

7cfU'N]WU]'j Yf`Àggh'8: 6!HYUa .'9A! HY]`bU\a Y']b'; YZU\f°

7cfU'N]WU]'j Yf`Àggh'X]Y'8: 6!: fUi Yb!A UbbgW\UZh j Yf`Yhni b[gVYX]b[h'j cfnY]h]['i bX'VUb[h'i a ']\fY'9A! HY]`bU\a Y']a '*; `]'&\$&) "



: fY]Vi f[ž:8 Yi hgWX `Ub X :! '7 c fU `N]WU]ž 'hU`Ybh]YfhY 'Gd]Y `Yf]b 'XYf XYi hgWX Yb :: fUi Yb!B Uh]c bU`a UbbgWX UZhž a i gghY j Yf`Yhni b[gVYX]b[h'j c fnY]h]['Ui g 'XYa '@Y\f[Ub[']\fYg 'HYUa g UVfY]gYb "'@Ui h'h!cb`]bY '`]hh'X]Y '&\$! À\f][Y 'i bhYf 'a i g_i `ÀfYb 6YgWX k YfXYbž 'X]Y ']\fY 'HY]`bU\a Y 'Ub 'XYf 'VYj c fghY\YbXYb 9i fcdUa Y]ghYfgWX UZh ']a '\(\delta\) `]b 'XYf 'GWX k Y]n ']b ': fU[Y 'ghY``Yb "'N]WU] k]fX 'ni f'k Y]hYfYb 'a YX]n]b]gWXYb '6Y\UbX`i b['ni ']\fYa 'U_hi Y``Yb J YfY]bž 'G7 ': fY]Vi f[ž 'ni fØW__Y\fYbž 'bUWXXYa 'g]Y 'VYfY]hg 'XUg k]WX h][Y 'B Uh]cbg!@YU[i Y!Gd]Y`'[Y[Yb 'X]Y 'B]YXYf `AbXYf]bbYbž k Y`WX Yg' (.\$ 'ZØf'8 Yi hgWX`UbX 'YbXYhYž j YfdUggh`\Uh"

6i bXYghfU]bYf'7\f]gh]Ub'K ØW_'a Y`XYhYž'XUgg'N]WU]'Ua '*"'* b] Ui W\'XUg'; fi ddYb`]W\h'[Y[Yb'2 ghYffY]W\'XYZ]b]h]j 'ZY\`Yb'k]fX"

$JYf^Yhnib[gf]g]_c^kY]V^]WXYf^5h^YhYb$

 $\label{eq:normalize} $$N]WU]g'JYf`Yhni b['k]fZh'Y]b'@]Wkh'Ui Z'Y]b'[fO) YfYg'DfcV`Ya']a k Y]V`]Wk Yb'DfcZ]Zi > VU``''K]Y'X]Y'GdcfhAfnhYnY]hi b['VYf]WkhYhž bY\a Yb'JYf`Yhni b[Yb']a'k Y]V`]WkYb': i > VU``'ni ž'k cVY]'j cf'U``Ya DfcV`Ya Y'Ub'XYb'i bhYfYb'9I hfYa]hAhYb'\Ai Z][Y'5i gZU``i fgUWkYb g]bX'''K Y]V`]WkY'5h\`YhYb'\UVYb'Y]b'XfY]!'V]g'gYWkga U``\O\YfYg F]g]_c'ZØf'?fYi nVUbXj Yf`Yhni b[Ybž']bgVYgcbXYfY'VY]' bcb! WcbhUWh'JYf`Yhni b[Yb''5bUhca]gWkY: U_hcfYbž'\cfa cbY``Y 9]bZØggY'i bX'HfU]b]b[gVYX]b[i b[Yb'g]bX'k YgYbh`]WkY'5gdY_hYž X]Y'X]YgY'Yf\O\hYb'F]g]_Yb'a]h'g]Wk'Vf]b[Yb''$

8]Y 'gdcfha YX]n]b]gWXY: cfgWXi b['_cbnYbhf]Yfh'g]WX 'XUfUi Zž DfÀj Ybh]cbgghfUhY[]Yb'ni 'Ybhk]W_Y`bž'X]Y'Ui Z'X]Y'gdYn]Z]gWXYb 6YXØfZb]ggY'k Y]V`]WXYf'Gdcfh`Yf'ni [YgWXb]hhYb'g]bX"'A ca YbhUb VUg]Yfh'X]Y'8 UhYb`U[Y'ni f'DfÀj Ybh]cb'j cb'J Yf`Yhni b[Yb'Ui Zj]Y`Yb'Ghi X]Ybž'X]Y'g]WX'j cfbY\a`]WX'Ui Z'a Àbb`]WXY'Gdcfh`Yf_cbnYbhf]YfYbž'gcXUgg'Yg'Ub'9f_Ybbhb]ggYb'ni f'gdYn]Z]gWXYb J Yf`Yhni b[gdfÀj Ybh]cb'VY]': fUi Yb'a Ub[Y`h"

8]Y'Ni ibZh'ZØf'7cfU'N]WU]

 $Hfchn'] \ fYf'J Yf'Yhni b["V'Y]Vh'N]WU] Y]b'j]Y'j YfgdfYW YbXYg'HU'Ybh]a 'XYi hgW\Yb': fUi YbZi >> VU``"G]Y'k]fX']b'XYf'b\AW\ ghYb'GU]gcb'ZØf XYb'J YfY]b'J Z@'K c'ZgVi f["gd]Y`Ybž'bUW\XYa "g]Y'VYfY]hg'X]Y j Yf[Ub[YbYb'*J\ fY'VY]a "G7": fY]Vi f["j YfVfUW\ h'\ Uh'" <math>\Rightarrow$ fY $F @W_Y f'i bX'9bhk]W_i b["k YfXYb'a]h' <math>\Rightarrow$ hYfYggY'j YfZc'[hž]bgVYgcbXYfY']a '<]bV']W_Ui Z'X]Y'VYj cfghY\YbXYb]bhYfbUh]cbU'Yb' < YfUi gZcfXYfi b[Yb'i bX'X]Y'UbghY\YbXYb'9A! Gd]Y'Y"'8 Ug'HYUa '\ Uh'[fc >> Yg'J YfhfUi Yb']b']\ fY': \A\][_Y]hYbZ XYbbcW\'\cZYb': Ubg'i bX'HfU]bYf'Ui Z'Y]bY'gW\bY`Y'; YbYgi b[Ž

8 Y hU]`g	
JcfZU``	JYf`Yhnib[
I fgUWX Y	aig_i`ÀfY'JYf`Yhnib[
Cfh	: fY]Vif[ž8YihgWX`UbX
J Y f`Y hnhY	%
EiY``Yb	k k k "h!cb`]bY"XY
	kkk"gdcfh%"XY
	gdcfhUYfnhYnY]hi b["Wca

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