

8fUa Uh]gW\Yf`Ni gUa a Ybghc»]b 6fÀi b`]b[Yb. HfU_hcfUb\Àb[Yf fUa a h @_k

±0.6fÀi b`]b[Yb'_c``]X]YfhY'Y]b'HfU_hcfUb\Àb[Yf'a]h'Y]bYa A YfWXYg!Hfi W_"'8Yf'GUW\gW\UXYb'VYhfÀ[h'Yhk U'%\$"\$\$\$ 9i fc"'JYf`Yhnh'k i fXY'b]Ya UbX"

±0.6fÀi b`]b[YbžY]bYa 'fi \][Yb'Cfhž'_Ua 'Yg'Ua 'A]hhk cW\a cf[Yb ni 'Y]bYa 'VYa Yf_Ybgk YfhYb'I bZU``ž'XYf'X]Y'5i Za Yf_gUa _Y]h'XYf Dc`]nY]'Ui Z'g]W\nc["I a 'Yhk U'-.' \$'I \f'YfY][bYhY'g]W\]b'XYf <ØZ]b[Yf'GhfU»Y'Y]b'JcfZU``ž'VY]'XYa 'Y]b'HfU_hcf'a]h'5b\Àb[YfibX'Y]b'AYfWXYg'@Ughk U[Yb'VYhY]`][h'k UfYb"'Gc`W\Y'I bZÀ``YžcVk c\``[`ØW_`]W\Yfk Y]gY'c\bY'JYf`YhnhYž'j YfXYi h`]W\Yb'X]Y dchYbn]Y``Yb'; YZU\fYbž'X]Y']a 'GhfU»Ybj Yf_Y\f``Ui Yfb"

9]b [YbUi Yf 6`]W_ Ui Z'XYb I bZU``\ Yf[Ub[

9gʻ]ghʻk]W\h]['ni 'j YfghY\Ybž'k]Yʻgc`W\'Y]bYʻG]hi Uh]cbʻ]bʻXYb GhfU» Ybj Yf_Y\f'\]bY]bgd]Y`Ybʻ_Ubb"' \pm 'X]YgYfʻgdYn]Y``YbʻG]hi Uh]cb k UfʻXYfʻHfU_hcfZU\fYfʻa]hʻ[fc» YfʻK U\fgW\Y]b`]W_Y]hʻb]W\h cdh]a U``Ui ZʻXYbʻJYf_Y\f'\]bhYfʻ]\a 'Y]b[YghY``hž'k Ugʻni 'XYf i b[` \emptyset W_`]W\Ybʻ? c``]g]cbʻZ \emptyset \fhY"'8]YgʻnY][hž'XUggʻVY]a '5VV]Y[Yb

i bX:: U\fYb'a]h'[fc»Yb': U\fnYi [Yb'VYgcbXYfY'Jcfg]W\h'[YVchYb]ghži a 'XYfUfh][Y'Nk]gW\YbZ\``Y'ni 'j Yfa Y]XYb"

8]Y 'Dc`]nY]'\Uh']b'gc`W\Yb': À``Yb'Y]bY'k]W\h][Y'Fc``Yž']bXYa 'g]Y
XYb'I bZU```UbU`mg]Yfh'i bX'X]Y'fY`Yj UbhYb'=bZcfa Uh]cbYb
Xc_i a Ybh]Yfh'''9g']gh'VYfi \][YbXž'XUgg'b]Ya UbX'j Yf`Yhnh'k i fXYž
k Ug']b'gc`W\Yb'G]hi Uh]cbYb'cZh'b]W\h'[Y[YVYb']gh''I bZ\`Y'a]h
`UbXk]fhgW\UZh`]W\Ya': U\fnYi [Ybž'k]Y'Y]bYa 'HfU_hcfž'\UVYb\\Ai Z]['gW\kYfk]Y[YbXYfY': c`[Ybž']bgVYgcbXYfY'k Ybb'g]Y'a]h
UbXYfYb'JYf_Y\fghf\A[Yfb'_c``]X]YfYb''

8]Y'GhfU»Y'k Uf'bUW\'XYa 'I bZU``'nY]hk Y]gY'[YgdYffhž'k À\fYbX'X]Y 6YUa hYb'X]Y'G]hi Uh]cb'i bhYf'?cbhfc``Y'VfUW\hYb'i bX'X]Y I a `Y]hi b['ZØf'XYb'J Yf_Y\f'Y]bf]W\hYhYb"'Gc`W\Y'A U»bU\a Yb'g]bX bchk YbX][ži a 'X]Y'G]W\Yf\Y]h'XYf'J Yf_Y\fghY]`bY\a Yf'ni [Yk À\f`Y]ghYb'i bX'k Y]hYfY'F]g]_Yb'ni 'a]b]a]YfYb"

$FY'YJUbn'ibX'5igk]f_ib['UiZ'XYb'JYf_Y\f$

I bZÀ``Yžk]Y`XYf`]b`6fÀi b`]b[Ybžk YfZYb`b]Wkh'bi f': fU[Yb`ni f G]WkYf\Y]h'Ui ZžgcbXYfb'_ObbYb'Ui Wk'U`g'<]bk Y]g'Ui Z'[fÒ» YfYž ni [fi bXY``]Y[YbXY'DfcV`Ya Y']a 'GhfU» Ybj Yf_Y\f'[YgY\Yb k YfXYb"'8Yf'HfUbgdcfh'j cb``UbXk]fhgWkUZh`]WkYb'; YfÀhYb'Ui Z OZZYbh`]WkYb'GhfU» Yb'_Ubb'Y]bY'< YfUi gZcfXYfi b['gY]bž'XU'X]YgY cZh'b]WkhX]Y'['Y]WkY'; YgWkk]bX][_Y]h'YffY]WkYb'cXYf a UbOj f]YfZÀ\]['g]bX'k]Y'UbXYfY': U\fnYi [Y"'8 U\Yf']gh'Y]bY'Yb[Y Ni gUa a YbUfVY]h'nk]gWkYb'@UbXk]fhYb'i bX'JYf_Y\fgVY\OfXYb bOh][ž'i a 'g]WkYfni ghY``Ybž'XUgg'G]WkYf\Y]hgghUbXUfXg'Y]b[Y\U`hYb k YfXYb'i bX'X]Y'JYf_Y\fgfY[Y`b'ZØf'U``Y'6YhY]`][hYb'j YfghÀbX`]Wk g]bX"

9]b'k Y]hYfYf'k]WXh][Yf'Di b_h']gh'X]Y'GYbg]V]`]g]Yfi b['XYf'UbXYfYb5i hcZU\fYf'ZØf'`UbXk]fhgWXUZh`]WXY: U\fnYi [Y"'J]Y`Y

JYf_Y\fghY]`bY\a Yf'g]bX'g]WX'cZh'b]WXh'VYk i gghž'k]Y'k Y]h'cXYf']b

k Y`WXYf'5fh'Y]b'HfU_hcfUb\Àb[Yf'Ui ggWXkYb_Yb'_Ubbž'k Ug'ni
[YZÀ\f`]WXYb'G]hi Uh]cbYb'ZØ\fYb'_Ubb"'5i Z_`Àfi b['Xi fWX

DZcfa Uh]cbg_Ua dU[bYb'cXYf'JYf_Y\fggWX]`XYf'_ObbhYb'XUni

VY]hfU[YbžXUg'6Yk i gghqY]b'ZØf'qc`WXYF]g]_Yb'ni 'qWXÀfZYb"

#bg[YgUa h'nY][h'X]YgYf'J cfZU``ž'k]Y'k]WXh]['Yg']ghž']a
GhfU» Ybj Yf_Y\f'ghÀbX][Y'K UWXgUa _Y]h'ni 'VYk U\fYb"'8Yf
5i ghUi gWX'nk]gWXYb': U\fYfbž'VYgcbXYfg'VY]'i bhYfgWX]YX`]WXYb
: U\fnYi [hmdYbž'gc``hY'[YZÒfXYfh'k YfXYbž'i a 'XUg'F]g]_c'_ØbZh][Yf
I bZÀ``Y'ni 'a]b]a]YfYb"'J cfZÀ``Y'k]Y'XYf']b'6fÀi b`]b[Ybž'Ui WX
k Ybb'g]Y'[`]a dZ]WX'Ui g[Y\Ybž'g]bX'k Yfhj c``Y'@Y\fghØW_Yž'X]Y
UbXYfYb'JYf_Y\fqhY]`bY\a Yfb'U`g'K Ufbi b['X]YbYb'gc``hYb"

9]b '6`]W_ 'Ui Z'X]Y 'F c UX 'GUZY hm

8]Y'G]W\Yf\Y]h']a 'JYf_Y\f'a i gg'j cb'U``Yb'6YhY]`][hYb'Yfbgh [Ybca a Yb'k YfXYb"'9]bY'ghÀbX][Y', VYfdfØZ b['j cb : U\f[Yk c\b\Y]hYbž'XUg'6YUW\hYb'j cb'JYf_Y\fggW\]`XYfb'i bX'X]Y 5i Za Yf_gUa _Y]h'Ui Z'UbXYfY'JYf_Y\fghY]`bY\a Yf'_ÒbbYb'\Y`ZYbž X]Y'; YZU\f'j cb'I bZÀ``Yb'ni 'j Yff]b[Yfb"'9g``]Y[h'Ub'i bg'U``Ybž Y]bYb'fYgdY_hj c``Yb'i bX'g]W\YfYb'I a [Ub[']a 'GhfU»Ybj Yf_Y\f'ni dZY[Ybž'i a '_ØbZh][Y'JcfZÀ``Y'ni 'j Yf\]bXYfb'i bX'XUg'F]g]_c'ni a]b]a]YfYb"

 $8]Y \cdot 5 bnU \setminus XYf \cdot J \cdot Yf_Y \setminus fgi b Z A \cdot Y \cdot]b \cdot 8 Y i hgWX \cdot UbX \check{z} \times]Y \\ \cdot UbXk]fhgWX UZh \cdot]WXY :: U \setminus fnYi [Y \cdot VYhfY ZZYb \check{z} \cdot Vhrg]WX \cdot]b \cdot XYb \cdot YhnhYb \\ \cdot U \setminus fYb \cdot ghUV] \cdot]g]Yfh \check{z} \cdot]Y[h \cdot YXcWX \cdot]a a Yf \cdot bcWX \cdot]b \cdot Y]b Ya \\ V \cdot Ygcf[b]gYffY[YbXYb \cdot 6YfY]WX " - a \times \times J \times f \cdot &$&& \cdot [UV \cdot Yg \cdot `Ui h \cdot XYa \\ GhUh]gh]gWX Yb \cdot 6i b XYgUa h \cdot fi b X \cdot %& " * $$ \cdot GhfU \times Ybj Yf_Y \times fgi b Z A \cdot Y \check{z} \\ X]Y \cdot `UbXk]fhgWX UZh \cdot]WX Y \cdot B i hn \times J \cdot fnYi [Y \cdot VYhf UZYb " \cdot 8]Yg \cdot nY][h \times X \Ugg gc \cdot WX Y \cdot J \cdot fZ A \cdot Y \cdot b]WX h \cdot gY \cdot hYb \cdot g]b X \cdot i b X \cdot Z h \cdot Xi fWX \cdot : U_hc fYb \cdot k]Y a Ub[Y \cdot b XY \cdot G]WX h \cdot Uf_Y]h \times i bni fY]WX Y b \cdot Y \cdot J \cdot fgWX]Y XY b Y b \cdot Y \cdot$

GhUh]gh]gWXY'9f_Ybbhb]ggY'i bX'HfYbXg

Ni gàhn`]W\ni `XYb`cVYb`[YbUbbhYb`JYf_Y\fgi bZà``Yb`_ÒbbYbk Y]hYfY`ghUh]gh]gW\Y`8 UhYb`k Yfhj c``Y`9]bV`]W_Y`]b`X]Y`G]W\Yf\Y]h la `GhfU» Ybj Yf_Y\f`V]YhYb"`9]bY`5bU`mgY`XYf`I bZU``XUhYb`nY][hž XUggʻj cf`U``Ya `I bZà``Y`a]h`6YhY]`][i b[jcb`HfU_hcfYb`]b`XYf 9fbhYnY]h`ni bY\a Yb"`8]Yg`]gh`cZh`Ui Z`X]Y`Yf\Ò\hY`5_h]j]hàh`]b`XYf @UbXk]fhgW\UZh`i bX`X]Y`XUa]h`j YfVi bXYbY`Bi hni b[jcb`GhfU» Yb ni fØW_ni ZØ\fYb": c`[YbXYb`5gdY_hYb`g]bX`\]YfVY]`YbhgW\Y]XYbX.

- I bZU``nY]hdi b_hY. '8]Y 'a Y]ghYb 'I bZÀ``Y 'dUgg]YfYb ']b 'XYf 8Àa a Yfi b['cXYf'VY] 'gWX `YWX hYb 'G]WX hj Yf\ À`hb]ggYb"
- : U\fnYi [[fÒ» Y. 'HfU_hcfYb'i bX'XYfYb'5b\Àb[Yf'g]bX']a JYf['Y]W\'ni 'bcfa U'Yb'5i hcg'a Y]gh'gW\k YfYf'i bX'[fÒ» Yfž k Ug'XUg'6fYa gj Yf\U'hYb'VYY]bZi ggYb'_Ubb"
- : U\f[YgWk]bX][_Y]h. '8Yf
 ; YgWk]bX][_Y]hgi bhYfgWk]YX 'nk]gWkYb
 `UbXk]fhgWkUZh`]WkYb :: U\fnYi [Yb 'i bX 'D_k ']gh'Y]b '\Ài Z][Yg | bZU``f]g]_c"

< Ài Z][Y I fgUW Yb i bX G]W Yf Y]hga U» bU\a Yb

I a 'X]Y'G]W\Yf\Y]h']a 'GhfU» Ybj Yf_Y\f'ni 'Yf\Ò\Ybž'g]bX dfÀj Ybh]j Y'A U» bU\a Yb'j cb'[fÒ» hYf'6YXYi hi b["'8 Uni '[Y\ÒfYb.

- 8]Y'JYfVYggYfi b['XYf'G]W\hVUf_Y]h'j cb'HfU_hcfYbž'Yhk U Xi fW\'XUg'5bVf]b[Yb'j cb'fYZY_h]YfYbXYb'A UhYf]U`]Yb"
- FY[Y`a À»][Y'GW\i`i b[Yb'ZØf'HfU_hcfZU\fYfž'i a 'XUg 6Yk i gghgY]b'ZØf'GhfU»YbjYf_Y\fgfY[Y`b'ni'ZÒfXYfb"
- 8]Y'5i gk Y]gi b['gYdUfUhYf': U\fgdi fYb'cXYf
 JYf_Y\fgnY]WXYbž'X]Y'Ui Z``UbXk]fhgWXUZh`]WXY': U\fnYi [Y\]bk Y]gYb"

8 Y f``Y hn hY`I b ZU```]b`6 fÀi b`]b[Yb`]gh`Y]b`k Y]hY fYg`6 Y]gd]Y`ž`XUg`X]Y

Bchk YbX][_Y]higc`WkYf'A U» bU\a Ybii bhYfghfY]Wkh"5i Wkik Ybb _Y]bYiJYf`YhnhYbini 'VY_`U[Ybig]bXžij Yfi fgUWkhiYXYfil bZU``ib]Wkh bi fia UhYf]Y``YiGWkÀXYbžigcbXYfbi_UbbiUi WkigWkk Yfk]Y[YbXY : c`[Ybi\UVYbžik YbbiA YbgWkYbi]bi; YZU\fig]bX"'8 UgiN]Y``a i gg XU\YfigY]bžidfÀj Ybh]jini '\UbXY`bžii a 'X]YiG]WkYf\Y]hiU``Yf JYf_Y\fghY]`bY\a Yfini [YkÀ\fiy]ghYb"

8 YhU]`g

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