

6cmVUbX'6C: 'VY[Y]ghYfh'VY]'8YVØh!G\ck a]h'bYi Ya '<]h' Bc': U]f °

9f`YVYb`G]Y`XYb`@Ui bW\`XYf`6cmVUbX`6"C": `Ua `%"∵≯ b] &\$&) ž'a]h`XYa `8YVØhgcb['/ ei ch/Bc': U]f/ ei ch/i bX`Y]bYa i bj Yf[Ygg`]W\Yb`G\ck WUgY"



VY[Y]ghYfh'ØVYf'X]Y FYgcbUbn'XYg'Di V`]_i a g'i bX'VYnY]W\bYhY
]\fYb'YfghYb'5i Zhf]hh'U`g'i bj Yf[Ygg`]W\"'\ideq b'D\Ua 'hY]`hY'Y]bYb\
\i a cfj c``Yb'?ca a YbhUf'ni f'; fØbXi b['XYf'6UbX'a]h'i bX
k ØbgW\hY'g]W\'Y]bY'6UbX'a]h'U``Yb'' ' '5b\'HU]"'8Ug'Yf_`ÀfhY'N]Y`
j cb'6C: ']gh'Ygž'Y]bY'\Ufa cb]gW\Y'Ni gUa a YbUfVY]h'XYf'ZØbZ
A]h[`]YXYf'ni 'ZÔfXYfb'i bX'\cW\kYfh][Y'Aig]_dfcXi_hY'ZØf']\fY: Ubg'ni 'gW\UZZYb"

8 UgʻA i g]_j]XYcʻ Bcʻ: U]fʻi bXʻgY]bY 6YXYi hi b[

 $\label{lem:nighmi} Nighmi] Whii] fya "G\ck WUgY" VfUW\hY" 6C: "Ui W\" XUg" Aig]_j] XYc Bc": U] f "\YfUi gž" XUg" U`g" XUg" 8 Y V Øhd fc Y_h XYf"; fi ddY"[]`h" 8 Yf FUd! F / 6! Gcb['ki fXY" j cb" 6i] '7 cb['B Ua "[YgW\f] Y VYb" i b X Yfn A\ `h`X] Y"; YgW\] W\hY" Y] b Yg" $\frac{1}{3} b[Ybž" XYf" gY] b Y" @] Y VY" \ZØf" Y] b Y DYfgcb" nY] [hž" X] Y" Y Xc W\"[`Y] W\[Ø`h] ["V`Y] Vh" 8] Y" HYI hY XYa cbghf] YfYb" 6i] '7 cb['B Uag": \A\] [_Y] hž" U_hi Y``Y" HfYb Xg Ui Zni [fY] ZYb" i b X"_`i [Y" K cfhgd] Y`Y" ni 'bi hnYb" 8 Ug" Aig]_j] XYc \YVh" g] W\"Xi fW\"Y] b Y" Zf] g W\"Y" 6] `Xgd f U W\"Y" U V ž" X] Y" X] Y" 6 Ub X"] b Y] b Ya "b Yi Yb" @] W\"h'd f \Ag Y b h] Yfh" i b X" X] Y" 9 f k Ufhi b [Yb" Ub" X] Y; fi dd Y'k Y] hYf" g hY] [Yfh"$

8 UgʻA Jʻ]ghʻb]W\h'bi fʻY]bYʻj]gi Yʻ`Yʻ8 UfghYʻ`i b[žʻgcbXYfb
j Yfa]hhYʻhʻUi W\ʻY]bYʻh]YZYfYžʻa Y\fX]a Ybg]cbUʻYʻ6chgW\UZh"·8]Y
a i g]_Uʻ]gW\Yʻ9fnÀ\`i b[ʻnY][hʻX]Yʻj YfVcf[YbYbʻGY]hYbʻXYf
7\UfU_hYfYžʻk cVY]ʻYXYfʻ?Øbgh`YfʻY]bʻ]bX]j]Xi Yʻ`YgʻbY[Uh]j Yg
a U[YʻXUfghYʻ`h"·8 Ub_ʻY]bYfʻ\c\Ybʻaj Ygh]h]cbʻ]bʻXUgʻA i g]_j]XYc
\cZZYbʻX]YʻA]h[`]YXYfžʻ]\fYʻ: Ubgʻa]hʻY]bYfʻdUW_YbXYbʻ; YgW\]W\hY
i bXʻY]bXfi W_qj c``Yfʻj]qi Yʻ`Ya ʻGh]ʻni ʻVY[Y]qhYfb"

$Ni = \emptyset b Zh [Y'5i Zhf]hhY'i b X'Dfc'Y_hY$

8]Y`A]h[`]YXYf`jcb`6C: `g]bX`b]W\h`bif`a]h`XYf`Dfcach]cb`]\fYg
8YVØh!Gcb[g`VYgW\ÀZh][hž`gcbXYfb`UiW\`a]h`dYfgÒb`]W\Yb
DfcY_hYb`ibX`5iZhf]hhYb"; `Y]W\nY]h][`VYfY]hYb`g]Y`g]W\`UiZ
_caaYbXY`?cbnYfhY`ZØf`5b\`HfU]`J h`B[¼b`7\Đb[; U] jcf"'\
5b`Y\bib[`Ub`]\f`8YVØh`k]fX`Y]b`kY]hYfYg`G\ckWUgY`a]h`aY\f

A]h']\fYa 'GhUfh'U`g'bYi Y'A i g]_[fi ddY'g]Y\h'6C: ']\f'8YVØh!A J'U`g \Yfn`]W\Yg'; YgW\Yb_'ZØf'X]Y'hfYi Yb'I bhYfghØhnYf'Ubž'X]Y'g]Y'Ui Z]\fYa 'a i g]_U`]gW\Yb'K Y['VY[`Y]hYh'\UVYb''8]Y'A]gW\i b['Ui g HU`Ybhž'Zf]gW\Yb'=\XYYb'i bX'Y]bYf'Yb[U[]YfhYb': UbVUg]g'_ $\dot{}$ 0bbhY XYf'GW\`ØggY`ni ']\fYa '9fZc`['gY]b''

8 Yf'5i Zhf]hh'\Uh'b]W\h'bi f'XUg'DchYbn]U`ž'X]Y'7\Ufhg'ni 'YfcVYfbž gcbXYfb'_ObbhY'Ui W\'XYb'K Y['ZØf'k Y]hYfY'a i g]_U`]gW\Y 5 VYbhYi Yf'XYf'6UbX'YVbYb"'K À\fYbX'X]Y'6UbXa]h[`]YXYf']\fY _Øbgh`Yf]gW\Y'FY]gY'ZcfhgYhnYbž'V`Y]Vh'UVni k UfhYbž'k Y`W\Y _fYUh]j Yb'<O\Yb'g]Y']b'Ni _i bZh'YffY]W\Yb'k YfXYb"

: Øf'k Y]hYfY' ±b Zcfa Uh]cbYb'ØVYf'XUg'8YVØh!G\ck WUgY'j cb'6C:
i bX']\f'A i g]_j]XYc' Bc': U]f 'VYgi W\Yb'G]Y'j]YhbUa "j b'i bX'
\cU\cWhfc"h]Ybd\cb["j b"

8 Y hU]`g	
Cfh	< b[MÆbžJ]YhbUa
EiY``Yb	• k k k "j]Y hb Ua "j b
	• \cU\cWhfc"h]Ybd\cb["j b

6Ygi WXYb G]Y i bg Ui Z Y]bY!fY]gY "XY