

Dc`]nY]'A Uf_hfYXk]hn.'A Y\fYfY HUhj YfXÀW\h][Y'bUW\'9]bVfØW\Yb ZYgh[Ybca a Yb

8]Y'Dc`]nY]'A Uf_hfYXk]hn'bU\a 'bUW\a Y\fYfYb 9][Ybhi a gXY`]_hYb'ØVYf'nY\b'HUhj YfXÀW\h][Y']b A Uf_hfYXk]hn'i bX'GY`V'ZYgh"

8]Y'Dc`]nY]'A Uf_hfYXk]hn'[Y\h']b'Y]bYf'FY]\Y'jcb
9][YbhiagXY`]_hYb'a]h'9bhgW\`cggYb\Y]h'[Y[Yb'X]Y'HÀhYfgW\UZh
jcf"'=b'XYb'`YhnhYb'AcbUhYb'jYfnY]W\bYhY'X]Y'GhUXh'aY\fYfY
9]bVfØW\Y'ibX'8]YVghÀ\`Y'X]Y'jYfgW\]YXYbY'CV'Y_hY'k]Y
Kc\bib[Ybž'?Y``YfUVhY]`Y'ibX':U\fnYi[Y'VYhfcZZYb'\UVYb"

9fa]hh`i b[Yb Vf]b[Yb @]W\h']bg 8i b_Y`

HUhj YfXÀW h][Y'Ui g'HgW YW]Yb

9]b']bhYfYggUbhYf'5gdY_h']ghž'XUgg'X]Y'a Y]ghYb'HUhj YfXÀW\h][Yb']b HgW\YW\]Yb'k c\bYb''8]Y'Dc`]nY]'_cbbhY'^YXcW\'_Y]bY'<]bk Y]gY Z]bXYbž'X]Y'XUfUi Z'\]bXYi hYbž'XUgg'g]Y'X]Y'HUhYb']b'; fi ddYb d`UbhYb'cXYf'Ui gZ\[hYb''J]Y`a Y\f'U[]YfhYb'g]Y'a Y]gh'U``Y]b'cXYf ni 'nk Y]h''8]YgY'5fVY]hgk Y]gY'ghY``h'Y]bY'<YfUi gZcfXYfi b['Z\[hyb''X]Y

Ofh`]WX Y b '6Y\ OfXY b 'XUf'i b X 'nY][hz'k]Y'k]WX h]['Yg']ghz'XUgg'X]Y
6Yj O`_Yfi b['Ui Za Yf_gUa 'V'Y]Vh'i b X'j YfX AWX h][Y'5_h]j]hAhY b
a Y`XY h"

9fZc`[fY]WXY': YghbU\a Yb'VY] : U\fnYi [X]YVghÀ\`Yb

=a '⇒' `]'&\$&('[UV'Yg'Y]bYb'k Y]hYfYb'JcfZU``ž'VY]'XYa ']b'GY`V
a Y\fYfY': U\fnYi [Y'Ui Z[YVfcW\Yb'k i fXYb"'6Y]'Y]bYf': U\bXi b[k i fXYb'XfY]'A ÀbbYf']a '5`hYf'j cb'(*'V]g'(-'⇒J\fYb'[YZUggh"'8]Y
Dc`]nY]'gW\Ahnh'XYb'GW\UXYb'Ui Z'a Y\fYfY'hUi gYbX'9i fcž'k cVY]']b
j]Y`Yb': À``Yb'bi f'K Yfh[Y[Ybgh\AbXY'j cb'[Yf]b[Ya 'K Yfh
Ybhk YbXYh'k i fXYb"'8]YgY'HUhYb'nY][Ybž'k]Y'k]W\h]['Yg']ghž'Ui Z
X]Y'G]W\Yf\Y]h'j cb': U\fnYi [Yb'ni 'UW\hYbž'VYgcbXYfg']b'ghUf_
ZfYei Ybh]YfhYb'6YfY]W\Yb"

JYfgi WX hYf 9]bVfi WX V`Y]Vhc\bY 9fZc`[

9]b 'VYgcbXYfg'VYa Yf_Ybgk YfhYf'J cfZU``'YfY][bYhY'g]W 'Ua '&(" '\' \) ']ž'U`g'i bVY_UbbhY'HÀhYf'j Yfgi W hYbž']b 'Y]bY'K c\bi b[']b A Uf_hfYXk]hn'Y]bni VfYW\Yb"'8i fW\'X]Y'gW\bY``Y'FYU_h]cb'XYf Dc`]nY]'_cbbhYb'X]Y'J YfXÀW\h][Yb'VY]a 'J Yfgi W\ž'ni 'Z]Y\Ybž [YZUggh'k YfXYb"'8]Yg'j YfXYi h`]W\hž'k]Y'k]W\h]['GW\bY``][_Y]h'VY] XYf'Dc`]nY]']ghž'i a 'gc`W\Y'GhfUZhUhYb'ni 'j Yf\]bXYfb"

$\exists [YbX^]WXY'ibX'X]Y': c^[Yb'] \land fYf'HUhYb$

9]b 'VYgcbXYfg'\Yfj cfni \YVYbXYf'J cfZU```ZUbX'Ua '%- "'\$\)]ghUhhž U`g'Y]b '%&! 'À\f][Yf'\$\dagger b[Y'Ui Z'Zf]gWXYf'HUh'YfhUddh'k i fXYž'U`g'Yf GUWXYb']a 'K Yfh'j cb'a Y\fYfYb'\i bXYfh'9i fc'Ui g'Y]bYa '@_k']b GY`V'Ybhk YbXYhY"'5i Z[fi bX'gY]bYg'5`hYfg'k Uf'XYf'\$\dagger b[Y ghfUZ| ba ØbX]['i bX'k i fXY'gY]bYb'9`hYfb'ØVYf[YVYb"'8]Yg'k]fZh : fU[Yb'ni f'J YfUbhk cfhi b['j cb'\$\dagger [YbX`]WXYb'i bX'XYb A Ò[`]WX_Y]hYb'Ui Zž']\bYb'ZfØ\nY]h]['X]Y': c`[Yb']\fYf'< UbX`i b[Yb VYk i ggh'ni 'a UWXYb"

 $8]Y^Dc^]nY^AUf_hfYXk]hn^UddY^]Yfh^Ub^X]Y^6Øf[Yfz^kUW^gUa^ni]$

gY]b'i bX'j YfXÀW\h][Y'5_h]j]hÀhYb'gcZcfh'ni 'a Y`XYb"'8]Yg'hfÀ[h XUni 'VY]ž'X]Y'G]W\Yf\Y]h']b'XYf'; Ya Y]bXY'ni 'Yf\ \dot{O} \Yb'i bX dchYbh]Y``Y'GhfUZhÀhYf'ni 'ZUggYb"

8 Y hU] `q

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