

### K U`XVØ\bY'6Yf`]b. Jcb BUn]!5fWX]hY\_hi f ni f'Gca a Yf!?cbnYfhghAhhY

 $9bhXYW_Yb^*G]Y^*X]Y^*GWWUhhYb^*XYf^*; YgWW_]WW_hY^*XYf^*K_U^*XV\emptysetV_bY_]b^*6Yf^*]b^*J_cb^*]Vff^*BUn]!J_Yf[_Ub_[_YbVY]h^*ni_f^*VY^*]YVhYb_*?cbnYfh!@cWUh]cb^*_Y]b^*i_bj_Yfn]WW_hVUfYf^*5gdY_h^*XYf^*GhUXh^*'$ 

8]Y'K U'XVØ\bY']b'6Yf`]b']gh'Y]b'VY`]YVhYf'Cfh'ZØf'Aig]\_`]YV\UVYf
i bX'Gca a YfZfYi bXY"'¾XYg'¾J\f'n]Y\h'g]Y'\i bXYfhY'j cb
HUi gYbXYb'j cb'6Ygi W\Yfb'Ubž'X]Y'?cbnYfhY']b'XYf
ki bXYfgW\ÒbYb'l a [YVi b['XYg'GW\UbnYbk U'XYg'[Yb]Y»Yb"'8cW\\]bhYf'X]YgYf'ZYgh`]W\Yb'5ha cgd\ÀfY'j YfghYW\_h'g]W\'Y]bY'XØghYfY
JYf[Ub[Yb\Y]hž'X]Y'bi f'k Yb][Yb'VY\_Ubbh']gh"

#### 6Ui ghY``Y ZØf X]Y DfcdU[ Ub XU

 $6YfY]hg'\_i fn'bUW\ XYf'dc`]h]gW\ Yb'A UW\ hYf[fY]Zib[XYfBUh]cbU`gcn]U`]ghYb'k i fXY'XYf'D`Ub'ZØf'X]Y'K U`XVØ\bY'[YZUggh'' 5Xc`Z'<]h`Yf'\UhhY'gc[Uf'XYb'9bhk i fZ'Y]bYf'6Ø\bY'[YZcfXYfhž'X]YD`Uhn'ZØf'%$$"$$$'NigW\UiYf'V]YhYb'gc``hYž'YXcW\'V`]YV'X]Yg'Y]bYibYfZØ``hY'J]g]cb'''GhUhhXYggYb'ZUggh'X]Y'K U`XVØ\bY'\YihY'fibX&\"$$$'A YbgW\Yb''8Yf'hUhgÀW\`]W\Y'6Ui'ZUbX']a 'FU\aYb'XYfJcfVYfY]hib[Yb'ZØf'X]Y'C`mad]gW\Yb'Gd]Y`Y'%-'*'ghUhhž'VY]'XYbYbX]Y'6Ø\bY'Y]bY'nYbhfU`Y'Fc``Y'gd]Y`hY''$ 

 $8 \ Yf' 5 fW \ ]hY\_h'K \ YfbYf'A \ UfW \ 'ØVYfbU \ a \ 'X]Y'J \ YfUbhk \ cfhi \ b[\ 'ZØf \ XUg'Dfc \ Y\_hž'XUg'U \ 'g'HY] \ `XYf' 6 Ui \ k \ Y]gY' ZØf'X]Y' C \ 'ma \ d]UXY\_cbn]d]Yfh'k i fXY'' 8 \ Yf'Gh] \ `cf]Ybh]YfhY'g]W \ 'Ub \ XYf'\_`Ugg]gW \ Yb \ 5 fW \ ]hY\_hi \ f'[\ f]YW \ ]gW \ Yf'H\ YUhYfž'k \ cVY]'X]Y' 6 Ø\ bY'Ui \ W \ 'U \ 'g \ H\ ]b[\ d`Uhn'[\ Ybi \ hnh'k \ YfXYb'gc``hY''' 8 ]YgY'J \ YfUbghU`hi \ b[\ Yb'k \ UfYb \ HY] \ `XYf'bUh]cbU \ 'gcn]U`]gh]gW \ Yb'\=XYc \ 'c[\ ]Yž'i \ a \ 'X]Y'\=XYY' \ XYf \ J c \ _g[\ Ya \ Y]bgW \ UZh \ 'ni \ 'dfcdU[\ ]YfYb'i \ bX'UVk \ Y]W \ YbXY \ Ghf\ Oa \ i \ b[\ Yb'Ui \ gni \ [\ fYbnYb'' 8 ]Y' \ 6 Ø\ bY'k \ i \ fXY'ni \ b\ W \ gh'U`g \ 8 ]Yhf]W \ !9W_Ufh \ 6 Ø\ bY \ 'Yf\ OZZbYhž'VYbUbbh'bUW \ 'Y]bYa \ Ubh]gYa \ ]h]gW \ Yb'GW \ f]ZhghY``Yf'i \ bX'I \ bhYfghØhnYf'XYf'B G8 \ 5 D'' \ \ \}$ 

# Jcb XYf JYf [Ub [Yb \Y]hgVYk À h][i b [ 'ni f ?cbnYfh\_i 'hi f

BUWX 'XYa 'Nk Y]hYb'K Y`h\_f]Y[ 'Yfn]Y`hY'X]Y'K U`XVØ\bY'Y]bY VYa Yf\_Ybgk YfhY'HfUbgZcfa Uh]cb"'8]Y'UbZÀb[`]WXYb'\*JU\fY'k i fXYb j cb'XYf'Bi hni b['U`g': fY]`]WXh\_]bc'[YdfÀ[h"'5i WX'X]Y'6Yf`]bU`Yž'Y]b fYbca a ]YfhYg': ]`a ZYgh]j U`ž'bi hnhY'X]Y'6Ø\bY"'

GdÀhYfž']b 'XYb'%- \*\$Yf'\J\fYb\Z'[Yf]Yh'X]Y'K U`XV\Ø\bY']b 'XYb': c\_i g XYf'Fc\W\_!'i bX'Dcd\_i `hi f"'9]b 'XYb\_k \ØfX][Yg'?cbnYfh'XYf'Fc``]b[GhcbYg']a '\J\f'%-\*) 'k i fXY'j cb'hi a i `hUfh][Yb'GnYbYb'VY[`Y]hYh\Z'U`g': Ubg'j Yfgi W\h'\UVYb\Z'X]Y'G]hnV\Ab\_Y']a 'g\W\bY``Yb'HYa dc UVni VUi Yb"'8]YgY'i bfYgh`]\W\Yb'J cfZ\A``Y'Z\Ø\fhYb'XUni \Z'XUgg'X]Y 6\Ø\bY'Z\Øf'g]YVYb'\J\fY'b]\W\h'[Ybi hnh'k YfXYb'\_cbbhY\Z'k Ug'Y]bYf `Ub[Yb'9f\c`i b[gd\UgY'Z\Øf'X]Y'\]ghcf]g\W\Y'@c\Wbh]cb'[`Y]\W\\_Ua"

± XYb'%-, \$Yf'>J\fYb'Yf\]Y`h'X]Y'K U`XVØ\bY'gW\`]Y»`]W\']\f Ui ZZÀ``][Yg'NY`hXUW\"'8Ua]h'kifXY'g]Y'b]W\h'bif'ni'Y]bYf ?cbnYfhghÀhhYž'gcbXYfb'Ui W\'HY]`'XYf'\_i`hifY``Yb'⇒XYbh]hÀh'6Yf`]bgž  $c\bY\iXUgg\iX]Y\iff \ cffYbY\iff \ YgW\iff\ MhY\icZh\i6YUW\hi\ b[\iZUbX"\xi\fi]WX\iff\ MhY\b'\igen\fi]WXY\iff\ VY\_UbbhY\iff\ Qbgh\iYf\ Ui\ Zz'k \ A\fYbX X]Y\iGWX\ UhhY\b'XYf\JYf[\ Ub[\ Yb\Y]h'k \ c\iY\Yf\]a \ '<]bhYf[\ fi \ bX j Yfk Y]\iff\ MhY\iff\ Mh$ 

8]Y'?ca V]bUh]cb'j cb'\c\Yf'Aig]\_U`]hÀh'i bX'Y]bYa
Ui »Yf[Yk Ò\b`]WXYb'J YfUbghU`hi b[gcfh'n]Y\h']a a Yf'a Y\f
A YbgWXYb'Ubž'X]Y'XYb'dYfZY\_hYb'Gca a YfUVYbX'j YfVf]b[Yb
k c``Yb"'8YbbcW\'V`Y]Vh'X]Y': fU[Y'VYghY\Ybž'cV'a Ub'X]Y
6YXYi hi b['XYf'\]ghcf]gWXYb'<]bhYf[fØbXY'][bcf]YfYb'gc``hY'cXYf
cV'a Ub'g]WX'j YfghÀf\_h'a ]h'XYf'; YgWX]WXhY'XYf'K U'XVØ\bY
Ui gY]bUbXYfgYhnYb'gc``hY"

#### 5fWX]hY\_hifibX; YghU`hib[XYfKU`XVØ\bY

8]Y'K U'XVØ\bY']b'6Yf`]b']gh'Y]b'ZUgn]b]YfYbXYg'6Y]gd]Y`ZØf'X]Y?ca V]bUh]cb'j cb'BUhi f'i bX'5fWk]hY\_hi f''8]Y'?cbghfi \_h]cb'Ui g fY[]cbU`Ya'; YghY]b'j Yf`Y]\h'XYf'6Ø\bY'Y]b'fi gh]\_U`Ygž'UVYf'Ui Wk]a dcgUbhYg'9fgWkY]bi b[gV]`X''8Yf'5fWk]hY\_h'K YfbYf'A UfWkYbhk UfZ'X]Y'6Ø\bY'gcž'XUgg'g]Y'\Ufa cb]gWk']b'X]Y'i a `]Y[YbXY K U`X`UbXgWkUZh']bhY[f]Yfh']gh''8Ug'Y``]dh]gWkY'8Yg][b'i bX'X]Y ghY]`Yb'G]hnfY]\Yb'gcf[Yb'XUZØfž'XUgg'Ui Wk'6Ygi WkYf']b'XYb\]bhYfYb'FY]\Yb'Y]bY'[i hY'G]Wkh'Ui Z'X]Y'6Ø\bY'\UVYb''

8]Y'W\UfU\_hYf]gh]gW\Yb'GhY]bZcfa Uh]cbYb'i bX'XUg'NY`hXUW\kifXYb'b]W\h'bi f'U`g'Zi b\_h]cbU`Y'9`Ya YbhYžgcbXYfb'Ui W\'U`g 5i gXfi W\_'XYf'bUh]cbU`gcn]U`]gh]gW\Yb'Ygh\Yh]\_'\_cbn]d]Yfhž'X]Y'Y]bY JYfV]bXi b['nk]gW\Yb'XYa 'XYi hgW\Yb'Jc`\_'i bX'gY]bYf [Yfa Ub]gW\Yb'?i `hi f'\YfghY``Yb'k c``hY"'Hfchn']\fYf'XØghYfYb; YgW\]W\hY'\Uh'X]Y'6Ø\bY'\Yi hY'Y]bY'VYXYi hYbXY'\_i `hi fY``Y Fc``Y'Y]b[Ybca a Yb'i bX']gh'ZØf'j ]Y`Y'6Yf`]bYf'i bX'Hci f]ghYb'Y]b VY`]YVhYf'Cfhži a 'Ai g]\_'ni '[Yb]Y\*Yb"

#### JYfUbghU`hi b[Yb'i bX'?Øbgh`Yf

±b`XYb``YhnhYb`≯J\fnY\bhYb`\Uh`g]W\`X]Y`K U`XVØ\bY`ni `Y]bYa `XYf k]W\h][ghYb`?cbnYfhcfhY`6Yf`]bg`Ybhk]W\_Y`h"`BUa \UZhY`?Øbgh`Yf j YfgW\]YXYbghYf'; YbfYg`hfYhYb`\]Yf`Ui Zž'j cb`FcW\_!`i bX`Dcd!

6UbXg'V]g'\]b'ni '\_`Ugg]gW\Yb'CfW\YghYfb"'8]Y'5ha cgd\ÀfY'XYf K U`XVØ\bYž'i a [YVYb'j cb'6Ài a Yb'i bX'BUhi fž'V]YhYh'Y]bY Y]bn][Ufh][Y'9fZU\fi b['ZØf'XUg'Di V`]\_i a "

## $8Yf'9]bZ'igg'XYf'KU'XVØ\bY'UiZ'X]Y'6Yf`]bYf$ ? i `hi f

8]Y'K U'XVØ\bY'\Uh'b]W\h'bi f'Y]bY'k ]W\h][Y'Fc``Y']b'XYf
Aig]\_gnYbY'6Yf`]bg'[Ygd]Y`hž'gcbXYfb'Ui W\'Y]bYb'Yf\YV`]W\Yb
9]bZi gg'Ui Z'X]Y'?i `hi f'XYf'GhUXh']bg[YgUa h'''G]Y']gh'Y]b'Gma Vc``ZØf
X]Y'K ]YXYfVY`YVi b['XYf'6Yf`]bYf'?i `hi f'bUW\'XYa ': U```XYf'A Ui Yf
i bX'\Uh'g]W\'U`g'HfYZZdi b\_h'ZØf'A YbgW\Yb'Ui g'i bhYfgW\]YX`]W\Yb
gcn]U`Yb'i bX'\_i `hi fY``Yb'<]bhYf[fØbXYb'YhUV`]Yfh''

D'Ni gUa a YbUfVY]h'a ]h'j YfgWX]YXYbYb': Ygh]j U'g'i bX'\_i `hi fY``Yb JYfUbghU'hi b[Ybž'k]Y'XYa 'VY`]YVhYb': 7`Ugg]WCdYb'5]f ž'hfÀ[h'X]Y K U`XVØ\bY'XUni 'VY]ž'Y]b'VfY]hYg'GdY\_hfi a 'Ub'A i g]\_'i bX'?i bgh ni 'dfÀgYbh]YfYb"' D'Y]bYf'GhUXhž'X]Y'ZØf']\fY'\_fYUh]j Y'i bX U`hYfbUh]j Y'GnYbY'VY\_Ubbh']ghž'\Uh'X]Y'K U`XVØ\bY'Y]bY VYgcbXYfY'GhY``i b['U`g'Cfh'XYf'6Y[Y[bi b['i bX'XYg'\_i `hi fY``Yb 5i qhUi gWXg"

8 Y hU]`a