

FGJ 'DfUYgh. 'HfU]bYf'?cW_'g]Y\h : cfhgWXf]hhY 'hfchn 'HYghgd]Y`b]YXYf`U[Y

BUWX 'XYa '&.-!8YVU_Y``nY][h'g]WX 'FGJ 'DfUYgh'[Y[Yb'DGJ@UW_\UigYb'jYfVYggYfh"'HfU]bYf'?cW_``cVh'X]Y'@Y]ghib[ž7caYVUW_'jcb'5f]Z]'bU\h"

9a a Yf]W\"'8]Y'6Yn]f_g`][U!: i \Rightarrow VU``Yf'XYg'FGJ'DfUYgh'\UVYb'Y]bYgW\k]Yf][Y'NY]h'\]bhYf'g]W\"'HfU]bYf'Fc`UbX'?c\W_'\Ai \Rightarrow YfhY'g]W\\bU\W\'XYf'B]YXYf`U[Y'[Y[Yb'XYb'@UbXYg`][]ghYb'DGJ'@U\W_\Ui gYbcdh]a]gh]g\W\"'Jcf'U``Ya 'X]Y'F\Ø\W__Y\f'jcb'Gd]Y`Yf'AYf]hcb'5f]Z]Ui g'Y]bYf'JYf`Yhni b['_\ObbhY'\Z\Øf'dcg]h]j Y'\all di `gY'gcf[Yb"

Cdh]a]ga i g hfchn B]YXYf`U[Y

 $: \emptyset f'XYb'FGJ'DfUYgh'k\ Uf'XUg'`YhnhY'<Y]a\ gd]Y``[\ Y[\ Yb'X]Y'G;\ 9\\ 6YXVi\ f[\ !<Ui\ 'Y]b'\YfVYf'F\emptyset W_gW\`U[\ \check{z}'XYf'a\]h'Y]bYa''\&.-'YbXYhY''\\ Hfchn'X]YgYf'gWkk\ YfYb'B]YXYf`U[\ Y'k\ Uf'XYf'HfU]bYf'Fc`UbX'?cW_']b\\ XYf'XUfUi\ ZZc`[\ YbXYb'DUfh]Y'[\ Y[\ Yb'DGJ'@UW_\Ui\ gYb']bY']bYf\\ dcg]h]j\ Yb'Gh]a\ a\ i\ b['''\ 9g'k\ Uf'nk\ Uf'Y]bY'_`UfY'B]YXYf`U[\ Y'a\]h'$.(\check{z}\ UVYf'k\]f'\UVYb'Y]bY'XYi\ h`]W\ Y'@Y]ghi\ b[\ gghY][\ Yfi\ b[']a''JYf[`Y]W\ ni\ a''YhnhYb'Gd]Y`'[\ YgY\Yb'\ \check{z}'Yf_`AfhY'?cW_''$

$6Yk A\fhY GhfUhY[]Yb i b X F ØW__Y\fYf$

6YgcbXYfg'YfZfYi`]W\'ZØf'X]Y'A UbbgW\UZh']gh'X]Y'FØW__Y\f'jcb?Ud]hÀb'\(\frac{1}{2}\)i bX'7U'j]b'GhY]b\(\frac{2}{2}\)i bX'7U'j]b'GhY]b\(\frac{2}{2}\)i bUW\']\fYa 'I f\(\frac{1}{2}\)i V'k]YXYf]bg'HYUa ']bhY[f]Yfh'k i fXYb"'G]Y'_cbbhYb''Yk Y]\(\frac{1}{2}\)i k Yfhj c``Y Gd]Y\`a]bi hYb'gUa a Y\`b\(\frac{2}{2}\)i a 'g]W\'gd]Y\`Yf]gW\'Y]bni Z]bXYb" 5i\(\simma\)YfXYa '[]Vh'Yg'X]Y'<c\(\frac{2}{2}\)bi b[\(\frac{2}{2}\)XUgg'A Yf]hcb'\(\frac{5}{2}\)]'VU\`X'k]YXYf j c``gh\(\frac{1}{2}\)h']gh\(\frac{2}{2}\)i a 'gY]bY'Gd]Y\`a UW\`Yfei U\]h\(\frac{1}{2}\)h'Yb']b'XYb __ca a YbXYb'GU]gcbgd]Y\`Yb'Y]bVf]b[\(\frac{1}{2}\)b'ni '_\(\frac{1}{2}\)bYb''

GWX`ØggY`gd]Y`Yf'i bX'j YfdUgghY ; Y`Y[Yb\Y]hYb

5i gg]WX hYb 'Ui Z'VYj cfghY\YbXY'Gd]Y`Y

: Øf`X]Y`A UbbgW\UZh`ghY\Yb`bi b`nk Y]`k Y]hYfY`HYghgd]Y`Y`Ubž`VYj cf X]Y`bYi Y`GU]gcb`VY[]bbh"`5a `A]hhk cW\`k]fX`Yg`Y]bYb`J Yf[`Y]W\ a]h`XYa `6Yn]f_g`][U!5VghY][Yf'; GJ`Gi XYfk]W_`[YVYbž`[YZc`[hjcb`Y]bYf`DUfh]Y`[Y[Yb`XYb`5!?fY]g`][]ghYb`G7`Hi 6`A i ggi a "`?cW_VhcbhYž`XUgg`Yf'j cf`U``Ya `aY\f`cZZYbg]j Y`5_nYbhY`gYhnYb a ÒW\hYž`i a`X]Y`A UbbgW\UZh`Ui Z`Y]bYb`dcg]h]j Yb`GU]gcbghUfh j cfni VYfY]hYb"

GhUfh XYf bYi Yb GU]gcb

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