

GWXk YfYf'A chcffUXi bZU```Ui Z'6') - . FYhhi b[g\i VgWXfUi VYf']a '9]bgUhn°

5a '%%"'≯b]'&\$&) 'kifXY'Y]b'AchcffUXZU\fYf'UiZ'XYf'6') - VY]'Di`\Y]a 'gW\kYf'jYf`Yhnh"'9]b'FYhhib[g\iVgW\fUiVYfVfUW\hY']\b']bg'?fUb_Yb\Uig"



6') - \check{z} 'Di`\Y]a \check{z} '8 Yi hg W\`Ub X'! 5a `\Yi h][Yb'5 VYb X \check{z} 'XYa '%%" \check{z} b]'&\$&) \check{z} _Ua 'Yg'[Y[Yb'%, .&) 'I\f'Ui Z'XYf'6i bXYgghfU» Y') - nk]g W\Yb'Di`\Y]a 'i bX'F ca a Yfg_]f W\Yb'ni 'Y]b Ya 'g W\K YfYb JYf_Y\fgi b ZU`` \check{z} 'VY]'XYa 'Y]b'A chcff UXZU\fYf'Yf\YV`]W\Y JYf'Yhni b[Yb'Yf`]hh''8 Yf': U\fYf'k i fXY'a]h'Y]b Ya FYhhi b[g\i Vg W\fUi VYf']b'Y]b'b U\Yg'? f Ub_Yb\Ui g'[YZc[Yb" \Leftrightarrow J'Cfa Uh]cbYb'ni a '[YbUi Yb'<Yf[Ub['XYg'I b[`\Ø W_g \zeta'k]Y'? \overline{O}`bYf GhUXh!5bnY][Yf'VYf] W\hYh''

8]Y'6i bXYgghfU»Y') - ž'Y]b'cZh'ZfYei Ybh]YfhYf'JYf_Y\fgkY[ž'kifXYUiZ[fibX'XYg'IbZU``g'jcfØVYf[Y\YbX']b'VY]XYb'F]W\hib[Yb[YgdYffhž'_cbbhY'YXcW\'gW\bY``k]YXYf'ZfY][Y[YVYb'kYfXYb"

<]ghcf]gWX 'VYhfUWX hYh'Z]bXYb'Ui Z'X]YgYf'GhfYW_Y'\Ài Z]['I bZÀ``Y
ghUhhž'X]Y'cZha U`g'Ui Z'ØVYf\Ò\hY'; YgWXk]bX][_Y]h'ni fØW_ni ZØ\fYb
g]bX"'=a 'j Yf[Ub[YbYb'>J\f'k i fXYb'VY]'nk Y]'gc`WXYb'I bZÀ``Yb
hÒX`]WXY'JYf`Yhni b[Yb'[Ya Y`XYhž'k Ug'X]Y'6Ygcf[b]g'ØVYf'X]Y $JYf_Y\fgg]WXYfY]h'Ui Z'X]YgYf'GhfU*Y'k Y]hYf'Yf\Ò\hž'Yf_`Àfh'XYf
F\Y]b!9fZh!?fY]gž'XYf'd`Ubhž'Y]bYb'ghUh]cbÀfYb'6`]hnYf'ni f
<math>JYfVYggYfi b[XYf'G]WXYfY]hg`U[Y'Y]bni f]WXhYb"$

J cfUb[Y[Ub[YbY'] bZÀ``Y'i bX'Yf\YV`]WXY F]g]_Yb

± XYf J Yf[Ub[Yb\Y]h YfY][bYhYb g]W \ Ui Z XYf 6i b XYgghfU» Y ·) - VYfY]hg hfU[]gW Y ·Nk]gW Yb ZÀ ``Y " ·Gc ·_Ua · Yg ·Ua · %' " ·5i [i gh ·& \$ & ni ·Y]b Ya ·I b ZU ``ž VY] · XYa ·Y]b '')! ·À\f][Yf ·J UhYf i b X ·gY]b %, ! ·À\f][Yf ·Gc \ b ·i a g ·@YVYb ·_Ua Yb " ·8 Yf a i ha U» `]W Y J Yfi fgUW Yfž ·Y]b '' , ! ·À\f][Yf ·A Ubb ·a]h ·Y]b Ya ·5 `_c\c `k Yfh ·j cb ØVYf ·& ž · Dfca] ``Yž \ UhhY ·Y]b Yb ·? UghYbk U[Yb ·i b X ·ØVYf \ c `hY ·Y]b 5i hc ž ·k c VY] ·Yf ·a]h ·XYa ·A c hc ff UX ·XYf ·VY]XYb ·C d ZYf ·_c ``]X]YfhY " B UW ·XYa ·I b ZU ```Zc \ ·XYf ·5i hc ZU \ fYf ·j cb ·XYf ·I b ZU ``ghY ``Yž _c b b hY Yxc W ·gd À hYf ·]b ·F ca a Yfg_]fW Yb ·ZYgh[Yb ca a Yb ·k Yf XYb ž ·k]Y · K 5 "XY ·VYf]W hYh"

± XYf: c`[Y'k i fXYb'VY]'XYf: YghbU\a Y'GWXÀXYb'Ub'gY]bYa: U\fnYi ['ZYgh[YghY``hžX]Y'Ui Z'X]Y'?c``]g]cb'\]bXYi hYhYbži bX'X]Y Dc`]nY]'cfXbYhY'Y]bY'6`i hdfcVY'Ubži a 'ZYghni ghY``Ybž'cV'Yf'i bhYf 9]bZi gg'j cb'5`_c\c`'cXYf'8fc[Yb'ghUbX"'Ni XYa 'k i fXY'[YdfØZhž cV'X]Y'6Y`Yi WXhi b['XYg'A chcffUXg'ni a 'NY]hdi b_h'XYg'I bZU``g cfXbi b[g[Ya À»'Z b_h]cb]YfhY"

JYf_Y\fgi bZU``ghUh]gh]_Yb'i bX G]WXYf\Y]hga U»bU\a Yb

8]Y; YZU\fYb]a 'GhfU» Ybj Yf_Y\f'g]bX'_Y]bY'9]bnY`ZÀ``Yž'k]Y'Ui WXX]Y'8 UhYb'ni f'J Yf_Y\fgg]WXYf\Y]h']b'XYf'9I 'nY][Yb"'@Ui h'Y]bYf'

\[
\dot Zc[fUZ]_'XYg'9i fcdA]gWXYb'DUf`Ua Ybhg'j Yf`]YfYb'A\f`]WX
HUi gYbXY'A YbgWXYb']b'XYf'9i fcdA]gWXYb'I b]cb']\f'@YVYb'cXYf
Yf`Y]XYb'gWXk YfY'JYf`Yhni b[Yb'VY]'JYf_Y\fgi bZA``Yb"Nk]gWXYb

&\$%\$`i bX`&\$&\$`_cbbhY`X]Y`NU\``XYf`JYf_Y\fghchYb`i a '' *
DfcnYbh'[YgYb_h'k YfXYbž'XcW\`X]Y`<YfUi gZcfXYfi b[Yb`V`Y]VYb
VYghY\Ybž']bgVYgcbXYfY`]b`6Yni ['Ui Z'\b[Y': U\fYf"

- $=a \times 1/f \cdot 8\% 1/f \cdot 1/f$

9]b'Ub\U`hYbXYg'DfcV`Ya 'V`Y]Vhž'XUgg'+*'DfcnYbh'XYf

J Yf_Y\fghchYb'A ÀbbYf'g]bXž'k Ug'Ui Z'Y]b'Yf\Ò\hYg

F]g]_cj Yf\U`hYb']b'X]YgYf'; fi ddY'\]bk Y]gh"'8]Y'Dc`]nY]'ZØ\fh

fY[Y`a À»]['HYa dc_cbhfc``Yb'Xi fW\ž'k cVY]'U``Y]b'5bZUb['\$\darksimen'\darks

8 YhU]`g	
JcfZU``	JYf_Y\fgi bZU``
Cfh	6') - ž'Di`\Y]a ž'8Yi hgW\`UbX
J Y f`Y hn hY	%
: YghbU\a Yb	%
Ei Y``Yb	• k k k "_ghU"XY
	• k k k "k U"XY
	• k k k "Yi fcdUf`"Yi fcdU"Yi

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