I bhYfbY\ a Yb]b 7\Ya b]hn`YffY]WYb bÅW ghY`Fi bXY`XYg`GÅW g]gWYb A Y]`YbghY]bg`&\$&(

5W hI bhYfbY\ a Yb`Ui g`7\Ya b]hn`i bX`I a [YVi b[`g]bX`ZØf
XYb`GÅW g]gWYb`A Y]`YbghY]b`&\$&(`bca]b]Yfhž
Ui g[YnY]W bYh`k ]fX`YfZc`[ fY]WY`B UWZc`[Y"

8Yf`GÅW g]gWY`A Y]`YbghY]b`&\$&(žY]bY`VYXYi hYbXY
5i gnY]W bi b[`ZØf`YfZc`[ fY]WY`I bhYfbY\ a YbgbUWZc`[ Ybž`n]Y\ h
k]YXYf`X]Y`5i Za Yf_gUa _Y]h`Ui Z`g]W" `5W hI bhYfbY\ a Yb`Ui g
7\Ya b]hn`gck ]Y`Ui g`XYb`FY[]cbYb`A ]hY`!`i bX`GØXk YghgUW gYb
\UVYb`g]W`ja`X]Yg`Å\ f][Yb`K YhhVYk YfV`VY\Ui dhYh`i bX`g]bX`]b
X]Y`bÅW ghY`Fi bXY`[ Y\_ca`a Yb" `8]Y`6Øf[gW UZhVUb`_GUW gYb
f66GŁ`[ UV`X]Y`bca ]b]YfhYb`I bhYfbY\ a Yb`ja`FU\ a Yb`Y]bYg
BYhk Yf`!9j Ybhg`VY`Ub bž`XUg`ja`7Uf`ck ]hn`7cb[fYggW`bhYf`]b
7\Ya b]hn`ghUhhZUbX"

þg[YgUa h`\UVYb`a Y\`f`U`g`) \$`I bhYfbY\ a Yb`]fY`6Yk YfVi b[Yb
Y]b[YfY]W hž`i bX`bi b`\_Åa dZYb`X]Y`bca ]b]YfhYb`:]fa Yb`]b`XYb
?UhY[cf]Yb`ZUa ]]Yb]bhYfbYž`i bhYfbY\ a Ybg]bhYfbY`i bX
i bhYfbY\ a YbgYI hYfbY`B UWZc`[Y`i a`XYb`VY[ Y\`fhYb`DfY]g" `þ
Gi a`a Y`k`i fXYb`" \$`I bhYfbY\ a Yb`ZØf`XYb`GÅW g]gWYb
A Y]`YbghY]b`bca]b]Yfhž`X]Y`j`cb`(`) `B UWZc`[ Yf.]bbYbž`XUfi bhYf`%-
: fUi Ybž`]b`X]Y`bÅW ghY`; YbYfUh]cb`[ YZØ\`fh`k YfXYb"

8]Y`bca ]b]YfhYb`I bhYfbY\ a Yb`ja` , VYfV`]W

8]Y`5i gk U\`i a ZUggh`Y]b][ Y`]bgd]f]YfYbXY`6Y]gd]Y`Y`Ui g`XYf
FY[]cbž`X]Y`XYb`; YbYfUh]cbgk YW gY`YfZc`[ fY]W`[Ya Y]ghYfh
\UVYb" `þ`XYf`? UhY[ cf]Y`XYf`ZUa ]]Yb]bhYfbYb`B UWZc`[ Y`g]bX
Zc`[ YbXY`I bhYfbY\ a Yb`bca]b]Yfh

- k Y`Yf`5`ZfYX`7i fh\`Ui`g`A Uf\_bYi`_]fWYb
f] VYfbY\`a Yf]b.`@]gU`F ch\!FYbn`p, VYf[YVYf.`A Uhh\]Ug
F ch\`t
- HYI h]`dZY[ Y`H\]Ya Y` ; a V<`/`7c"``?;`Ui`g`Nk`]W_Ui
f] VYfbY\`a Yf.`Hca`H\]Y`Y`p, VYf[ YVYf]b.`<Y]X]`H\]Ya Y`t
- N]``/`9b[`Yf`@]\_`Of!`i bX`Gd]f]hi`cgYbZUVf]\_`Ui`g
FY]WYbVUW`]a`J`c[ h`UbX`f] VYfbY\`a Yf.`Hca`Ug`@Ui`Yf
↑ b"``p, VYf[YVYf.`H\ca`Ug`@Ui`Yf`gYb"t

⇒`XYf`?`UhY[ cf]Y`XYf`i bhYfbY\`a Ybg]bhYfbYb`B`UW`Zc`[Y`g]b`X
bca`]b]Yfh`

- A`?`9b[]bYYf]b[`; a V<`Ui`g`7\Ya`b]hn`f] VYfbY\`a Yf.
H\ca`Ug` ; Øbh\Yfž`H]bc`A`ØbnbYfž`7\`f]gh]Ub`GW`fY]hYf`p
 , VYf[YVYf.`: fUb`_`<Yffa`Ubb`t
- A`A`Y`Y`W`hfc]Wg` ; a V<`Ui`g`A`]hk`Y]XU`f] VYfbY\`a Yf.
A`Uhh\]Ug`6`Ubck`g_]ž`F`Yb`Å`⇒`XYf`Gh`fch\`ž`5`b`Xf`Å`Gh`fc`VUW`]p
 , VYf[YVYf.`Dfc`Z`8`Yh`Yj`A`Ø`Yf`t
- J`c[ h`UbX`!8`fi`W`_`i bX`7`ca`di`hYfg`Uhn` ; a V<`Ui`g`
A`Uf\_bYi`_]fWYb`f] VYfbY\`a Yf.`A`UfW```<`ca`a`Y`p
 , VYf[YVYf.`6`Yfb`X` ; fØ``]W`ž`K`c`Z[Ub[`]b\`b`t

⇒`XYf`Xf]hhYb`?`UhY[cf]Y`ž`XYf`i bhYfbY\`a YbgYI`hYfbYb`B`UW`Zc`[ Y`ž
k`i`fXYb`X]YgY`I`bhYfbY\`a Yb`bca`]b]Yfh`

- :`Y]b`_cgh`8`fY]»`][`Ui`g`Nk`]W\_Ui`f] VYfbY\`a Yf]b.`Gcd\]Y
@]bXbYf`p, VYf[ YVYf]b.`7\`f]gh]UbY`8`fY]»`][`t
- ;`c`XYbYf`GhYfb`9`f`YVb]g` ; a V<`Ui`g`CYXYfUb
f] VYfbY\`a Yf]bbYb.`⇒`Yg`6`Yfb\`UfXhž`5`b`U`J`c[ Y`p
 , VYf[YVYf.`K`c`Z[ Ub[ `9`W`UfXh`t

8`Yf`G`A`W`g]g`W`Y`A`Y]`Y`b`ghY]b`k`]fX`gY]h`&`\$`%`j`Yf[YVYb`i`bX`V]Y`h`Y`h
b]W`h`bi`f`Y]bY`D`Uhh`Zc`fa`ni`f`5`i`gnY]W`bi`b[ Y`f`Zc`[fY]W`Yf
B`UW`Zc`[ Ybž`gcb`XYfb`j`cf`U``Ya`Ui`W`Y]bYb`5`b`fY]n`Z`Øf`Ub`XYfY
I`bhYfbY\`a Yf.]bbYbž`XYb`GW`f]hh`ni`f`B`UW`Zc`[ Y`ni`k`U[Yb"``A`Ufh]b
8`i`][ž`XYf`G`A`W`g]g`W`Y`G`h`U`h`ga`]b]ghYf`Z`Øf`K`]fhg`W`U`ž`ž`5`f`VY]h`i`b`X
J`Yf`_`Y`f`ž`\`Uh`X]Y`G`W`]fa`Y`f`fg`W`U`ž`i]bbY`i`b`X`k`Ø`f`X][ h`XYb`A`i`h`XYf
B`ca`]b]YfhYbž`X]Y`J`Yf`Ub`hk`c`f`hi`b[ `Z`Øf`]fY`I`bhYfbY\`a Yb`ni

ØVYfbY\ a Yb'i bX'gca]h'U_h]j 'ni f'Ni _i bZh'XYf'gÅW g]gW Yb
K]fhgW UZh'VY]ni hfU[Yb"

9]b'k]W h][Yg'5b`Y[Yb'XYf'66G]gh'Ygž'X]Y'A YbgW Yb'\]bhYf
X]YgYb'I bhYfbY\ a Yb'g]W hVUf'ni 'a UW Yb'i bX'ØVYf'\ fYb
YfZc`[ fY]W Yb'; YbYfUh]cbgk YW gY`ni ']bZcfa]YfYb""8]YgY
A U» bU\ a Y` ]gh'VYgcbXYfg'fY`Yj Ubhž'XU'j]Y`Y`_Y]bY'i bX'a]hh'YfY
I bhYfbY\ a Yb'ni bY\ a YbX'j cf'XYf'< YfUi gZcfXYfi b['ghY\Ybž
[YY][bYhY`B UW Zc`[Yf.]bbYb'ni 'Z]bXYb""A UI`>Jb\_c k g\_mž`DfÅg]XYbh
XYf'⊕Xi ghf]Y!'i bX'<UbXY`g\_Ua a Yf'7\Ya b]mž`VYhc bhž'XUgg'b]W h
bi f'X]Y'k]fhgW UZh]W Y`GhUV] ]hÅ'h'Ui Z'XYa`Gd]Y`ghY\hž'gcbXYfb
Ui W`XYf'K c\`ghUbX` ]b'GUW gYb'Xi fW`X]YgYg'DfcV`Ya` [YZÅ\ fXYh
]gh"

5i ZXYa`B Yhnk Yf\_!9j Ybhž'XUg'U`g'D`UhhZcfa`ZØf'XYb'5i ghUi gW
j cb`≠XYb'i bX'@Øgi b[ Yb'ni`XYa`H\Ya U
I bhYfbY\ a YbgbUW Zc`[ Y`X]Ybhž'\]Y'h'DfcZ''8f''6Yfhc`h'A YmYf`Y]bY
?YmbchY`ØVYf'X]Y`6YXYi hi b['j cb'6Yn]Y\i b[Yb']b
I bhYfbY\ a YbgØVYfbU\ a Yb""8]Yg'nY][hž'k]Y'k]W h][`Yg']ghž'Xi fW
DYfgcbU`a UbU[ Ya Ybh'i bX'9b[ U[ Ya Ybh'X]Y`?cbh]bi]hÅ'h'i bX'XUg
K UW ghi a` ]bbYf\U`V`XYg'I bhYfbY\ a Ybg'ni`ZØf'XYfb"

8]Y`bca ]b]YfhYb'I bhYfbY\ a Yb'ghY\Yb'bi b' ]b`Y]bYf'bÅW ghYb
6Yk Yfhi b[gfi bXYž'X]Y`j cb`Y]bYf'i bUV\Åb[] [Yb': UW ↑ fm
Xi fW [YZØ\fh'k]fX""8]YgY`> fm`VYghY\h'Ui g'j YfgW]YXYbYb
9I dYfhYb'i bX'k]fX`X]Y`YfZc`[ fY]W Yb'I bhYfbY\ a Yb'Ui gk Å\`Ybž
XYfYb'Hfcd\ÅYb'Ua`%"`C`\_hcVYf'&\$&( `]a`GW`cgg'5`VfYW hVYf[ `]b
8fYgXYb`ØVYffY]W h'k YfXYb"

Ni gÅhn`]W`ni`XYb`Hfcd\ÅYb`\_ØbbYb`X]Y`DfY]ghfÅ[Yf.]bbYb
DfY]g[Y`XYf'j cb`V]g'ni`) "\$\$\$`9i fc'dfc'?UhY[cf]Y`Yfk UfhYb'`Y]b
5bfY]nž'XYf'j]Y`Y`I bhYfbY\ a Yf.]bbYb`a ch]j ]YfYb`_ØbbhYž'\ fY
B UW Zc`[ Yd`Ubi b[`Yfbgh'ni`bY\ a Yb""8]Y`66Gž`U`g`ÖZZYbh]W
[YZØfXYfhYg`GdYn]U`_fYX]h]bgh]hi hž'\Å`h'XYb`GÅW g]gW Yb
A Y]`YbghY]b`ZØf`Y]bY'k ]W h][ Y`⊕]h]Uh]j Y`ni f`G]W Yfi b[`XYf
k]fhgW UZh]W Yb'Ni _i bZh'GUW gYbg"

8]Y`6YXYi hi b[ `XYf'I bhYfbY\ a YbgbUW Zc`[ Y'k ]fX`Ui W`]b

Ni _i bZh'k UWgYbž'XU'j]Y'Y'6Yhf]YVg]b\UVYf'bi b']b'Y]bYa '5'hYf
g]bXž']b'XYa 'g]Y'\fYb'6Yhf]YV'ØVYf[YVYb'a ÒW hYb'"<]YfVY]
gd]Y'Yb'gck c\`ZUa ]]ÅfY'U'g'Ui W'YI hYfbY'B UWZc`[Ycdh]cbYb
Y]bY'Fc`Y"8]Y'FU\ a YbVYX]b[i b[Yb'a ØggYb'gh]a a Ybž'XUa]h
Y]bY'B UWZc`[ Y'YfZc`[fY]W' [YghU'hYh'k YfXYb'_Ubb'i bX'X]Y
E i U']hÅh'XYf'DfcXi _hY'i bX'8]Ybgh'Y]ghi b[Yb'Yf\U'hYb'V'Y]Vh"

8]YgY' Æ]h]Uh]j Y']gh'b]W'h'bi f'Y]b'K YhhVYk YfVž'gcbXYfb'Ui W'Y]b
K YW_fi Zž'XUgg'XYf'K Y['ni f'B UWZc`[Y'j]Y'j YfgdfYWYbX'i bX
bchk YbX][']gh' 'i bX'XUgg'GUWgYb'A UWYf.]bbYb'VfUi W'hž'X]Y'X]Y
Ni _i bZh'a]h'9bhgW'cgYb\Y]h'i bX'K Y]hV`]W'\_ [ YghU'hYb'k c`Yb"

8YhU]`g

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