`XUgg`Yg`a`Ö[`]W`]ghž`bUW`J Yf`Yhni b[Yb
ni`fØW`_ni`_ca`a`Yb`i`bX`Y]bY`YfZc`[fY]W`Y`? Uff]YfY`Zcfhni`gYhnYbž
U`YfX]b[g`\Äb[h`X]Yg`cZj`cb`XYf`f]W`h][Yb`FY\UV`]hUh]cb`i`bX
l`bhYfghØhni b[`UV`

8]Y`k`]fhgW`UZh`]W`Y`G]hi`Uh]cb`XYg`%``: 7
? U]gYfg`Ui`hYfb

8 Yf`%``: 7`? U]gYfg`Ui`hYfb`\Uh`Y]bY``Ub[Y`i`bX`k`YW`gY`\UZhY
; YgW`]W`hYž`X]Y`g]W`Ui`W`]b`XYf`k`]fhgW`UZh`]W`Yb`@U[Y
k`]XYfgd]Y[Y`h`B`UW`XYa`5Vgh]Y[`Ui`g`XYf`YfghYb`@[U]a`_`U\`f
&\$%&`a`i`gghY`XYf`J YfY]b`]b`XYb`:`c`[Y`U\`fYb`j`YfgW`]YXYbY
<YfUi`gZcfXYfi b[Yb`a`Y]ghYfbž`i`bhYf`UbXYfYa`Z]bUbn]Y``Y
9b[dÄggY``8 Ug`A`UbU[Ya`Ybh`\Uh`YXcW`:`c`fhgW`f]hhY`Yfn]Y`hž`i`a
X]Y`k`]fhgW`UZh`]W`Y`G]hi`Uh]cb`ni`ghUV`]g]YfYbž`k`Ug`Xi`fW`X]Y
FØW`_Y\`f`]b`X]Y`&``6i bXYg`][U`i`bX`X]Y`XUa`]hj`YfVi`bXYbYb`HJ!
; Y`XYf`i`bX`Gdcbgcf]b[!9]bbU\`a`Yb`i`bhYfghØmh`k`]fX``

8]Y`A`Ö[`]W`_Y]hž`Gd]Y`Yf`k`]Y`F`U[bUf`5W`Y`]a`? UXYf`ni`_`UVYbž`]gh

ZØf'XYb'J YfY]b'Ui W'Z]bUbn]Y''j cb'6YXYi hi b[ž'XU
@Y]ghi b[ghfÅ[Yf']b'XYb'cVYfYb'@[Yb'a Y\ f'ni f'; YgUa hV]'Ubn
VY]hfU[Yb' _ÖbbYb''9]b'YfZc`[fY]WYg'HYUa 'n]Y\h'a Y\ f'Ni gWUi Yf
Ubž'k Ug'k]YXYfi a 'X]Y'9]bbU\ a Yb'ghY][Yfh'i bX'XYb'J YfY]b
ghUV]'Yf'a UW'h''8]Yg'nY][h'g]W'Ui W']b'XYf'bUW\U'h][Yb
9bhk]W' _i b['XYg'J YfY]bg'ØVYf'X]Y''YhnhYb' ð\ fYž'X]Y'XUfUi Z
UVn]Y'hž'Xi fW'Y]bY'YfZc`[fY]WY'Ni bX'k YhhY]ZYfbXY'A UbbgWUZh'X]Y
6Ug]g'ZØf'Y]bY'YfZc`[fY]WY'Ni _i bZh'ni ''Y[Yb"

8YhU]`g

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