

9f`Ub[Yb'YbhXYW_Yb.'5`hghUXhž'; YbØggYibX'; Y\Y]a h]ddg'ZØf'XYb'dYfZY_hYb'Hf]d°

9bhXYW_Yb^G]Y^9f^Ub[Yb.*jcb^XYf^W\Ufa UbhYb^5^hghUXh^ØVYf X]Y^I b]j Yfg]h\hatah^V]g^ni '_i ^]bUf]gW\Yb^<][\^][\hg^i bX hfUi a \UZhYb^DUf_g"^9f^YVYb^G]Y^X]Y^J]Y^ZU^h^

#D'i bgYfYa '5fh]_Y``bY\a Yb`k]f'G]Y'a]h'Ui Z'Y]bY

9bhXYW_i b[gfY]gY'Xi fWX '9f`Ub[Yb"'K]f'VY[]bbYb'a]h'Y]bYa

Fi bX[Ub['Xi fWX'X]Y'VYnUi VYfbXY'5`hghUXhž'gYhnYb'i bgYf

9f_i bXi b[gUVYbhYi Yf'Zcfh'i bX'k YfZYb'Y]bYb'6`]W_'Ui Z'X]Y

ZUgn]b]YfYbXY'; YgWX]WX hY'XYf'I b]j Yfg]hÀh'9f`Ub[Yb!BØfbVYf["

5bgWX`]Y» YbX'ghY``Yb'k]f'⇒bYb'X]Y'_i `]bUf]gWXYb'<Ò\Ydi b_hY'XYf

GhUXh'j cfž'nY][Yb'⇒bYbž'k c'G]Y'X]Y'VYghYb'; Yf]WX hY'[Yb]Y» Yb

_ÒbbYbž'i bX'`UXYb'G]Y'Y]bž'X]Y'[fØbYb'C UgYb'XYf'FY[]cb']b'XYb

DUf_g'i bX'; ÀfhYb'ni 'Yf_i bXYb"</pre>

 $B\ Uh @f`]WX\ 'X @fZYb'`Ui\ WX 'X]Y'`nU\`fY]WX Yb'J YfUbghU`hi\ b[\ Yb'i\ bX : YghY'b]WX h'ZY\`Ybž'X]Y'XUg'[\ UbnY'&U\f' @VYf'Z@f'I\ bhYf\U`hi\ b[\ gcf[\ Ybž'gck\]Y'Y]b][\ Y'gdUbbYbXY'5i\ gZi\ [\ gn]Y`Y']b'XYf'I\ a\ [\ YVi\ b[\ ž']b'XYf'I\ a\ [\ YVi\ b[\ Z']b'XYf'I\ a\ [\ YVi\ b][\ Z']b'XYf'I\ a\ [\ XYf']b'XYf'I\ a\ [\ XYf']b'XYf'I\$

 $X]Y Y]bYb HU[Yghf]d k Yfh g]bX" @Y bYb G]Y g]W ni fØW_ž [Yb]Y YbG]Y XYb j]fhi Y``Yb Fi bX[Ub[i bX ``UggYb G]Y g]W]bgd]f]YfYbž 9f`Ub[Yb VY] <math>\Rightarrow$ fYa 'bAW ghYb 5VYbhYi Yf ni 'VYgi W Yb'

8]Y'VYnUi VYfbXY'5`hghUXh'jcb'9f`Ub[YbYbhXYW_Yb

8]Y'5`hghUXh'j cb'9f`Ub[Yb']gh'Y]b'k U\fYg'¾k Y`']a '<YfnYb
: fUb_Yb"A]h']\fYb'W\Ufa UbhYb'; UggYbž'\]ghcf]gW\Yb'; YVÀi XYb
i bX'Y]bYf'Y]b`UXYbXYb'5ha cgd\AfY'n]Y\h'g]Y'6Ygi W\Yf'Ui g'XYf
[UbnYb'K Y`h'Ub"'<]Yf'_Ubb'a Ub'b]W\h'bi f'X]Y'5fW\]hY_hi f
VYk i bXYfbž'gcbXYfb'Ui W\X]Y'`YVYbX][Y'?i `hi f'i bX'XUg'hÀ[`]W\Y
@YVYb'XYf'9f`Ub[Yf'Yf'YVYb"'9]b'GdUn]Yf[Ub['Xi fW\X]Y'5`hghUXh
j Yfgdf]W\h'i bj Yf[Ygg`]W\Y'9]bXfØW_Y"

9]b VYgcbXYfYg'<][\`][\h'XYf'5`hghUXh']gh'X]Y'A Uf_hd`Uhn"'8]YgYf nYbhfU`Y'D`Uhn']gh'i a [YVYb'j cb'gW\ÒbYb': UW\k Yf_\Ài gYfb'i bX VY\YfVYf[h'fY[Y`a À»]['JYfUbghU`hi b[Yb'i bX'A Àf_hY"'<]Yf'Z]bXYh a Ub'U``Yg'j cb'Zf]gW\Yb'DfcXi _hYb'V]g'ni '\UbX[YZYfh][hYb?i bghk Yf_Yb"'8Yf'A Uf_hd`Uhn']gh'XYf'dYfZY_hY'C fhž'i a 'Y]bYb?UZZYY'ni '[Yb]Y»Yb'i bX'XUg'HfY]VYb'XYf'GhUXh'ni 'VYcVUW\hYb"

C\bY'Y]bYb'6Ygi W.'XYf'GhUXh_]fWXY'Gh":x\Ubb]g'k AfY'Y]bY
9f_i bXi b['XYf'5`hghUXh'i bj c``ghAbX]["'8]YgY']a '[ch]gWXYb'Gh]`
YfVUi hY'?]fWXY']gh'Y]bYg'XYf'A`hYghYb'; YVAi XY']b'9f`Ub[Yb'i bX
V]YhYh'gck c\``]bbYb'U`g'Ui W.'Ui »Yb'VYY]bXfi W_YbXY'8YhU]`g"'8]Y
D`UhhZcfa 'V]YhYh'Y]bY'UhYa VYfUi VYbXY'5i gg]WXh'Ui Z'X]Y
I a [YVi b['i bX'Y][bYh'g]WX'\Yfj cffU[YbX'ZØf': chcg"

- : UWX k Yf_\Ai gYf. 'GWX `YbXYfb 'G]Y 'Xi fWX 'X]Y 'GhfU» Yb i bX 'VYk i bXYfb 'G]Y 'X]Y 'j]Y `Yb 'WX Ufa UbhYb : UWX k Yf_\Ai gYfž'X]Y 'X]Y '; YgWX]WX hY 'XYf'GhUXh k]XYfgd]Y[Y`b" *XXYg' < Ui g'\Uh'gY]bY 'Y][YbY '; YgWX]WX hY i bX 'hfÀ[h'ni 'XYa 'Y]bn][Ufh][Yb'5a V]YbhY 'VY]"
- 7 UZÅg i b X '_ `Y]b Y '@ÀXYb . '8]Y '5 `hghUXh']gh'[Ygd]W_h'a]h
 [Ya Øh`]WX Yb '7 UZÅgž']b 'XYbYb 'G]Y '`c_U`Y 'GdYn]U`]hÀhYb
 _cghYb '_ÒbbYb"'J Yf[YggYb 'G]Y 'b]WX hž'X]Y '_`Y]bYb
 6ci h]ei Yb i b X 'Gci j Yb]f`ÀXYb 'ni 'VYgi WX Ybž'X]Y

Y]bn][Ufh][Y'GW\AhnY'UbV]YhYb"

9]b'k Y]hYfYg'<][\`][\h']gh'XUg': fUbnÒg]gWX Y'J]YfhY`ž'XUg Ybh`Ub['XYf'GhfU» Yb'fi bX'i a 'X]Y'< Ui dhghfU» Y'j Yf`Ài Zh"8]YgY; Y[YbXž'X]Y'Xi fWX']\fY'hmd]gWXYb'ZfUbnÒg]gWXYb 5fWX]hY_hi fa Yf_a U`Y'Ui ZZÀ``hž'Yf]bbYfh'Ub'X]Y'JYfV]bXi b[nk]gWXYb'9f`Ub[Yb'i bX': fUb_fY]WX"'6YgcbXYfg'X]Y'gWXa U`Yb; UggYb'i bX'X]Y'Vi bhYb': UggUXYb'`UXYb'XUni 'Y]bž'YbhXYW_h'ni k YfXYb"

K Yf' ♣ hYfYggY 'Ub'; YgW\]W\hY'\Uhž'gc``hY 'XUg'GhUX ha i gYi a 9f`Ub[Yb'VYgi W\Yb"'8 Ug'A i gYi a 'V]YhYh'gdUbbYbXY
5i gghY``i b[Yb'ni f'GhUXh[YgW\]W\hYž'ni f'?i `hi f'i bX'ni f
9bhk]W_`i b['9f`Ub[Yb'ØVYf'X]Y'↓U\f\i bXYfhY"'6YgcbXYfY
5i gghY``i b[Ybž'X]Y'fY[Y`a À»]['k YW\gY`bž'a UW\Yb'YXYb'6Ygi W\ni Y]bYa 'bYi Yb'9f`YVb]g"

BUWW.Y]bYa 'Ui ZfY[YbXYb'HU[']b'XYf'5`hghUXh'[]Vh'Yg'_Y]bYb VYggYfYb'Cfhži a 'XYb'5VYbX'Ui g_`]b[Yb'ni '`UggYbž'U`g']b'Y]bYa XYf'[Ya Øh`]WWYb'F **YghUi fUb hg'i bX'6]Yf[ÀfhYb**"'; Yb]Y»Yb'G]Y ZfÀb_]gWWY'GdYn]U`]hÀhYbž'k À\fYbX'G]Y'g]WW'a]h': fYi bXYb'cXYf XYf': Ua]`]Y'YbhgdUbbYb"'8]Y'; UghZfYi bXgWWUZh'XYf'9]b\Y]a]gWWYb]gh'XUVY]'ghYhg'Y]b'; Yk]bb"

?Y]bY'9bhXYW_i b[ghci f'Xi fWX'9f`Ub[Yb'k ÀfY'_ca d`Yhh'c\bYY]bYb'6Ygi WX']a '6chUb]gWXYb'; UfhYb'XYf'I b]j Yfg]hÀh
9f`Ub[Yb!BØfbVYf["'8]YgYf'VYY]bXfi W_YbXY'; UfhYb'V]YhYh
b]WXh'bi f'gY`hYbY'DZUbnYbUfhYbž'gcbXYfb'Ui WX'k i bXYfgWX ÒbY
GdUn]Yfk Y[Y"'8Yf'; UfhYb']gh'Y]b'__`Y]bYf'FØW_ni [gcfh'a]hhYb']b
XYf'GhUXh'i bX'Y][bYh'g]WX'\Yfj cffU[YbX'ZØf'Y]bYb'Yf\c`gUa Yb
GdUn]Yf[Ub['bUWX'Y]bYa 'Yf`YVb]gfY]WXYb'HU["

Ni gUa a YbZUggYbX'`Àggh'g]W\`gU[Ybž'XUgg'X]Y'5`hghUXh'j cb 9f`Ub[Yb'Y]bY'[Ubn'VYgcbXYfY'5ha cgd\\ÀfY'\Uhž'X]Y'Yg'k Yfh']ghž YbhXYW_h'ni 'k YfXYb''8]Y'?ca V]bUh]cb'Ui g'; YgW\]W\hYž'?i `hi f'i bX gW\\a UW_\UZhYa '9ggYb'a UW\h'g]Y'ni 'Y]bYa ']XYU`Yb'N]Y``ZØf $FY]gYbXY'i bX'9]b\Y]a]gW\Y''5`gc'gW\\bUddYb'G]Y'g]W\'\\\fY ?Ua YfU'i bX'Yf_i bXYb'G]Y'X]Y'j]Y`Yb': UWYhhYb'X]YgYf VYnUi VYfbXYb'GhUXh'$

9]bV`]W_']b'X]Y'ZUgn]b]YfYbXY'; YgWX]WXhY'XYf Lb]jYfg]hÀh'9f`Ub[Yb!BØfbVYf[

8]Y::f]YXf]WX!5`YI UbXYf!I b]j Yfg]hÀh:9f`Ub[Yb!BØfbVYf[ž
[Y[fØbXYh:]a :\\]\f'\%+('\z']gh:Y]bY:XYf:\\A`hYghYb
6]`Xi b[g]bgh]hi h]cbYb:8Yi hgWX`UbXg'i bX:gd]Y`h:Y]bY:nYbhfU`Y:Fc``Y
]b`XYf'; YgWX]WX.hY:XYf'GhUXh:9f`Ub[Yb":HfYZZYb'G]Y:Ui Z'Y]bY
; YgWX]WX.hYz'X]Y:[Ydf\A[h:]gh:jcb:U_UXYa]gWXYa:9\f[Y]nz
\\\\\\bcj Uh]cbg[Y]gh:i bX:Y]bYa:h]YZYb:9]bZi gg:Ui Z'X]Y:_i `hi fY``Y:i bX
gcn]U`Y:9bhk]\\\\\\\\\]i b['XYf'FY[]cb"

I fgdfØb[`]WX 'U`g'DfchYghUbh]gWX Y 'I b]j Yfg]hÀhg[YgY``gWX UZh]bg'@YVYb'[Yfi ZYbž'k i fXY'X]Y'I b]j Yfg]hÀh'[Y[fØbXYhž'i a 'X]Y Df]bn]d]Yb'XYf'5i Z_`Àfi b['ni 'ZÒfXYfb'i bX'Y]bYb'bYi Yb'Ni [Ub['ni K]ggYb'ni 'Yfa Ò[`]WXYb''8]Y'YfghYb'Ghi X]Yb[Àb[Y'k UfYb'j cf U``Ya ']b'XYb'6YfY]WXYb''H\Yc`c[]Yž'FYWX hgk]ggYbgWX UZhYb i bX'D\]`cgcd\]Y'Ui g[Yf]WX hYh'' = a '@Ui ZY'XYf' $\!\!\!\!$ J\fY'Yfk Y]hYfhY g]WX'XUg': ÀWXYfUb[YVch'i a 'BUhi fk]ggYbgWX UZhYbž = b[Yb]Yi fk]ggYbgWX UZhYb'i bX'A YX]n]b''

9]b VYXYi hYbXYf A Y] YbghY]b]b XYf; YgWX]WXhY XYf I b]j Yfg]hÀh k Uf X]Y =b hY [fUh]c b XYg B Øfb VYf [Yf I b]j Yfg]hÀhgghUb X c fhg]a '*J\f'%- * %z Xi fWX 'X]Y '9f `Ub [Yb ii b X B Øfb VYf ['U`g'Y]b '7 Ua di g Ui ZhfUhYb "'8]YgY : i g]cb a UWXhY 'X]Y I b]j Yfg]hÀh ni 'Y]bYf XYf [fÒ» hYb]b '6 UmYfb ii b X 'Yfa Ò[`]WXhY 'Ygž F Yggci fWYb ii b X 'K]ggYb ØVYf j YfgWX]YXYbY : UWXf]WXhi b [Yb '\]bk Y['ni 'VØbXY `b'' < Yi hY ghi X]YfYb 'ØVYf (\$"\$\$\$ 'Ghi X]YfYb XY 'Ui g'a Y\f'U`g'%&\$ j YfgWX]YXYbYb '@ÀbXYfb 'Ub 'XYf I b]j Yfg]hÀh"

 $8\,]Y\,'I\,b]j\,Yfg]h\grave{A}h'\,9f`Ub[\,Yb!\,B\,\varnothing fb\,VYf[\,\,\,`\,\backslash\,Uh'\,n\,U\,\backslash\,\,`fY\,]W,\,Y\,\,\,`V\,Y\,X\,Yi\,\,h\,Y\,b\,X\,Y\,\,.$

9]b'k]Wkh][Yf'6YghUbXhY]`XYf'I b]j Yfg]hÀhg_i `hi f'g]bX'Ui Wk'X]Y j YfgWk]YXYbYb'Ghi XYbhYbj YfV]bXi b[Yb'i bX'
Cf[Ub]gUh]cbYbž'X]Y'XYb'gcn]U`Yb'5i ghUi gWk'i bX'X]Y dYfgÒb`]WkY'9bhk]W_`i b['XYf'Ghi X]YfYbXYb'ZÒfXYfb"
J YfUbghU`hi b[Yb'k]Y'X]Y'J Yfb]ggU[Y'XYf': U_i `hÀh'ZØf
5fWk]hY_hi f'cXYf'X]Y'A\f`]WkYb'I b]!Gdcfha Y]ghYfgWkUZhYb
hfU[Yb'XUni 'VY]ž'XUg'; Ya Y]bgWkUZhg[YZØ\`i bX'XYb
Ni qUa a Yb\U`hi bhYf'XYb'Ghi X]YfYbXYb'ni 'ghÀf_Yb"

8 Yf'\]ghcf]gW\Y'7 Ua di g'XYf'I b]j Yfg]hÀh'9f`Ub[Yb'V]YhYh'Y]bY
VYY]bXfi W_YbXY'?i`]ggYž'X]Y'X]Y'J YfV]bXi b['j cb'HfUX]h]cb'i bX'
a cXYfbYb'@Yfba Yh\cXYb'k]XYfgd]Y[Y`h"'8]Y'[i h'Yf\U`hYbYb
; YVÀi XYž'XUfi bhYf'XUg'VY_UbbhY'5`hY'GW\`cgg'i bX'XUg'
I b]j Yfg]hÀhg[YVÀi XYž'V]YhYb'Y]b'Y]bn][Ufh][Yg'5a V]YbhYž'XUg
Ghi X]YfYbXY'i bX'6Ygi W\Yf'Ubn]Y\h"'8Ug'5a V]YbhY']gh'b]W\h'bi f
]bgd]f]YfYbX'ZØf'@YfbYbXYž'gcbXYfb'Ui W\'ZØf'5fW\]hY_hi f!'i bX
; YgW\]W\hq]bhYfYgq]YfhY'['Y]W\Yfa U»Yb"

<]Yf'g]bX'Y]b][Y'XYf'VYa Yf_Ybgk YfhYghYb'9]bf]WX hi b[Yb'i bX
: UWX VYfY]WX Y'XYf'I b]j Yfq]hÀh.</pre>

: UWXVYfY]WX 6 Y g c b X Y f \ Y] h Y b

A YX]n]b	FYbca a]YfhYg¨?`]b]_i a ž
	Gd]hnYbZcfgWXib[
⇒[Yb]Yifk]ggYbgWkUZhYb	±bhYfX]gn]d`]bÀfY'GhiX]Yb[Àb[Yž
	DfUl]gcf]Ybh]Yfi b[
FYWX hgk]ggYbgWX UZhYb	HfUX]h]cbY``Y'9I nY``Ybnž
	dfUl]gbU\Y`5i gV]`Xi b[
D\]`cgcd\]Y	?c[b]h]jYK]ggYbgWXUZhYbž

 $8]Y T b]j Yfg]hAh gd]Y h Ui WX Y]bY U_h]j Y F c Y]b XYf : cfgWX i b["G]Y]gh HY] Y nU Yf b Uh]c b U Yf i b X]b hYfb Uh]c b U Yf : cfgWX i b[gdfc[fUa a Y i b X \ YVh g]WX Xi fWX]\ fY \ b b c j Uh]c b g_f U Zh]b XYb '6 YfY]WX Yb 'A YX]n]b ž HY WX b c `c[]Y i b X '2 _ c `c[]Y \ Yfj c f" Ni _ Øb Zh][Y K]ggY b g WX U Zh Yf i b X T b hYfb Y\ a Yf Z]b XYb \]Yf X]Y b c h Yb X][Y I b hYfgh Øhni b[i b X F Ygg ci f W b ž i a i]\ fY \ XYYb ini j Yfk]f_`]WX Yb"$

B]Wkhini ij Yf[YggYbi]ghiX]Yi6YXYi hi b[iXYfil b]j Yfg]hÀhiZØfiX]Y GhUXhi9fiUb[YbigYiVghi8]YiGhi X]YfYbXYbiVf]b[Ybi@YVYbii bX 8 mbUa]_i]biX]YiGhUXhžik Ugig]Yini iY]bYa idi ig]YfYbXYbiC fhiZØfii ihi fžiJ YfUbghUihi b[Ybii bXi: fY]nY]h[YghUihi b[ia UWkhi8]YiYb[YNi gUa a YbUfVY]hink]gWkYbiXYfil b]j Yfg]hÀhii bXiXYf GhUXhj Yfk Uihi b[i\Uhini fi9bhk]W_ii b[ij YfgWk]YXYbYfiDfc Y_hY [YZØ\fhžiX]YiXYbi5i ghUi gWkink]gWkYbiGhi X]YfYbXYbii bX 9]b\Y]a]gWkYbiZÔfXYfbii bXiX]YiGhUXhi]bg[YgUa hiVYiYVYbii

 $: \emptyset f `k Y] h Y f Y ` \pm b Z c f a U h] c b Y b `ni f `I b] j Y f g] h A h ` 9 f `U b [Y b ! B \emptyset f b V Y f [V Y gi W Y b `G] Y `X] Y `c ZZ] n] Y ``Y `K Y V g] h Y " <] Y f `Z] b X Y b `G] Y `U ``Y g `Ø V Y f G h i X] Y b [A b [Y ž': c f g W i b [g d f c Y _ h Y `i b X `U _ h i Y ``Y J Y f U b g h U `h i b [Y b "$

?i`]bUf]gWXY'<Ò\Ydib_hY.'8]Y'VYghYb FYghUi fUbhg'i bX'7UZÅg']b'9f`Ub[Yb

9f`Ub[Yb']gh'b]Wkh'bi f'ZØf'gY]bY'k i bXYfgWk ÒbY'5`hghUXh'i bX'X]YhfUX]h]cbgfY]WkY'l b]j Yfg]hÀh'VY_Ubbhž'gcbXYfb'Ui Wk'ZØf'gY]bY j]Y`ZÀ`h][Y'i bX'`YVYbX][Y'; Ughfcbca]YgnYbY'''Jcb'[Ya Øh`]WkYb 7UZÅg'V]g'\]b'ni 'Ylei]g]hYb'FYghUi fUbhg' '\]Yf'_ca a Yb : Y]bgWka YW_Yf'i bX'; Yb]Y» Yf'Ui Z']\fY'?cghYb'''@UggYb'G]Y'i bg Y]b][Y'XYf'VYghYb'_i `]bUf]gWkYb'5b`Ui ZghY``Yb'XYf'GhUXh'bÀ\Yf VYhfUWkhYb"

9]bYg'XYf'VY`]YVhYghYb'FYghUi fUbhg']b'9f`Ub[Yb']gh'XUg AU\UfUb] ž'XUq'q]W\'Ui Z'X]Y']bX]qW\Y'?ØW\Y'qdYn]U`]q]Yfh'\Uh" <]Yf'_ObbYb'X]Y'; AghY'Y]bY'J]Y`nU\``j cb'hfUX]h]cbY``Yb'; Yf]W\hYb
[Yb]Y»Ybž'X]Y'a]h'Zf]gW\Ybž'Ufca Uh]gW\Yb'; Yk ØfnYb'ni VYfY]hYh
k YfXYb"'6YgcbXYfg'Ya dZY\`Ybgk Yfh'g]bX'X]Y'HUbXccf]!; Yf]W\hY
i bX'XUg'6i hhYf'7\]W_Ybž'X]Y'ZØf']\fYb'; YgW\a UW_'i bX'X]Y
E i U`]hAh'VY_Ubbh'g]bX"'</pre>

9]b'k Y]hYfYg'<][\`][\h']gh'XUg'; c`XYbYf'GWk Ub ž'Y]b'FYghUifUbh a]h'Y]bYf'`Ub[Yb'HfUX]h]cb']b'XYf'ZfÀb_]gWkYb'?ØWkY''<]Yf Yfk UfhYh'G]Y'Y]bY'[Ya Øh`]WkY'5ha cgd\AfYž']b'XYf'G]Y'?`Ugg]_Yf k]Y'GWkAi ZY`Y'cXYf'ZfAb_]gWkY'6fUhk ØfghY'dfcV]YfYb'_ObbYb''8]Y GdY]gY_UfhY'j Uf]]Yfh'gU]gcbU`ž'ibX'XUg'FYghUifUbh'gYhnh'UiZfY[]cbU`Y'NihUhYb''

K Ybb'G]Y'bUWX'Y]bYa 'VYgcbXYfYb'9f'YVb]g'gi WXYbž'gc``hYb'G]Y i bVYX]b[h'XUg' <]fgWX 'VYgi WXYb"'8]YgYg'F YghUi fUbh'V]YhYh'Y]bY]bbcj Uh]j Yž'_fYUh]j Y'?ØWXYž'X]Y'`c_U`Y'Ni hUhYb'a]h]bhYfbUh]cbU`Ya ': `U]f'_ca V]b]Yfh"'8]Y'5ha cgd\ÀfY']gh'a cXYfb i bX'Y]b`UXYbXž'i bX'XUg'ZfYi bX`]WXY'DYfgcbU`'gcf[h'XUZØfž'XUgg G]Y'g]WX'gcZcfh'k c\`ZØ\`Yb"'8]Y'k YWXgY`bXY'A YbØUi gk U\`'\À`h]a a Yf'k]YXYf'bYi Y', VYffUgWXi b[Yb'VYfY]h'i bX']gh'Y]b'k U\fYg : Ygh'ZØf'X]Y'G]bbY"

: Øf @|YV\UVYf'j cb'gØ» Yb'? Ògh`]W_Y]hYb']gh'XUg'7UZÅ'6`i a 'Y]bY YfghY'5XfYggY"8]YgY'hfUX]h]cbgfY]W\Y'?cbX]hcfY]'V]YhYh'Y]bY [fc» Y'5i gk U\`'Ub'\Ui g[Ya UW\hYb'HcfhYb'i bX'; YVÀW_" 6YgcbXYfg'VY_Ubbh']gh'X]Y'6`i a !HcfhYž'X]Y'Ui g'ZY]bYb GW\c_c`UXYbgW\]W\hYb'i bX'Zfi W\h][Ya '6]g_i]h'VYghY\h"8Ug'7UZÅ]gh'XYf'dYfZY_hY'Cfhž'i a 'VY]'Y]bYf'HUggY'?UZZYY'ni 'YbhgdUbbYb i bX'XUg'Vi bhY'HfY]VYb'Ui Z'XYa 'A Uf_hd`Uhn'ni 'VYcVUW\hYb"

9]b'k Y]hYfYg'Ya dZY\`Ybgk YfhYg'7UZÅ']gh'XUg' K U\`!@c_U` ž'XUg ZØf'gY]bYb'Yfgh_`Ugg][Yb'?UZZYY'i bX'_Ògh`]W\Y'GbUW_g'VY_Ubbh']gh'' <]Yf'_ÒbbYb'G]Y']b'Ub[YbY\a Yf'5ha cgd\ÀfY'UfVY]hYb'cXYf Y]bZUW\'bi f'YbhgdUbbYb'''8]Y'6Uf]ghUg'g]bX'`Y]XYbgW\UZh`]W\Y ?UZZYY_YbbYf'i bX'nUi VYfb'\\b\bYb'dYfZY_h'ni VYfY]hYhY GdYn]U`]h\AhYb\z'k \A\fYbX'X]Y'5i gk U\``Ub'\Ui g[Ya UW\hYb'?i W\Yb i bX'GUbXk]W\Yg'_Y]bY'K \emptyset bgW\Y'cZZYb`\Aggh''

K Ybb'G]Y'Y]bY'Ui » Yf[Yk Ò\b`]W\Y'5ha cgd\ÀfY'i bX !?ØW\Y
gi W\Ybž']gh'XUg' A]_UXc '[YbUi 'XUg'F]W\h][Y"'8]YgYg''UdUb]gW\Y
FYghUi fUbh']gh'VY_Ubbh'ZØf'gY]bY'Zf]gW\Yb'Gi g\]!J Uf]Uh]cbYb'i bX
UbXYfYb'hfUX]h]cbY``Yb'; Yf]W\hY''8]Y'gh]`j c``Y' \delta bYbY]bf]W\hi b[
i bX'XYf'ZfYi bX`]W\Y'GYfj]WY'a UW\Yb'\delta fYb'6Ygi W\'ni 'Y]bYa
YW\hYb'9f`YVb]g"'DfcV]YfYb'G]Y'XYb' A]_UXc!HY``Yf ž'XYf'Y]bY
5i gk U\`'Ub'j YfgW\]YXYbYb'Gi g\]!J Uf]Uh]cbYb'V]YhYh'i bX']XYU`'ZØf
XUg'HY]`Yb']gh"

: Øf'XYb'_`Y]bYb'<i b[Yf'cXYf'Y]bY'_i fnY'?UZZYYdUi gY'Y][bYh'g]WX
XUg' ?UZZYY_ca a i bY ž'XUg'g]WX'Ui Z'\cWk Yfh][Y'?UZZYYgcfhYb
gdYn]U`]g]Yfh'\Uh''<]Yf'_ObbYb'G]Y'b]WXh'bi f'\Yfj cffU[YbXYb
?UZZYY'[Yb]Y»Ybž'gcbXYfb'Ui WX'_`Y]bY'GbUW_g'i bX
: fØ\ghØW_gcdh]cbYbž'X]Y'dYfZY_h'ni a '?UZZYY[Ybi gg'dUggYb''8Yf
: c_i g'`]Y[h'Ui Z'BUWX\U`h][_Y]h'i bX'ZU]fYb'<UbXY`gdfU_h]_Ybž'k Ug
g]WX']b'XYf'5i gk U\``XYf'j Yfk YbXYhYb'DfcXi _hY'k]XYfgd]Y[Y`h'</pre>

JcfY]bYa '6Ygi W\']b'Y]bYa 'FYghUi fUbh'_Ubb'Yg'bØhn`]W\'gY]bž Y]bYb', VYfV`]W_'ØVYf'X]Y'^2 ZZbi b[gnY]hYb'i bX'Ub[YVchYbYb ?ØW\Yb'ni '\UVYb"'<]Yf']gh'Y]bY'_`Y]bY', VYfg]W\h.

FYghUifUbh#7UZÅ	?ØWXY	² ℤbi b[gnY]hYb
A U\UfUb]	±bX]gW\	A c!Gc⁻%&!%(˙l ∖fž
		%,!&&`I \f
; c`XYbYf'GWkUb	: fÀb_]gW\	8]!Gc^%%!&%^T\f
<]fgW\	Acxyfb#=bhyfbUh]cbU	8]!Gc '%, !&' 'l \f
	`	
7 UZÅ '6`i a	?cbX]hcfY]	A c!Gc'-!%-'l \f
K U/`!@c_U`	7 UZÅ	Acl: f', l%, 'l\fž'GU
		%\$!%* 'l \f
A]_UXc	*JdUb]gW\	8]!Gc^%&!%(^T\fž
		%+!&&`l \f

6YgcbXYfg'k À\fYbX'XYf': Ygh]j U`g'i bX'A Àf_hY']b''9f`Ub[Ybž'k]Y
XYa 'hfUX]h]cbY``Yb'K Y]\bUW\hga Uf_h'cXYf'XYa ''9f`Ub[Yf'6Yf[ž
_\ObbYb'G]Y'Y]b][Y'XYf'VYghYb'`c_U`Yb'; Yf]W\hY'dfcV]YfYb'i bX'X]Y
Y]bn][Ufh][Y'5ha cgd\ÀfY'XYf'GhUXh'[Yb]Y»Yb"'9]b'_`Y]bYf
; Y\Y]a h]dd']gh'X]Y'A O[`]W_Y]hž'VY]'j YfgW\]YXYbYb': ccX!

9f`Ub[Yb`V]YhYh'U`gc`Y]bY`Ui ZfY[YbXY`_i`]bUf]gW\Y
9bhXYW_i b[gfY]gYžX]Y`XUg`[YgUa hY`GdY_hfi a `Ub`; YgW\a ÀW_Yfb
i bX`Gh]`Yb`UVXYW_h''`C V`G]Y`Ui Z`XYf`Gi W\Y`bUW\`Y]bYa
[Ya Øh`]W\Yb`7UZÅ`ZØf`Y]b`: fØ\ghØW_`cXYf`bUW\`Y]bYa `Y`Y[UbhYb
FYghUi fUbh`ZØf`Y]b`VYgcbXYfYg`5VYbXYggYb`g]bXž`\]Yf`k YfXYb`G]Y
a]h`G]W\Yf\Y]h`ZØbX]["`8]Y`a]h`@]YVY`ni VYfY]hYhYb`GdY]gYb`i bX
X]Y`; UghZfYi bXgW\UZh`XYf`9f`Ub[Yf`VYk]f_Ybž`XUgg`Ui g`YXYa
9ggYb`Y]b`Y]ba U`][Yg`9f`YVb]g`k]fX"

9bhgdUbbi b[i b X B Uhi f. 8]Y gWX ObghY b DUf_g i b X ; AfhY b XY f F Y []c b

9f`Ub[Yb']gh'b]W\h'bi f'ZØf'gY]bY'\]ghcf]gW\Y'5`hghUXh'i bX'X]Y
fYbca a]YfhY'I b]j Yfg]hÀh'VY_Ubbhž'gcbXYfb'Ui W\'ZØf'gY]bY
k i bXYfVUfYb'; fØbZÀW\Ybž'X]Y'gck c\`'9]b\Y]a]gW\Y'U`g'Ui W\
6Ygi W\Yf'ni a '9bhgdUbbYb'i bX'9f\c`Yb'Y]b`UXYb"'8]Y'GhUXh']gh
Y]b'k U\fYg'DUfUX]Yg'ZØf'BUhi fZfYi bXY'i bX'V]YhYh'Y]bY'J]Y`nU\`
j cb'DUf_g'i bX'; ÀfhYbž'X]Y'g]W\']XYU``ZØf'Y]bYb'5i gZi [']bg': fY]Y
Y][bYb"'CV'ZØf'Y]bYb'[Ya Øh`]W\Yb'GdUn]Yf[Ub[ž'Y]b'D]W_b]W_']a
: fY]Yb'cXYf'Y]bZUW\'bi f'i a 'X]Y'GYY`Y'VUi a Y`b'ni ``UggYb' 'X]Y
DUf_g']b'9f`Ub[Yb'\UVYb'ZØf'YXYb'Yhk Ug'ni 'V]YhYb"

 $<]Yf'g]bX'Y]b][Y'XYf'gW\DbghYb'DUf_g'ibX'; AfhYbž'X]Y'Xi'kA\fYbXXY]bYg'6YgiW\g']b'9f`Ub[Yb'b]W\h'jYfdUggYb'gc``hYgh.$

- 6chUb]gWXYf; UfhYb'9f`Ub[Yb.; Y`Y[Yb'bU\Y'XYf
 I b]j Yfg]hÀhž'V]YhYh'X]YgYf; UfhYb'Y]bY'VYY]bXfi W_YbXY
 GUa a `i b['j cb'DZUbnYb'Ui g'U``Yf'K Y`h"'<]Yf'_Ubbgh'Xi
 gY`hYbY'DZUbnYbUfhYb'VYk i bXYfb'i bX'X]Y'fi \][Y
 5ha cgd\ÀfY'[Yb]Y»Yb"
- <i [YbchhYbd`Uhn. '8]YgYf'[fc» Y'D`Uhn']gh'j cb nU\`fY]W\Yb'6Ài a Yb'i bX'\ØVgW\Yb'6`i a YbUffUb[Ya Ybhg i a [YVYb"'9f'Y][bYh'g]W\'\Yfj cffU[YbX'ZØf'Y]b YbhgdUbbhYg'D]W_b]W_cXYf'i a 'Y]bZUW\'X]Y'`c_U`Y 5ha cgd\ÀfY'ni '[Yb]Y»Yb"

V]YhYh:XYf:GhUXhdUf_'j YfgWX]YXYbY:Gd]Y`d`ÀhnYž'k Y]hY FUgYbZÀWXYb'i bX:gWXUhhYbgdYbXYbXY:6Ài a Y"'<]Yf Z]bXYb'Ui WX:fY[Y`a À»]['JYfUbghU`hi b[Yb'ghUhhž'X]Y'ZØf I bhYf\U`hi b['qcf[Yb"

GWX `cgg[UfhY b. '9]b 'k U\fYg' *k Y` ']a '< YfnYb' j cb
 9f`Ub[Yb * '8 Yf'GWX `cgg[UfhYb'VY[Y]ghYfh'a]h'gY]bYa
 VUfcW_Yb': `U]fž'_i bghj c``Yb'6YdZUbni b[Yb'i bX'Y]bYa
 a U`Yf]gWXYb'HY]WX"'<]Yf']gh'Y]b'GdUn]Yf[Ub['ZUgh'k]Y'Y]bY
 NY]hfY]gY"

9]b'<][\`][\h]gh'XYf'6chUb]gWXY; UfhYbž'XYf'i fgdfØb[`]WX]a
\$\J\f'\%+)' \[Y[f\ØbXYh'k i fXY\"<Yi hY \VY\YfVYf[h'Yf'\ØVYf'*\"\\$\\$
j YfgWX]YXYbY DZUbnYbUfhYbž'gc 'XUgg'Yg']a a Yf'Yhk Ug'BYi Yg'ni
YbhXYW_Yb'[]Vh''8]Y'; Yk ÀWXg\Ai gYf'a]h'hfcd]gWXYb'DZUbnYbž
Gi __i `YbhYb'i bX'Ya dZ]bX`]WXYb'6`i a Yb'g]bX'VYgcbXYfg
VYY]bXfi W_YbX'i bX'`UXYb'XUni 'Y]bž'a Y\f'\ØVYf'X]Y'J]Y`ZU`h'XYf
6chUb]gWXYb'K Y`h'ni 'YfZU\fYb"

 $8 \ Yf'GW \ cgg[\ UfhYb \ z'XYf'HY] \ XYg'9f`Ub[\ Yf'GW \ cggYg']ghz']ghY]b \ k \ Y]hYfYf'C fhz'XYf'ni a \ J \ Yfk \ Y] \ Y]b \ AXh'' \ 8 \ JY'Y]b \ Xfi \ W_gj \ c \ Y \ 5fW \]hY_hi \ f'XYg'GW \ cggYgz'_ca \ V]b]Yfh'a \]h'XYb'']YVYj \ c \ [YdZY[\ hYb''; \ UfhYbUb`U[\ Ybz'gW UZZh'Y]b Y'fca \ Ubh]gW \ Y \ 5ha \ cgd \ AfYz'X]Y'gck \ c \ 'ni a \ GdUn]YfYb'U'g'Ui \ W 'ni f \ 9bhgdUbbi \ b[\ Y]b \ AXh'' 6 Ygcb XYfg']a \ : fØ \ ']b[\ z'k \ Ybb'X]Y'6 \ i a \ Yb]b'j \ c \ Yf'6 \ ØhY'ghY \ Ybz'j \ Yfk \ UbXY \ h'g]W \ XYf'GW \ cgg[\ UfhYb']b'Y]b \ ZUfVYbZfc \ Yg'6 \ i a \ Yba \ YYf' \ Y]b'5bV']W_z'XYb'a \ Ub'g]W \ b]W \ h \ Ybh[\ Y\ Yb'' UggYb'gc \ 'hY''$

: U``g`Xi `bUWX `Y]bYa `C fh`gi WX ghž`XYf`a Y\f`5Wh]cb`V]YhYhž`XUbb`]gh XYf`GhUXhdUf_ [YbUi `XUg`f]WXh][Y`N]Y`"8Yf`DUf_ j YfZØ[h`ØVYf nU\`fY]WXY`GdcfhUb`U[Ybž`XUfi bhYf`HYbb]gd`ÀhnY`i bX`Y]bY A]b][c`ZUb`U[Y"Ni XYa `[]Vh`Yg`nU\`fY]WXY`Hf]a a !8]WX!DZUXYŽ`X]Y gck c\``XYb`:]hbYggVY[Y]ghYfhYb`U`g`Ui WX`XYb`BUhi f`]YV\UVYfb k Àfa ghYbg`Ya dZc\`Yb`k YfXYb":5b`k Ufa Yb`Gca a YfhU[Yb`_Ubb a Ub`\]Yf`cZh`A YbgWXYb`VY]a `FUXZU\fYbž`&[[Yb`cXYf`Y]bZUWX VY]a `: Ui `YbnYb`Ui Z`XYb`K]YgYb`VYcVUWXhYb"

 $: \varnothing f `Y] b Y `Y b h g d U b b h Y `H Y Y g h i b X Y `c X Y f `? U Z Z Y Y d U i g Y `Z] b X Y g h `X i \\$

j]Y`Y`[Ya Øh`]WXY`7UZÅg`]b`XYf`BÀ\Y`XYf`DUf_g"`<]Yf`_Ubbgh`Xi X]WX`a]h`Y]bYa `GhØW_`?i WXYb`ghÀf_Ybž'k À\fYbX`Xi `XYa [YgWXÀZh][Yb`HfY]VYb`i a `X]WX`\Yfi a `ni gWXUi gh"`9]b][Y`7UZÅg V]YhYb`Ui WX`5i »Ybd`ÀhnYž'gcXUgg`Xi `Ub`gWX ÒbYb`HU[Yb`XUg K YhhYf`[Yb]Y»Yb`_Ubbqh"

DUf_#, UfhYb	6YgcbXYf\Y]hYb	² ℤbi b[gnY]hYb
6chUb]gWXYf'; UfhYb	, VYf [·] *"\$\$\$	HÀ[`]WX.'\$\$'
	DZUbnYbUfhYb	%, .\$\$`I \f
<i[ybchhybd`uhn< td=""><td>; fc»Yf'D`Uhn'a]h</td><td>∍a a Yf'[YÒZZbYh</td></i[ybchhybd`uhn<>	; fc»Yf'D`Uhn'a]h	∍a a Yf'[YÒZZbYh
	Gd]Y`a Ò[`]WX_Y]hYb	
GhUXhdUf_	Gdcfhd`ÀhnY'ibX	∍a a Yf'[YÒZZbYh
	FUgYbZÀWXYb	
GWX`cgg[UfhYb	6UfcW_Y	HÀ[`]WX.'+.\$\$'
	; UfhYb_i bgh	&\$.\$\$`I\f

9f`Ub[Yb'V]YhYh:XUb_'gY]bYf'j]Y`Yb'DUf_g'i bX'; ÀfhYb'Y]bY
i bj Yf[Ygg`]WXY'A Ò[`]WX_Y]hž'X]Y'BUhi f`ni '[Yb]Y»Yb'i bX'g]WX'j ca
GhUXh`YVYb'ni 'Yf\c`Yb"'9[U`ž'cV'Xi 'Y]b'gdcfh`]WXYf'Hmdž'Y]b
DZUbnYb`]YV\UVYf'cXYf'Y]bZUWX'bi f'Ya UbX'V]ghž'XYf'Y]bYb
YbhgdUbbhYb'HU[']a': fY]Yb'j YfVf]b[Yb'a ÒWXhY''\]Yf']gh'ZØf
YXYb'Yhk Ug'XUVY]"'; Òbb'X]f'Y]bY'5i gnY]h']b'XYf'[fØbYb'@ b[Y
XYf'GhUXh'i bX'YbhXYW_Y'X]Y'GWXÒb\Y]h'XYf'BUhi f']b'9f`Ub[Yb°

JYfUbghU`hi b[Yb'i bX': YghY.'9f`YVb]ggY'ZØf ^YXYb'; YgWXa UW_

9f`Ub[YbžY]bY`GhUXhžX]Y`HfUX]h]cb`i bX`A cXYfbY`j YfV]bXYhž V]YhYh`]a `@Ui ZY`XYg`\$J\fYg`Y]bY`J]Y`nU\``j cb`JYfUbghU`hi b[Yb i bX`: YghYbž`X]Y`gck c\``9]b\Y]a]gW\Y`U`g`Ui W\`6Ygi W\Yf Ubn]Y\Yb"`Jcb`_i `hi fY``Yb`9j Ybhg`ØVYf`A i g]_ZYgh]j U`g`V]g`\]b`ni hfUX]h]cbY``Yb`A Àf_hYb` `X]Y`GhUXh`\Uh`ZØf`YXYb`; YgW\a UW_ Yhk Ug`ni `V]YhYb"

 $9]b^{\cdot}<][\ \ \ \ \)[\ \ \ \ \ \ \][\ \ \ \ \ \ \]gh^{\cdot}XUg.$

• $9f`Ub[Yf'6Yf[_]fWkKY]\$. '8]YgYg'hfUX]h]cbY``Y'Jc`_gZYghZ]bXYh''À\f`]Wk']a 'A U]'ghUhh'i bX'n]Y\h'hUi gYbXY'j cb

6Ygi W.Yfb'Ub"'9g'dfÀgYbh]Yfh'X]Y'fY[]cbU`Y'6fUi_i bgh i bX'V]YhYh'nU\`fY]W.Y'6]YfnY`hYž'@jj Y!A i g]_'i bX'Y]b Vi bhYg'FU\a Ybdfc[fUa a ž'XUg'X]Y'[UbnY': Ua]`]Y Ubgdf]W.h"

8]Y'6Yf[_]fWk Y]\']gh'b]Wkh'bi f'Y]b': Ygh'ZØf'6]Yf`]YV\UVYfž gcbXYfb'Ui Wk'Y]b'Cfhž'Ub'XYa 'a Ub'X]Y'ZfÀb_]gWkY'?i `hi f'i bX; UghZfYi bXgWkUZh'\Ui hbU\'Yf`YVYb'_Ubb"'8]Y'k i bXYfgWkÒb XY_cf]YfhYb'NY`hY'i bX'XUg'`YV\UZhY'HfY]VYb'Ui Z'XYb'GhfU»Yb a UWkYb'Yg'ni 'Y]bYa 'i bj Yf[Ygg`]WkYb'9fY][b]g"

9] $b^k Y]hYfYf^c < O^k Ydi b_h^c]gh^c X]Y$.

• 9f`Ub[Yf'DcYhYbZYgh. '9]b'`]hYfUf]gWXYg'9j Ybhž'XUg 'À\f`]WX']a 'GYdhYa VYf'ghUhhZ]bXYh'i bX'5i hcfYbž'8]WXhYf i bX'@YgYf']b'X]Y'GhUXh'n]Y\h"'8]Y'6Ygi WXYf'_ÒbbYb @Ygi b[Ybž'K cf_g\cdg'i bX'8]g_i gg]cbYb'VYgi WXYbž'X]Y gck c\``bUh]cbU`Y'U`g'Ui WX']bhYfbUh]cbU`Y'GWXf]ZhghY``Yf dfÀgYbh]YfYb"

8 UgʻDcYhYbZYghij Yfk UbXY`hʻX]Yʻ5`hghUXhʻ]bʻY]bʻ`]hYfUf]gWXYg NYbhfi a ii bXigWXUZZhiY]bYi]bgd]f]YfYbXYʻ5ha cgd\ÀfYž'X]Y @|hYfUhi f`]YV\UVYf'VY[Y]ghYfh"

 $: \emptyset f `A i g] _ Z U b g `] g h `X U g.$

• 9f`Ub[Yf'GhUXhZYgh .'9]b'f]Yg][Yg'Aig]_ZYgh]j U`ž'XUg
]a 'Gca a Yf'ghUhhZ]bXYh'' <]Yf'hfYhYb'`c_U`Y'6UbXg'gck]Y
]bhYfbUh]cbU`Y'5Whg'Ui Z'a Y\fYfYb'6Ø\bYb']b'XYf
[YgUa hYb'=bbYbghUXh'Ui Z''Jcb'FcW_'i bX'Dcd'V]g'\]b'ni
*Jnn'i bX'?`Ugg]_' 'X]Y'J]Y`ZU`h'XYf'Aig]_'gcf[h'XUZØfž'XUgg
ZØf'YXYb'Yhk Ug'XUVY]']qh"</p>

 $8 \ Ug'GhUXhZYgh'j\ YfV]bXYh'A\ i\ g]_'a\]h'_i\ `]bUf]gWXYb'?\ \grave{O}gh`]WX_Y]hYb \check{z} XU'nU\ `fY]WXY'Gh\ bXY'`c_U`Y'GdYn]U`]h\ hYb'UbV]YhYb'''9g']gh'XYf dYfZY_hY'Cfh\ z'i\ a\ 'g]WX'a\]h':\ fYi\ bXYb'ni\ 'hfYZZYb\ z'ni\ 'hUbnYb'i\ bX'X]Y 5 ha\ cgd\ \arraychY'ni\ '[\ Yb]Y\ Yb''$

: \emptyset f'?i bgh!i bX'?i `hi f]bhYfYgg]YfhY'V]YhYh'9f`Ub[Yb'YVYbZU``g'Y]bY J]Y`nU\``j cb'JYfUbghU`hi b[Yb.

• 9f`Ub[Yf'?ibghhU[Y.'8]YgY'JYfUbghU`hib['Z]bXYh'U``Y nkY]'\$J\fY'ghUhh'ibX'Vf]b[h'nY]h[YbÒgg]gWkY'?Øbgh`Yf'Uig XYf'FY[]cb'nigUaaYb"'5igghY``ib[Ybž'DYfZcfaUbWYg'ibX Kcf_g\cdg'`UXYb'X]Y'6YgiWkYf'Y]bž']b'X]Y'KY`h'XYf'?ibgh Y]bnihUiWkYb'ibX'X]Y'_fYUh]jYb'5igXfiW_gZcfaYb _YbbYbni`YfbYb"

8]Y?ibghhU[Y'V]YhYb'Y]bY'D`UhhZcfa 'ZØf``c_U`Y'HU`YbhY'ibX ZÒfXYfb'XYb'5ighUigW\nk]gW\Yb'?Øbgh`Yfb'ibX'XYf 2ZZYbh`]W_Y]h"'8]Y'VibhYbž'j]Y`ZÀ`h][Yb'5igghY``ib[Yb'g]bX']aaYf k]YXYfY]b'5i[YbgW\aUig"

• 9f`Ub[Yf`K Y]\bUWk hga Uf_h. =a '8YnYa VYf'j Yfk UbXY`h g]W\"XYf`A Uf_hd`Uhn`]b`Y]b`nUi VYf\UZhYg
K]bhYfk i bXYf`UbX"'Gh]a a i b[gj c``Y'6i XYb`V]YhYb
\UbX[YZYfh][hY'; YgW\Yb_YžXi ZhYbXYb'; `Ø\k Y]b`i bX
`YW_YfY`K Y]\bUWk hg[YVÀW_Y`Ub"'8Yf`K Y]\bUWk hga Uf_h
n]Y\h: Ua]`]Yb`i bX': fYi bXY`Ubž'X]Y`[Ya Y]bgUa 'X]Y
ZYgh`]W\Y'5ha cgd\ÀfY`[Yb]Y»Yb"

 $8]Y @]W hY fž'X]Y `A i g]_`i bX`X]Y `ZfÒ``]W Y `Gh]a a i b[``a UW Yb`XYb K Y] `bUW hga Uf_h`ni `Y]bYa ``^À`\f`]W Yb`<][``][``][`hž'XUg'j]Y`Y HfUX]h]cbYb`]b`XYf`GhUXh'j YfY]bh''$

8]Y``c_U`Y`I b]j Yfg]hÀh`hfÀ[h`YVYbZU``g`ni f`_i `hi fY``Yb`J]Y`ZU`h`j cb 9f`Ub[Yb`VY]`i bX`cf[Ub]g]Yfh`XUg`[UbnY`J\\f`ØVYf`j YfgW\]YXYbY JYfUbghU`hi b[Yb"`6YgcbXYfg`VY`]YVh`g]bX.

8]Y`I b]!9j Ybhg. '8]Y`<cW\gW\i`[fiddY`cf[Ub]g]Yfh
_i`hifY``Y`5VYbXYž:]`ajcfZØ\fib[Ybž'JcfhfÀ[Y`ibX
?cbnYfhYž'X]Y`gckc\``GhiXYbhYb`U`g`UiW\`6Øf[Yf`XYf
GhUXh`UbgdfYW\Yb"`Gc`W\Y`JYfUbghU`hib[Yb`ZÒfXYfb`XYb

5 i ghU i gWX 'nk]gWX Yb 'XYf' I b]j Yfg]hÀh' i bX 'XYf GhUXh[YgY ``qWX UZh"

8 UfØVYf`\]bUi g`[]Vh`Yg`nU\`fY]WXY`_`Y]bY`: Ygh]j U`g`i bX`A Àf_hYž X]Y`k À\fYbX`XYg`&J\fYg`]b`j YfgWX]YXYbYb`GhUXhhY]`Yb`ghUhhZ]bXYbž k Ugʻ9f`Ub[Yb`ni 'Y]bYa ``YVYbX][Yb`Cfh`j c``Yf`5_h]j]hÀhYb`i bX 9f`YVb]ggY`a UWXh"`9[U`ž`cV`a Ub`Ub`A i g]_ž'?i bgh`cXYf`?i `]bUf]_]bhYfYgg]Yfh`]ghž`X]Y`GhUXh`\Uh`ZØf`YXYb`Yhk Ugʻni `V]YhYb"

±g[YgUa h']gh'X]Y'J]Y`nU\``XYf'JYfUbghU`hi b[Yb'i bX': YghY']b
9f`Ub[Yb'Y]b'NYi [b]g'ZØf'X]Y'`YVYbX][Y'i bX'j]Y`ZÀ`h][Y'?i`hi f'XYf
GhUXh"'6Ygi W\Yb'G]Y'X]Y'GhUXh'ni 'Y]bYa 'X]YgYf'VYgcbXYfYb
5b`ÀggY'i bX'Yf`YVYb'G]Y'X]Y'\Yfn`]W\Y'; UghZfYi bXgW\UZhž'X]Y
9f`Ub[Yb'ni 'V]YhYb'\Uh°

5i gZ`i [gn]Y`Y`]b`XYf`l a [YVi b[.; Y\Y]a h]ddg`ZØf`HU[Yghf]dg

9f`Ub[YbžY]bY`W\Ufa UbhY`GhUXh`]a `<YfnYb`j cb`: fUb_Ybž`V]YhYh b]W\h'bi f`j]Y`Y`5hhfU_h]cbYb`]bbYf\U`V`XYf`GhUXh[fYbnYbž'gcbXYfb]gh`Ui W\`Y]b`]XYU`Yf`5i g[Ub[gdi b_h`ZØf`Y]bY`J]Y`nU\``j cb ZUgn]b]YfYbXYb`HU[YgUi gZØ[Yb`]b`XYf`I a [YVi b["`CV`Xi\]ghcf]gW\Y`GhÀhhYbž`a U`Yf]gW\Y`8\OfZYf`cXYf`VYY]bXfi W_YbXY BUhi f`Yf`YVYb`a OW\hYghž`\]Yf`g]bX`Y]b][Y; Y\Y]a h]ddgž`X]Y`Xi `VY]XY]bYa `6Ygi W\`]b`9f`Ub[Yb`b]W\h'j YfdUggYb`gc``hYgh"

%"BØfbVYf[...8]YUhYGhUXha]hbYiYa: `U]f

Bif'Y]bY'_i fnY'Ni [ZU\fh'j cb'9f`Ub[Yb'YbhZYfbhž']gh'BØfbVYf['a]hgY]bYf'VYY]bXfi W_YbXYb'5`hghUXh'i bX'XYf'VYfØ\a hYb'?U]gYfVi f[Y]b'UVgc`i hYg'A i gg"'8]Y'GhUXh'V]YhYh

- ? U]gYfVi f['B Øfb VYf[. '8]YgYg'\]ghcf]gW\Y'K U\fnY]W\Yb V]YhYh'Y]bYb'UhYa VYfUi VYbXYb'6`]W_'ØVYf'X]Y'GhUXh'i bX]gh'fY]W\'Ub'; YgW\]W\hY"
- 8c_i a YbhUh]cbgnYbhfi a 'FY]WX gdUfhY]hU[g[Y`ÀbXY.
 9]b'Y]bXf]b[`]WXYg'A i gYi a ž'XUg'X]Y'; YgWX]WXhY'XYg
 BUh]cbU`gcn]U`]ga i g'VY\UbXY`h"

• : `Y]gW\VfØW_Y'i bX': Yi Yfk Y\f\Ui g. 'Nk Y]'XYf \]ghcf]gW\ghYb'; YVÀi XY'XYf'GhUXhž'X]Y'ni a '6i a a Y`b Y]b`UXYb"

&" 6Ua VYf[. I B 9G7C!K Y`h_i `hi fYfVY

6Ua VYf[žVY_UbbhZØfgY]bY'VYY]bXfi W_YbXY'5`hghUXh'i bX'XUg k Y`hVYfØ\a hY'FUi W\V]Yfž'`]Y[h'Yhk U'*\$'?]`ca YhYf'bcfXk Ygh`]W\ j cb'9f`Ub[Yb"8]Y'GhUXh']gh'VYfØ\a h'ZØf']\fY'[i h'Yf\U`hYbYb a]hhY`U`hYf`]W\Yb'Ghfi _hi fYb'i bX'Yb[Yb'; UggYb"'<]Yf'g]bX'Y]b][Y<\O\Ydi b_hY.

- 5`hY'<cZ\U`hi b[.'9]b'ki bXYfgW\ObYf'?ca d`Yl'a]h'6`]W_Ui Z'X]Y'FY[b]hn"
- 6Ua VYf[Yf'8ca.'9]b'ZUgn]b]YfYbXYg'6Y]gd]Y`'XYf fca Ub]gWXYb'5fWX]hY_hi f"
- 8 Ug 'U`hY`F Uh\Ui g . '9]b`a U`Yf]gW\Yg'; YVÀi XYž'XUg`Ui Z
 Y]bYf'_`Y]bYb`\DgY``]b`XYf`FY[b]hn`YfVUi h`k i fXY"

' " < Yfnc[YbUifUW. 8 Ug Gdcfh\UidheiUfh]Yf

Bif'&\$'A]bihYb'jcb'9f`Ub[Yb'YbhZYfbh'`]Y[h'<Yfnc[YbUifUW\ž'X]Y</p>
<Y]a Uh'nk Y]Yf'XYf'[fÒ»hYb'Gdcfha Uf_Yb'XYf'K Y`h''5X]XUg'ibX
DiaU"'<]Yf'_Ubbgh'Xi.

- 6Ygi WX Y 'XUg '5 X]XUg 'A i gYi a . '9fZU\fY 'a Y\f'ØVYf'X]Y ; YgWX]WX hY 'i bX '=bbcj Uh]cb 'XYf'A Uf_Y"
- GdUn]YfY'Xi fW\'X]Y'5`hghUXh.'A]h']\fYb'W\Ufa UbhYb ; YgW\ÀZhYb'i bX'7UZÅg"

$(":fAb_]gWXYGWXkY]n$. B Uhi f di f

 $8]Y : f \grave{A}b _]g \& Y \cdot G \& k Y] n \check{z} Y] b \cdot B U hi f d U f U X] Y g \cdot a] h \cdot] \backslash f Y b \cdot a U \cdot Y f] g \& Y b \\ @Ub X g \& \& U Z h Y b \check{z} \cdot] g h \cdot Y] b \cdot d Y f Z Y _h Y g \cdot N] Y \cdot \cdot Z Ø f \cdot K Ub X Y f Y f \cdot i b X \\ B U hi f \cdot] Y V \backslash U V Y f " \cdot G] Y \cdot] g h \cdot b] W h \cdot b i f \cdot Z Ø f \cdot] \backslash f Y \cdot < \grave{O} \backslash Y b \cdot i b X \cdot 6 i f [Y b V Y _ U b b h \check{z} \cdot g c b X Y f b \cdot U i W \cdot Z Ø f .$

• $8]Y' < O'Yb'jcb'FUVYbghY]b.'9]bY'VYY]bXfiW_YbXY$

 $HfcdZghY]b\\dot)\\dot)\\dot)\\dot)\$

• K i bXYfVUfY'K UbXYffci hYb. '9]b'BYhn'j cb K UbXYfk Y[Yb'Xi fWX 'gWX ObY'HA`Yf'i bX'Ui Z'gUbZhY'6Yf[Y"

) "'9f`Ub[Yf'K U`X.'9]b'j YfghYW_hYg'i k Y`

; YfUXY`Y]ba U``k Yb][Y`?]`ca YhYf`j cb`XYf`GhUXh`YbhZYfbh`Z]bXYgh Xi `XYb`9f`Ub[Yf`K U`Xž`]XYU``ZØf`Y]bYb`YbhgdUbbYbXYb`HU[`]b`XYf BUhi f"`<]Yf`_Ubbgh`Xi.

- K UbXYfb i bX F UXZU\fYb. 8]Y [i h'Ui g[YgWX]`XYfhYb K Y[Y'g]bX'dYfZY_h'ZØf'Gdcfhi bX'9f\c`i b["
- D]W_b]W_Yb. A]h: fYi bXYb cXYf: Ua]`]Y']a ; fØbYb YbhgdUbbYb"

* " 5 bgVUW. 8 Yf VUfc W_Y ; Y\Y]a h]dd

- : Øfgh`]WX Yg`F Yg]X Yb ng WX `c gg. '9]b 'dfÀWX h][Yg'; YVÀi XY a]h'k i b XYfg WX Ob Yb'; ÀfhYb"
- Gh"; i a VYfhi g'?]fWXY.'9]b'6Ui gWXY]bž'XYf'YXYb
 @]YV\UVYf'\]ghcf]gWXYf'?i bgh'VY[Y]ghYfb'k]fX"

+"Fch\YbVif[cV XYf HUi VYf. 9]b A AfW Ybcfh

9hk Ugʻk Y]hYfʻYbhZYfbhžʻUVYfʻUVgc`i hʻ`c\bYbgk Yfhžʻ]ghʻFch\YbVi f[cVʻXYfʻHUi VYf"'8]YqYʻa]hhY`U`hYf`]WXYʻGhUXhʻ]ghʻVY_UbbhʻZØf.

- 8]Y'[ih'Yf\U`hYbY'GhUXha UiYf.'9]b'GdUn]Yf[Ub['UiZ XYb'A UiYfb'V]YhYh'UhYa VYfUiVYbXY'5igV']W_Y"
- 8 Ug'?f]a]bU`a i gYi a .'9]b'ZUgn]b]YfYbXYf'9]bV`]W_']b X]Y'; YgWX]WXhY'XYf'JYfVfYWXYb'i bX'GhfUZYb']a A]hhY`U`hYf"

H]ddg ni f 5bfY]gY

 $8]Y'a Y]ghYb'X]YgYf'N]Y'Y'g]bX'\Yfj cffU[YbX'a]h'XYa'Ni ['cXYf XYa'5i hc'j cb'9f`Ub[Yb'Ui g'ni 'YffY]WXYb'''<]Yf']gh'Y]bY'Y]bZUWXY , VYfg]WXh'ØVYf'X]Y'FY]gYnY]hYb.$

Cfh	9bhZYfbib[ˈjcb	FY]gYnY]h [·] fWU"Ł
	9f`Ub[Yb	
BØfbVYf[%+ `_a	&\$!' \$`A]b"
6Ua VYf[* \$ `_a	%'Ghi bXY
< Yfnc[YbUifUWX	&\$`_a	&\$^A]b"
: fÀb_]gWkY`GWkkY]n	(\$`_a	() A]b"
5bgVUW\) \$ ·_a	%'Ghi bXY
Fch\YbVif['cV'XYf	%\$\$`_a	%ž) Ghi bXYb
HUi VYf		

9[U`žcV`Xi @ gh'Ui Z?i`hi fž?i`]bUf]_cXYf'BUhi f'\Ughž'X]Y
I a [YVi b['j cb'9f`Ub[Yb'\Uh'ZØf'YXYb'; YgW\a UW_'Yhk Ug'ni
V]YhYb"'8]Y'Yfk À\bhYb'5i gZi [gn]Y`Y'j YfgdfYW\Yb'i bj Yf[Ygg`]W\Y
9f`YVb]ggYž'gdUbbYbXY'9bhXYW_i b[Yb'i bX'j]Y``Y]W\h'gc[Uf'Y]bYb
: i b_Yb'+bgd]fUh]cb'ZØf'XY]bY'bÀW\ghY'FY]gY"

8 YhU]`q

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