A ch\Yf!Gcb'8i c'7Ui [\h']b'G\cW_]b[5fWUXY' < Y]gh']b': `cf]XU°

5 a ch\Yf!gcb Xi c k Ug UffYghY X Zcf U fcVVYfm Uh ?]b[g K cf X 5 fWUXY]b : `cf]XUž fU]g]b['ei Ygh]cbg UVci h] ``Y[U` [Ua]b[cdYfUh]cbg"



=cbUž: `cf]XUžI G5!5a ch\Yf'UbX'gcb'Xi cž ≈gY'6UYn'Gi UfYn
UbX'M]XYm'U'Gi UfYn'7YXYbcž'Zci bX'h\Ya gY'j Yg'VY\]bX'VUfg
Zc``ck]b['Ub'Ui XUW]ci g'fcVVYfm'Uh'?]b[g'K cf`X'5fWUXY']b'=cbUž
: `cf]XU"'5WWcfX]b['hc'?F8Cž'h\Y']bW]XYbh'i bZc`XYX'k\Yb'*gY
U``Y[YX`m'\Y'X'Ub'Ya d`cmYY'Uh'[i bdc]bhž'a U_]b['cZZ'k]h\'WUg\
Zfca 'h\Y'YghUV`]g\a Ybh"'A YUbk\]`Yž'\]g'a ch\Yf'k U]hYX'ci hg]XY']b
U'[YhUk Um'j Y\]WY"'H\Y]f'\Y]gh'k Ug'g\cfh!`]j YX/'Zci f'XUmg'`UhYfž
`Uk 'YbZcfW'a Ybh'UddfY\YbXYX'h\Y'dU]f']b'7UdY'7cfU`"'8YhYWh]j Yg
fYWcj YfYX'U'66'[i bž'WUg\ž'UbX'Wch\]b['h\Uh'a UhW\YX'k\Uh'k Ug
WUdhi fYX'cb'j]XYc'Xi f]b['h\Y'fcVVYfm"

H\Y`U``i fY`cZ`h\Y`UfWUXY`k Ug`gi W\`h\Uh`U`fY[i`Uf`W'ghca Yf`]_YbYX`]hg`a UW\]bYg`hc`h\cgY`Zci bX`]b`WUg]bcgž'k\YfY`d`UmYfg

 $\label{thm:condition} Wci `X']bXYYX'gWccd'id'fYU`'k]bb]b[g''<ck Yj Yfž'h\Y'ib`]WYbgYX cdYfUh]cbU``ghUhi g'cZ'h\YgY'[Ua]b['a UW\]bYg'dcgYg'ei Ygh]cbg UVci h``Y[U`]hm'' \delta : `cf]XUž'Yb[U[]b[']b'gi W\`UWh]j]h]Yg']bj]hYg \YZhm'dYbU`h]Yg/'gdYW]Z]WU``mž'cdYfUh]b['ib`]WYbgYX'[Ua]b[a UW\]bYg'WUb'`YUX'hc'Z]bYg'cZ'id'hc'` %$ž$$$'dYf'XYj]\W'''MYhž'Ug UhhcfbYm'7\UX'7iaa]b[g'dc]bhg'cihž'YbZcfWYaYbh'cZ'[Ua]b[`Ukg']gb h'YlUWh`m'U'df]cf]hm'Zcf'`cWU```Uk'YbZcfWYaYbh''$

HYGVXmG]XYCZ; Ua]b[

#D'U'VfcUXYf'WcbhYI hž'h\Y': `cf]XU'; Ua]b['7cbhfc``7ca a]gg]cb \Ug'VYYb'UWh]j Y']b'WfUW_]b['Xck b'cb']``Y[U`'[Ua V`]b[YghUV`]g\a Ybhg"'FYWYbh`mž'h\Y'Wca a]gg]cb'hUf[YhYX'Ub']bhYfbYh WUZÅ'bUa YX'='J]``U[]c']b'Gi a hYf'7ci bhmž'Ug'XYhU]`YX'Vm'J]``U[YgBYk g"'8i f]b['U'fU]X'cb'** `m'%) ž'cZZ]W]U`g'gY]nYX'bYUf`m'&\$\$'g`ch a UW\]bYg'UbX'UffYghYX'h\Y'ck bYfž'F]a U'FUmž'cb'W\Uf[Yg'fY`UhYX hc'a cbYm'`Ui bXYf]b['UbX'cdYfUh]b['U'[Ua V`]b['XYb"'H\]g cdYfUh]cb'Zc``ck YX'U'XYhU]`YX'g]I !a cbh\']bj Ygh][Uh]cb'h\Uh m]Y`XYX'g\cW_]b['Z]bX]b[g.'h\Y'WUZ\A'Yb[U[YX']b'`Uf[Y'WUg\hfUbgUWh]cbg'k \]`Y'YI d`c]h]b['Y`XYf`m'W' ghca Yfg'h\fci [\']hg [Ua]b['cZZYf]b[g"

 $H\Y'WUZ^A''k\ Ug''cbY''cZ'Y][\h'cdYfUh]b['']b''Gi\ a\ hYf'7ci\ bhmž'U g]hi\ Uh]cb''h\Uh'fU]gYg'YmYVfck\ gž'YgdYW]U``m'g]bW''U```\Uj\Y'fYWYbh`m dUggYX']bgdYWh]cbg'''=`Y[U`'g`ch'a\UW\]bYg'UbX']bhYfbYh'WUZYgž\ k\]W\'cZhYb''cdYfUhY''i\bXYf'hf]\W_m'`Y[U`'`ccd\c`Ygž'Wcbh]bi\Y'hc\h\f]j\Yž'cZZYf]b[''WUg\'cf'df]nYg'hc''W'\ghca\Yfg'''Gi\W\'hU\h\]Wg'U``ck\h\YgY'YghUV`]g\a\Ybhg'hc'g_]fh'Ufci\bX'ghUhY''[Ua\V`]b[''`Uk\g'k\YfY[Ua\V`]b['a\UW\]bYg'UfY'dYfa\]hhYX'cb`m'Uh'`]\WYbgYX'j\Ybi\Ygž\df]a\Uf\`m']b'A\[Ua\]!\8\UXY'7ci\bhm''$

7ci `X'?]b[g'K cf`X'5fWUXY'VY'BYIh3

5a]X 'h\]g'WfUW_Xck bž']hg'k cfh\ 'bch]b['h\ Uh'?]b[g'K cf`X '5fWUXY \ Ug'bch'VYYb'WcbZ]fa YX'Ug'dUfh'cZ'Ubm']bj Ygh][Uh]cb'Vm'h\ Y : `cf]XU'; Ua]b['7cbhfc`'7ca a]gg]cb"' < ck Yj Yfž'h\ Y'cdYfUh]cb'cZ i b`]WYbgYX'[Ua]b['a UW\]bYg'XcYg'di h'h\ Y'UfWUXY'Uh'f]g_'cZ gWfi h]bm"'BchUV`mž': `cf]XU g'`Uk g'WUgg]Zm'g`ch'a UW\]bYg'Ug']``Y[U`

 $H Y \cap I \ h U d c g h c Z' W c b j Y b] Y b W \cap U b X \cap Y [U^{hm}f U] g Y g Y g g Y b h j U \\ e i Y g h j c b g'' = g \cap Y \cap Y \cap Y f] \cap C Z' [Ua] b [K c f h N Y \cap f] g_c Z' V U f g \\ d Y b U \cap j Y g \cap Z c f \nabla C h N \cap C d Y f U h c f g \cap U b X \cap d U h f c b g 3 \cdot 5 g \cdot j b j Y g h j [Uh] c b g \\ W c b h j b i Y \cap C i b Z c \cdot X \cap b j U f] c i g \cap C W U h j c b g z' h N Y \cdot Z U h Y \cdot C Z' d \cdot U W g \cdot]_Y \\ ?] b [g \cap K \cap C f \cap X \cap S f W U X Y \cap V U b [g \cap J b \cap N Y \cap V U \cap U b W Y'' : c f \cap C W U \cap f Y g] X Y b h g z' h N Y] a d \cdot] W U h j c b g \cap C Z' h N Y g Y \cdot Y j Y b h g \cdot [c \cdot V Y m c b X \cdot a Y f Y \cdot Y b h Y f h U] b a Y b h N Y m W N U \cdot Y b [Y \cap N Y \cap J Y f m Z U V f] W c Z' W c a a i b] h m h f i g h \cap U b X \cap g U Z Y h m''$

8 Y hU]`g	
Cfh	€bUž:`cf]XUžI G5
Ei Y``Yb	• _fXc"Wca
	• k k k "j]``U[Yg!bYk g"Wca

6Ygi WXYb G]Y i bg Ui Z. a Y]b!k]Yb bYh