

Hfi a d __ØbX][h __fmd hc ZfYi bX`]WX Y K YbXY i bX '9bh`Uggi b['j cb 'G97!7\YZ'Ub

8 cbU`X`Hfi a d`_ØbX][h`Dfc!6]hWc]b!Dc`]h]_`Ub`i bX`d`Ubh`X]Y 9bh`Uggi b['j cb`G97!7\YZ'; Ybg`Yf`VY]'gY]bYf`K]YXYfk U\`"

8]Y'dc`]h]gWXYb'6YghfYVi b[Yb'j cb'8cbU`X'Hfi a d'bY\a Yb']b'XYf U_hi Y``Yb'K U\`_Ua dZd\UgY'Y]bY'VYa Yf_Ybgk YfhY'K YbXi b[ž]bgVYgcbXYfY'Xi fWX'gY]bY'dfc!_fmdhck À\fi b[gZfYi bX`]WXY <U`hi b["'8Yf'Y\Ya U`][Y'DfÀg]XYbhž'XYf'j cf'b]WXh'U``ni '`Ub[Yf'NY]h bcWX'U`g'?fmdhc!G_Ydh]_Yf'[U`hž'ghfYVh']a ': U``Y'Y]bYf'K]YXYfk U\`Ubž'[fi bX`Y[YbXY'JYfÀbXYfi b[Yb']b'XYf':]bUbnfY[i `]Yfi b[Y]bni ZØ\fYb"'8]Yg'_ObbhY'k Y]hfY]WXYbXY'5i gk]f_i b[Yb'Ui Z'X]Y %* 'DfcnYbh'XYf'I G!9fk UWXgYbYb'\UVYbž'X]Y'VYfY]hg'6]hWc]b'cXYf UbXYfY'?fmdhck À\fi b[Yb'VYg]hnYb"

Hfi a d'_ØbX][h'6]hWc]b!'i bX'? fmdhc!6Y]fUh Ub

 $\label{thm:standard} 5i\ ZY]bYf`6]hWc]b!?cbZYfYbn`]b`BUg\j]``Y`Ài »YfhY`Hfi a d`gY]bY \\ 5Vg]WhžY]bYb`6]hWc]b!`i bX`?fmdhc!6Y]fUh`]a `K Y]»Yb`< Ui g`ni YhUV`]YfYb"`8]YgYf`gc```]bbYf\U`V`XYf`YfghYb`%$$`HU[Y`gY]bYf \\ 5a hgnY]h`fY[i `Uhcf]gW\Y`@Y]h`]b]Yb`Ybhk]\W_Y`bž`X]Y`XYf`[YgUa hYb 6fUbW\Y`ni [i hY_ca a Yb"`9g`k]fX`FY[Y`b`[YVYbž`UVYf`X]YgY k YfXYb`j cb`A YbgW\Yb`Ybhk]\W_Y`hž`X]Y`\\[\frac{1}{2}}fY`6fUbW\Y``]YVYbž`b]W\hj cb`YbYbž`X]Y`g]Y`j YfUW\hYb ž`VYhcbhY`Hfi a d`i bX`nY][hY`XUa]h Y]bY`_`UfY`5V_Y\f`j cb`XYf`V]g\Yf][Yb`FY[i`]Yfi b[gdc`]h]_`i bhYf ; Ufm`; Ybg`Yfž`XYa `XYfnY]h][Yb`7\YZ`XYf`I G!6\OfgYbUi Zg]W\h`G97"$

K UbXY``XYf'<U`hi b['[Y[YbØVYf
?fmdhck À\fi b[Yb</pre>

#bhYfYggUbhYfk Y]gY i]gh'Hfi a dg'K YbXY'ni 'Y]bYf'dcg]h]j Yb
9]bghY``i b['[Y[YbØVYf'?fmdhck À\fi b[Yb'VYa Yf_Ybgk Yfhž'XU'Yf
k À\fYbX'gY]bYf'DfÀg]XYbhgW\UZh'j cb'&\$%+'V]g'&\$&%'j Y\Ya Ybh
[Y[Yb'6]hWc]b'i bX'7c"'gdfUW\"'Hfi a d'VYnY]W\bYhY
?fmdhck À\fi b[Yb'Y]bgh'U`g' b]W\h'; Y`X 'i bX'k UfbhY'j cf']\fYa
\c\Yb'DfY]ggW\k Ub_i b[Yb'i bX'XYb'XUa]h'j YfVi bXYbYb'F]g]_Yb"
#b'XYb'`YhnhYb'*J\fYb'\Uh'Yf'*YXcW\'gY]bY'G]W\hk Y]gY'ghUf_
j YfÀbXYfh'i bX'VY[Ubbž'?fmdhc!GdYbXYb'ZØf'gY]bYb'K U\`_Ua dZ
ni 'U_nYdh]YfYb"

GhfUhY[]gWXY'D`ÀbY'ZØf'6]hWc]b']a 'K Y]»Yb < Ui q

Ni gÀhn`]WX ni 'gY]bYa '6Y]fUh'd`Ubh'Hfi a dž'U``Y'6]hWc]b'XYf'I G!

FY[]Yfi b['ni 'VY\U`hYb'i bX'X]YgY'U`g'HY]`'Y]bYg' ghfUhY[]gWXYb

bUh]cbU`Yb'6]hWc]b!6YghUbXYg 'ni 'j Yfk YbXYb''' =\WX'k YfXY'XYf'Dfc!

6]hWc]b!DfÀg]XYbh'gY]bž'XYb'5a Yf]_U'VfUi WXh ž'gU[hY'Hfi a d"'8]Yg

nY][hž'k]Y'k]WXh][']\a 'X]Y' =\bhY[fUh]cb'j cb'?fmdhck À\fi b[Yb']b

XUg'bUh]cbU`Y':]bUbngmghYa 'YfgWXY]bhž'i a 'XYa 'k UWXgYbXYb

=\bhYfYggY']b'XYf'6Yj O`_Yfi b['FYWXbi b['ni 'hfU[Yb"

Fc``Y'XYf'?fmdhc!7caaib]hm']a 'K U\`_UadZ

Hfi a dg'bYi Y'DYfgdY_h]j Y'_ObbhY'b]Wkh'bi f'gY]bYb'K U\`_Ua dZ
Ub_i fVY`bž'gcbXYfb'Ui Wk'X]Y'[YgUa hY'?fmdhc!7ca a i b]hm
a cV]`]g]YfYb"'@Ui h'6Yf]WkhYb'\Uh'XUg'dc`]h]gWkY'5_h]cbg_ca]hYY
: U]fg\U_Yž'XUg'g]Wk'ZØf'?fmdhck À\fi b[Yb'Y]bgYhnhž'VYfY]hg'fi bX
%+\$'A]``]cbYb'8c``Uf'[YgUa a Y`hž'k Ug'Yg'ni 'Y]bYa 'XYf'[fÒ»hYb
D57g']b'X]YgYa 'K U\`nm_`i g'a UWkh''Dfca]bYbhY'I bhYfghØhnYf'Ui g
XYf'F]g]_c_Ud]hU`VfUbWkY'nY][Yb'YVYbZU``g'+bhYfYggY'Ub'gY]bYf
?fmdhc!Dc`]h]_ž'k Ug'X]Y'FY`Yj Ubn'XYg'H\Ya Ug']b'XYf'K À\`YfgWkUZh
j YfXYi h`]Wkh''

GWX i ggZc [Yfi b[

nY][hžk]Y'K U\`_Ua dZghfUhY[]Yb'[Yn]Y`h'Ui Z'X]Y' +bhYfYggYb'j cb VYgh]a a hYb'6Yj O`_Yfi b[g[fi ddYb'Ui g[Yf]W\hYh'k YfXYb'_ObbYb" 8]Y'9bhk]W_`i b[Yb']b'XYb'_ca a YbXYb'A cbUhYb'k YfXYb'nY][Ybž cV'X]YgY'5bgAhnY'hUhgAW\`]W\'XYb'[Yk ØbgW\hYb'9]bZi gg'Ui Z'X]Y K A\`Yf'\UVYb'i bX'X]Y'FY[i `Uh]cbgdc`]h]_']b'XYb'I G5'bUW\\U`h][j YfAbXYfb'_ObbYb"

B5;

8 Y hU1`c

6Ygi WXYb G]Y i bg Ui Z b!U["XY