

@Y]WXY'Y]bYf'%-!>À\f][Yb']b'Ghi hh[Ufh. FÀhgY`\UZhYf'HcXYgZU``Ui Z[Y_`Àfh3

@Y]WXY'Y]bYf'%-!À\f][Yb'Ui g'5i f]WX']b'Ghi hh[Ufh'[YZ] bXYb" Dc`]nY]'Yfa]hhY`h'k Y[Yb'ZU\f`Àgg][Yf'HÒhi b[/hcl]_c`c[]gWXY HYghg'`Ui ZYb"

Ghi hh[Ufhž'8 Yi hgW\`Ub X'!'

5a 'GcbbhU[ž'XYb'&("'5df]`'&\$&) ž'k i fXY'X]Y'@Y]W\Y'Y]bYf %-! \dot{A} \f][Yb'Ui g'5i f]W\']b'Ghi hh[Ufh'[YZ bXYb"'8Yf': i bXcfh VYZUbX'g]W\']b'Y]bYa '; YVØgW\'Ub'Y]bYa 'K Y]bVYf["'9]bY Xi fW\[YZØ\fhY'CVXi _h]cb'Yf[UV'_Y]bY' <]bk Y]gY'Ui Z'Y]bYb [Yk U`hgUa Yb'HcX"

8]Y 'i b[Y': fUi '\UhhY'Ua ': fY]hU[UVYbX'a]h']\fYa '%-!'À\f][Yb : fYi bX'i bX'Y]bYa 'VYZfYi bXYhYb'DÀfW\Yb'f\(\E'i bVY_UbbhY Gi VghUbnYb'_cbgi a]Yfh''BUW\'XYa '?cbgi a'[]b['Yg']\f'gW\`YW\hž\U``YfX]b[g'f]YZYb']\fY'6Y[`Y]hYf'_Y]bYb'FYhhi b[gX]Ybgh''8Yf : fYi bX'XYf'JYfghcfVYbYb'[UV'gW\`]Y»`]W\'Y]bYb'<]bk Y]g'Ui Z'XYb :i bXcfh'XYf'@Y]W\Y''

9fa]hh`i b[Yb i bX hcl]_c`c[]gW\Y I bhYfgi W\i b[Yb

8]Y'Dc`]nY]'\Uh'X]Y'6Y[`Y]hYf'j cf`Ài Z]['ZYgh[Ybca a Yb'i bX VYZfU[hž'g]Y'g]bX'YXcW\'a]hh`Yfk Y]`Y'k]YXYf'Ui Z'ZfY]Ya ': i » "'8]Y GhUUhgUbk U`hgW\UZh'\Uh'Y]b'9fa]hh`i b[gj YfZU\fYb'k Y[Yb JYfXUW\hg'Ui Z'ZU\f`Àgg][Y'HÒhi b['Xi fW\'I bhYf`Uggi b['Y]b[Y`Y]hYh'' 8]Y'_cbgi a]YfhYb'Gi VghUbnYb'k YfXYb'W\Ya]gW\!hcl]_c`c[]gW\ i bhYfgi W\hž'i bX'Yg'k]fX'Yfk UfhYhž'XUgg'X]Y'9f[YVb]ggY'a Y\fYfY K]Y 'Ui Z'B 8 F 'VYf]W hYhž'k YfXYb 'hcl]_c`c[]gW Y 'I bhYfgi W i b[Yb]b 'XYf 'ZcfYbg]gW Yb 'A YX]n]b 'Y]b[YgYhnhž'i a 'X]Y '[YbUi Y 'I fgUW Y j cb 'Hc XYgZÀ ``Yb 'ni '_`ÀfYbž'gY] 'Yg 'Xi fW 'bUhØf`]W Y 'I a ghÀb XY c XYf 'Xi fW ': fYa XY]bk]f_i b["'8]Y 'DfcnYggY 'XYf 'ZcfYbg]gW Yb A YX]n]b 'VY]b\U`hYb 'i bhYf 'Ub XYfYa 'X]Y 'I bhYfgi W i b['j cb 7\Ya]_U`]Ybž';]ZhYb 'i b X '8 fc[Ybž'i a 'X]Y '<]bhYf[fØb XY 'Y]bYg Hc XYg'ni 'YfZcfgW Yb"

 $8]Y `ZcfYbg]gWXY`A YX]n]b `gd]Y`h'Y]bY `YbhgWXY]XYbXY`F c``Y`VY]`XYf \\ 5i Z_`Àfi b[`j cb`J YfVfYWXYb`i bX`XYf`6Ygh]a a i b[`j cb \\ HcXYgi fgUWXYb"`\dagger X]YgYa `: U```k]fX`g]Y`j cb`[fc \rightarrow Yf`6YXYi hi b[gY]bži a `U``Y`8YhU]`g`XYg`J cfZU``g`ni `_`ÀfYb`i bX`X]Y`I a ghÀbXY`ni j YfghY\Ybž'X]Y`ni `XYa `hfU[]gWXYb`HcX`XYf`\f b[Yb`: fUi `ZØ\fhYbž k]Y`Ui WX`Ui <math>Z' < Y$]`dfUl]gbYh`XUf[Y`Y[h`]gh"

•

8 YhU]`g	
J c f ZU``	ZU\f`Àgg][Y'HÒhib[
I fgUWX Y	ZU`gWXYf'la[Ub['a]h'8fc[Yb
Cfh	Ghihh[Ufhž8YihgWX`UbX
: YghbU\a Yb	
EiY``Yb	• k k k "bXf"XY
	k k k "\Y]`dfUl]gbYh"XY

6 Y gi W Y b 'G] Y 'i b g 'U i Z 'b ! U ["X Y