

GD8]a I a ZfU[Yh]YZ 5 Z8 ghUf_]a 5 i Zk]b X j cf XYf K U\ `°

GD8 'j Yf`]Yfh']b'U_hi Y``Yb'l a ZfU[Yb'XYi h`]W\ \check{z} 'k À\fYbX'5Z8 i bX'l b]cb'ni `Y[Yb"'A][fUh]cb']gh'ZØf'K U\`VYfYW\h][hY'Y]b nYbhfU`Yg'H\Ya U"

5gW UZZY b V i f[ž 8 Y i hg W `Ub X !! → `XY f `U_hi Y ``Y b `d c `]h]g W Y b @Ub X g W UZh 8 Y i hg W `Ub X g `n Y][h `g] W Y] b `XY i h`] W Y f `HfY b X .
8 f Y] Y] b \ U `V `K c W Y b `j c f `XY f `6 i b X Y g h U[g k U \ ``j Y f n Y] W \ b Y h `X] Y GD8 `Y] b Y b `V Y i b f i \][Y b X Y b `F Ø W [Ub [`] b `XY f `K À \ `Y f [i b g h " 9] b Y I a Z f U [Y `XY g `A Y] b i b [g Z c f g W \ i b [g] b g h] h i hg M c i ; c j ž `X] Y `] a N Y] h f U i a `j ca `& (" `V] g `n i a `& + " `IJ b i U f `X i f W [Y Z Ø \ f h `k i f X Y ž `Y f [] V h Z Ø f `X] Y `G c n] U `XY a c _ f U h Y b `Y] b Y b `J Y f `i g h j c b `j] Y f `D f c n Y b h d i b _h Y b ž g c X U g g `g] Y `b i b `b i f `b c W `%) `D f c n Y b h `XY f `G h] a a Y b `Y f \ U `h Y b k Ø f X Y b " 8] Y g `_ Ò b b h Y : c `[Y b `Z Ø f `X] Y `F Y [] Y f i b [g V] `X i b [`\ U V Y b ž n i a U ``X] Y `d c `] h] g W Y ? c b _ i f f Y b n `g] W `U i Z `X Y b `G d] h n Y b d `A h n Y b d c g] h] c b] Y f h "

8]Y'5Z8'\]b[Y[Yb'_Ubb'Y]bYb'XYi h`]W\Yb'5bgh]Y['j YfnY]W\bYb.
G]Y'[Yk]bbh'j]Yf'Di b_hY'i bX'YffY]W\h'bi b'&' 'DfcnYbh''5i W\X]Y
I b]cb'ff781 #7GI Ł'nY][h'5i Zk ÀfhghYbXYbnYb'a]h'Y]bYa 'Di b_h
Ni k UW\g'Ui Z'&- 'DfcnYbhz'k cVY]'g]Y']b'UbXYfYb'I a ZfU[Yb'VYfY]hg
'\$'DfcnYbh'cXYf'a Y\f'Yfn]Y'h''=a'; Y[YbgUhn'XUni 'j YfnY]W\bYb
X]Y'; fØbYb'Y]bYb'F ØW_[Ub['i a 'nk Y]'DfcnYbhdi b_hY'i bX
_ca a Yb'Ui Z'%' 'DfcnYbh'': Øf'X]Y': 8D'`Ui ZYb'X]Y'NY]hYb'b]W\h
VYggYfz'g]Y'g]b_h'Ui Z'' 'DfcnYbh''8]Y'@]b_Y'_Ubb'g]W\'i a 'Y]bYb
Di b_h'Ui Z') 'DfcnYbh'j YfVYggYfb'i bX'k ÀfY'XUa]h'k]YXYf']a
6i bXYghU['j YfhfYhYb''8Ug'6ØbXb]g'i a 'GU\fU'K U[Yb_bYW\h

 $H\Ya\ U\ A\][fUh]cb\]a\ : c_i\ g$

9]b nybhfu`yg'H\Ya Už'XUg'X]Y'K À\`Yf'ni f'NY]h'VYgW\ÀZh][hž']gh'X]Y
A][fUh]cb"' \(\delta\) XYf'U_hi Y``Yb'I a ZfU[Y'[UVYb'' * 'DfcnYbh'XYf
6YZfU[hYb'Ubž'XUgg'XUg'H\Ya U'ZØf'g]Y'j cb'[fc "Yf'6YXYi hi b[']ghž
k Ug'Y]bYb'g][b]Z]_UbhYb'5bgh]Y[']a 'J'Yf[`Y]W\'ni '&' 'DfcnYbh']b
XYf'J cfk cW\'Y'XUfghY``h''8]YgY'JYf\AbXYfi b[Yb']b'XYf
K U\fbY\a i b['_\ObbhYb'b]W\'h'ni `Yhnh'Ui Z'X]Y'A YggYfUhhUW_Y']b
5gW\'UZZYbVi f['Ua '&&"'*Jbi Uf'i bX'X]Y'bUW\ Zc`[YbXY
5b_\ObX][i b['j cb': f]YXf]W\'A Yfn'\OVYf'j YfgW\\AfZhY
A][fUh]cbga U"\bU\a Yb'ni f\OW_ni Z\O\fYb'gY]b"'A][fUh]cb']gh
a]hh`Yfk Y]`Y'Z\Of'K \(\delta\) `Yf'ZUgh'U``Yf'DUfhY]Yb'X]Y'k]W\'h][ghY'Gcf[Y"

Ni bY\a YbXYf 9]bZi gg j cb A][fUbhYb

8]Y`N]Y`[fi ddYžX]Y`a]hY]bYa `A][fUh]cbg\]bhYf[fi bX`ni f
6i bXYghU[gk U\``&\$&%K U\``VYfYW\h][h'k Ufž']gh``Ui h'GhUh]gh]gW\Ya
6i bXYgUa h'VY]`Yhk U'%' `DfcnYbhž'k Ug`fi bX`+ž%`A]``]cbYb
A YbgW\Yb`Ybhgdf]W\h''8]YgYf`5bhY]``k]fX`j cfUi gg]W\h`]W\`k Y]hYf
ghY][Ybž'XU`Ui W\`&ž%`A]``]cbYb`K U\`VYfYW\h][hY`a]h
ni [Yk UbXYfhYb`9`hYfbhY]`Yb`\]bni _ca a Yb"\8]Y`6YZfU[hYb`Ài »Yfb
6YXYb_Yb`\]bg]W\h`]W\`]\fYf`K c\bg]hi Uh]cb`i bX`5`hYfgj cfgcf[Yž
k Ug`Ui Z`]\fY`gdYn]Z]gW\Yb`@YVYbgVYX]b[i b[Yb`\]bk Y]gh"`

K U\`i a $ZfU[Yb'k]Y'X]YgY'gd]Y[Y`b'X]Y'U_hi Y``Y'dc`]h]gW\Y$ Gh]a a i b['k]XYfž'g]bX''YXcW\'b]W\h'U`g'Dfc[bcgYb'ZØf'XYb K U\`Ui g[Ub['ni 'j YfghY\Yb"'G]Y'g]bX'ghYhg'a]h'I bg]W\Yf\Y]hYb VY\UZhYhž'k]Y'Yhk U'Y]bYf'ghUh]gh]gW\Yb': Y\`Yfhc`YfUbn'j cb'%'V]g'' DfcnYbhdi b_hYbž'X]Y'VY]'XYf'=bhYfdfYhUh]cb'XYf'9f[YVb]ggY VYfØW_g]W\h][h'k YfXYb'a i gq"'

8]Y'9bhk]W_`i b[Yb']b'XYf'K À\`Yf[i bgh']b'XYb'_ca a YbXYb K cW\Yb'V`Y]VYb'gdUbbYbX'i bX'_ObbhYb'Yf\YV`]W\Yb'9]bZi gg'Ui Z X]Y'6i bXYghU[gk U\``\UVYb"'8Ug'dc`]h]gW\Y'?`]a U']b'8Yi hgW\`UbX]gh'ni f'NY]h'j cb'l bg]W\Yf\Y]hYb'[Ydf\A[h\z'k \A\fYbX'X]Y'DUfhY]Yb i a 'X]Y'; i bgh'XYf'K \A\`Yf'_\Aa dZYb"

: Øf'k Y]hYfY' ⇒Zcfa Uh]cbYb'ni 'XYb'U_hi Y``Yb'dc`]h]gWXYb 9bhk]W_`i b[Yb'_ÒbbYb'G]Y'X]Y'6Yf]WXhYfghUhhi b['VY]'GØX_i f]Yfž' A 8F'i bX'85K I A'j YfZc`[Yb"

8 YhU]`g	
JcfZU``	Gcbgh][Yg
Cfh	5gWXUZZYbVif[ž8YihgWX`UbX
EiY``Yb	• k k k "gi YX_i f]Yf"XY
	• k k k "a Xf"XY
	• XUkia "XY

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