

K cf`X'<YU`h\'Gi a a]h'&\$&(.'; Ygi bX\Y]h]a ': c_i g' '>Yhnh'Uba Y`XYb'

9f`YVYb`G]Y`XYb`K cf`X`<YU`h\`Gi a a]h`&\$&(`j ca '%' "'V]g`%) "
C_hcVYf`]b`6Yf`]b"'8]g_i h]YfYb`G]Y`a]h`9I dYfhYb`Ui g
K]ggYbgW\UZhžDc`]h]_`i bX`K]fhgW\UZh`ØVYf`[`cVU`Y
; Ygi bX\Y]hgh\Ya Yb`k]Y`DUbXYa]Ybž
; Ygi bX\Y]hg[YfYW\h][_Y]h`i bX`_Øbgh`]W\Y`\D\h```][Ybn"'GY]Yb
G]Y`HY]``X]YgYf`k]W\h][Yb`JYfUbghU`hi b[`i bhYf`XYa `A chhc
/ ei ch/6i]`X]b[`Hfi gh`Zcf`U`<YU`h\]Yf`K cf`X/ ei ch/"`\h\nh
5__fYX]h]Yfi b[`ZØf`A YX]Yb`i bX`FY[]ghf]Yfi b[`ZØf
HY]`bY\a Yf`g]W\Yfb`K Y]hYfY`\DZcfa Uh]cbYb`i bhYf
k k k "k cf`X\YU`h\qi a a]h"cf["



9]b'VYXYi hYbXYg'9fY][b]g'ZØf'X]Y; Ygi bX\Y]h'XYf'K Y`h

Jca '%' "'V]g'%) "'C_hcVYf'&\$&('Z]bXYh'XYf'K cf`X'<YU`h\'Gi a a]h']b 6Yf`]b'ghUhh" 8]YgY'J YfUbghU`hi b['Vf]b[h'Y]bY'J]Y`nU\`'j cb : UW\`Yi hYb'i bX'9bhgW\Y]Xi b[ghfÀ[Yfb'ni gUa a Ybž'i a 'ØVYf'X]Y XfÀb[YbXghYb'; Ygi bX\Y]hgZfU[Yb'XYf'K Y`h'ni 'X]g_i h]YfYb"'8]Y ?cbZYfYbn'ghY\h'i bhYf'XYa 'A chhc' 6i]`X]b['Hfi gh'Zcf'U'<YU`h\]Yf K cf`X 'i bX'j Yfgdf]W\hž']bbcj Uh]j Y'5bgÀhnY'ni f'JYfVYggYfi b['XYf k Y`hk Y]hYb'; Ygi bX\Y]h'ni 'YfÒfhYfb"

HY]`bY\a YfibX`]\f'9]bZigg

, VYf'') \$'GdfYW\Yf]bbYb'i bX'GdfYW\Yf'Ui g'j YfgW\]YXYbYb 6YfY]W\Yb'k]Y'K]ggYbgW\UZhž'Dc`]h]_'i bX'N]j]`[YgY``gW\UZh'k YfXYb k À\fYbX'XYg'Gi a a]hg'Ubk YgYbX'gY]bž'XUfi bhYf'dfca]bYbhY DYfgÒb`]W_Y]hYb'k]Y'6i bXYg_Ubn`Yf'C`UZ'GW\c`n'i bX'K <C! ; YbYfU'X]fY_hcf'HYXfcg'5X\Ubca ; \YVfYmYgi g"'\fY fY 5bk YgYb\Y]h'i bhYfghfY]W\h'X]Y'6YXYi hi b['X]YgYg'[`cVU`Yb HfYZZYbgž'XUg'gck c\`']b'DfÀgYbn'U`g'Ui W\'cb`]bY'ZØf']bhYfYggUbhY 8]g_i gg]cbYb'gcf[Yb'k]fX"

$K \]WX h][Y H Y a Y b]a : c_i g$

- ; Ygi bX\Y]hg[YfYW\h][_Y]h'i bX'Ni [Ub['ni 'a YX]n]b]gW\YfJYfgcf[i b[
- 8]Y'<YfUi gZcfXYfi b[Yb'XYg'?`]a Uk UbXY`g'ZØf'X]Y ; Ygi bX\Y]h
- 5bh]V]ch]_UfYg]ghYbnYb i bX XYfYb 6Y_Àa dZ b[
- HYWXbc`c[]gWXY'9bhk]W_`i b[Ybž'Y]bgWX`]Y»`]WX'?Øbgh`]WXYf
 bhY``][Ybn']b'XYf'AYX]n]b
- :]bUbn]Yfi b[gghfUhY[]Yb' \mathbb{Z} 0f'[`cVU`Y'; Ygi bX\Y]hgdfc'Y_hY

8]YgY`H\Ya Yb`g]bX`b]W\h`bi f`U_hi Y``ž`gcbXYfb`\UVYb`Ui W\k Y]hfY]W\YbXY`5i gk]f_i b[Yb`Ui Z`X]Y`ÒZZYbh`]W\Y`; Ygi bX\Y]h`i bX X]Y`@YVYbgei U`]hÀh`]b`j]Y`Yb`@ÀbXYfb"`8]Y`8]g_i gg]cb`ØVYf DUbXYa]Yb`i bX`X]Y`bchk YbX][Yb`5bhk cfhYb`ghY``h`Y]bY`Xf]b[YbXY Bchk YbX][_Y]h`XUfž`i a `ni _ØbZh][Yb`; Ygi bX\Y]hg_f]gYb j cfni VYi [Yb"

:]bUbn]Yfi b[i bX a YX]n]b]gWkY =bbcj Uh]cb

9]b'< $O\setminus Ydib_h: XYg'Giaa]hg'k]fX'X]Y'YfghY':]bUbn]Yfib[gfibXYXYf'KY'h[YgibX\Y]hgcf[Ub]gUh]cb'fK < C L'gY]b"'8 YihgW\`UbX'gd]Y'h \]YfVY]'Y]bY'k]W\h][Y'Fc``Y'ibX'ibhYfghØhnh'X]Y'K < C 'XUVY]ž'XifW j YfVYggYfhY':]bUbn]Yfib[ggmghYaY'jYfaY]XVUfY'HcXYgZ\``Y'nifYXin]YfYb"'8]YgY'\dangle]h]Uh]jY'n]Y`h'XUfUiZ'UVž'V]g'\&\, ']bg[YgUah ($'A]``]cbYb'HcXYgZ\``Y'ni'jYf\]bXYfbž'kY`WXY'XifWX'?fUb_\Y]hYbjYfifgUW\h'kYfXYb"$

9]b [`c V U `Y g : cfi a 'ZØf 'b U W \ U `h][Y @Ògi b [Y b

8 Yf'K cf`X'< YU`h\ Gi a a]h'\Uh'g]W\ 'U`g'YbhgW\Y]XYbXY'D`UhhZcfa YhUV`]Yfhži a ']bbcj Uh]j Y'@Ògi b[Yb'ni f'[`cVU`Yb; Ygi bX\Y]hgj Yfgcf[i b['ni 'ZÒfXYfb"'9g']gh'Y]b'Cfh'XYg 5i ghUi gW\Ygž'Ub'XYa '=\XYYb'i bX'GhfUhY[]Yb'Ybhk]W_Y`h'k YfXYbži a 'X]Y'< YfUi gZcfXYfi b[Yb'XYf'; Ygi bX\Y]hgdc`]h]_'Ubni [Y\Yb i bX'X]Y'BUW\\U`h][_Y]hgn]Y`Y'XYf'I B'j cfUbni hfY]VYb"

$5i gV^{W}i bX^{H}Y$ bU\a Y

8]Y'HY]`bU\a Y'Ua 'Gi a a]h']gh'b]W\h'bi f'Ui Z'Y]b[Y`UXYbY A YX]Ybj YfhfYhYf'VYgW\fÀb_hz'gcbXYfb'Ui W\'ZØf'Y]b'VfY]hYfYg Di V`]_i a 'ni [$Ab[`]W\'''I bhYf'k k k "k cf`X\YU`h\gi a a]h"cf['_ObbYb g]W\'\=bhYfYgg]YfhY'gck c\`'ZØf'X]Y'J cf!Cfh!HY]`bU\a Y'U`g'Ui W\'ZØf X]Y'Cb`]bY!5ba Y`Xi b['fY[]ghf]YfYb"$

JYfUbghU`hi b[gXYhU]`g.

 $K c. \% A Uff]chh < chY \tilde{z}GhUi ZZYbVYf[ghfU) Y % \tilde{z}\% +,) 6Yf b$

K Ubb. "%" "" "%) ""C _hcVYf"&\$&(

 $\label{eq:K-def} $$K Y] hY fY \to Zcfa Uh] cbYb. k k k "k cf`X \YU`h gi a a]h"cf[$

8 YhU1`c

6Ygi WXYb G]Y i bg Ui Z. a Y]b!VYf `]b bYh