

5gWXYb ZY]Yfh. A]WXUY`6i gUW_'k]fX bYi Yf GWX ØhnYb_Òb][°

5gWXYb'ZY]Yfh'GWXØhnYbZYgh'a]h'A]WXUY`'6i gUW_'U`g'bYi Ya ?Òb]["'<Ò\Ydi b_hY'g]bX'Dfc_`Ua Uh]cbž'9\fi b[Yb'i bX : Yghi a nØ[Y"

5gWXYbž8Yi hgWX`UbX'!:5a '<]a a Y`ZU\fhghU[žXYa '' "'≯b]
&\$&) ž'ZY]YfhY'XYf'GWXØhnYbj YfY]b'5gWXYb'gY]b'[fc»Yg':Yghž'VY]
XYa 'A]WXUY`'6i gUW_'U`g'bYi Yf'GWXØhnYb_Ob]['dfc_`Ua]Yfh
k i fXY"'5b'gY]bYf'GY]hY'ghY\h'?Ob][']b'7\f]gh]bU"'Ni 'XYb
5X¹hUbhYb'nÀ\`Yb'<c`[Yf':c\f]b[ž'7\f]gh]Ub'6fYVYW_'i bX'DUhf]W_
DUfUX]Y_"'8]Y'9\fYbXUa Yb'g]bX'Gcb¹U':c\f]b[ž'BUh\U`]Y'6fYVYW_
i bX'7Uf]bU'DUfUX]Y_"'J]nY_Ob]['AUI'GWX`Ufa Ubb'Yfk Y]hYfh'XUg
?Ob][g\Ui gž'k À\fYbX'XUg'?U]gYfgWX]Y»Yb'j cb'F]W_'7i `dUb
[Yk cbbYb'k i fXY"'5i WX'X]Y'GWXØhnYb`]YgY`ž'A Ubi Y`U'<Ø`gYa Ubbž
k i fXY'Ui gYf_cfYbž'i bhYfghØhnh'j cb'XYb'9\fYbXUa Yb'GUbXfU
?]fWX\cZZHf]a dY'i bX'5bbY'?cYghYf"

 $6 YgcbXYfg'VYUWXhYbgk Yfh'k Uf'X]Y'?fObi b['XYf'$] [YbX'i bX'?]bXYf''DUi `U'8]Y_a Ubb'i bX'A Uf_i g'B]YfYbhn'[]b[Yb'U`g $$ [YbX_Ob][]b'i bX'!df]bn'\Yfj cfž'k A\fYbX'@]bU'$$ b[Yf'i bX'?]`]Ub?Ob]['X]Y'?]bXYf_Ob][]b'i bX'XYb'?]bXYfdf]bnYb'ghY``hYb''$$ fY 5X'1 hUbhYbž'5Xf]Ub'?]fWX\cZ'i bX'7Uf`U'A Uf]U'F chi b'YUbi ž'gck]Y X]Y'9\fYbXUa Yb'A Uf]Y'?cYghYf'i bX'9`]gU'DUfUX]Y_ž'VY[`Y]hYhYbq]Y'k A\fYbX'XYf': Y]Yf`]WX_Y]hYb'' $$$

FØW_V`]W_ i bX XUg bYi Y ? Ob][g\Ui g

 $8 \ Y \ Y \ [Uh] \ cb \ Ui \ g' X Y \ f' D Uf hb Y fgh U X h' Gh Uf c \ [Uf X'; X Ubg_] \check{z}' X] Y' a \]h \\ ; Y g W X \ Y b_Y h Ø h Y b' a \]h' d c`b] g W X Y a '5 i Z X fi \ W_'j \ Y fh f Y h Y b' k \ Uf'' 8 Y f \ g W X Y] X Y b X Y'? O b] [' < c` [Y f'?] f W \ c Z Z \] Y` h' X U V Y] 'Y] b Y b' F Ø W_V`] W_U i Z' g Y] b' 5 a \ hg 'U \ f' i \ b X' X] Y' n U \ `f Y] W Y b' J Y f U b g h U` hi \ b [Y b''] \ W Y b' J Y f U b g h U` hi \ D Y f U b g h U$

8]Y 'bYi Y '? UdY `Y ' 5gWX YbYf'A UfgWX a i g]_ 'ZY]YfhY ']\fY 'DfYa]YfY VY]a '5i ga UfgWX ž'k Ug'XUg': Ygh'ni gÀhn`]WX i a fU\a hY "'Ni 'XYb k Y]hYfYb' <][\`][\hg'[Y\OfhY'XYf'5dd`Ui gž'XYb'X]Y'HGJ '5gWXYb' =ž A Y]ghYf'XYf'Nk Y]hYb'?fY]g_`UggYž'Yf\]Y`h"'8 Ug': Ygh'i a ZUgghY'b]WX h bi f'X]Y'Dfc_`Ua Uh]cb'bYi Yf'K ØfXYbhfÀ[Yfž'gcbXYfb'ghUbX'Ui WX [Ubn']a 'NY]WXYb'XYf'; Ya Y]bgWXUZh'i bX'HfUX]h]cb"

GWX ØhnYbZYghY`]b`8 Yi hgWX`UbX`i bX I a [YVi b[

GW. Øhnyb ZyghY 'g]b X 'Y]b 'k]W. h][Yf 'HY] `XYf 'XYi hgW. Yb '? i `hi fž'a]h ØVYf'%) "\$\$\$ 'GW. ØhnYbj YfY]bYb" 'G]Y 'Z]bXYb ']b 'XYf FY[Y`]b 'XYb : fØ\ 'U\fg! 'i bX 'Gca a Yfa cbUhYb 'ghUhh'i bX 'XUi Yfb 'a Y\fYfY HU[Y" '8 Yf '5 V`Ui Z'À\bY`h'\Ài Z]['XYa ']b '5 gW. Ybž'a]h': YghYggYbž K Yhh_Àa dZYb 'i bX 'ZYgh`]W. Yb 'I a nØ[Ybž'VY] 'XYbYb '? Ob]['i bX ? Ob][]b 'Y]bYa 'ZY]Yf`]W. Yb 'F U\a Yb '[YY\fh'k YfXYb" '8]YgY HfUX]h]cb 'fY]W. h'V]g']bg'A]hhY`U`hYf ni fØW_'i bX `\Uhrg]W. 'ØVYf 'X]Y \\\J\fY 'k Y]hYfYbhk]_Y`h"'J]Y`Y 'GW. ØhnYbj YfY]bYž'k]Y 'Ui W. 'XYf GW. ØhnYbj YfY]bYZ'k]Y 'Ui W. 'XYf GW. ØhnYbj YfY]b 'B cfX`ØbYb '5 `ghYXXYž'XYf'Ua ', "'\$ b]'a]h'gY]bYa J c[Y`gW.]Y "Yb 'ghUfhYhž'VYfY]hYb 'g]W. 'YVYbZU``g'Ui Z']\fY : YghY'j cfž bUW. XYa 'X]Y '9]bgW. fÀb_i b[Yb 'XYf'7 cfcbU!\J\fY']b 'XYb '\J\fYb &\$\\$\\$' bX '\&\\$\%'j]Y`Y'J YfUbghU'hi b[Yb'i ba O[`]W. 'a UW. hYb"

 $: \emptyset f^*\&\$\&' \cdot g]bX^*X]Y^*: Y]Yf^*]WX_Y]hYb^*]b^*@bYb^YfbYi h^*[i h^*[Yd^`Ubh'' 8]Y^*j]Y^*ZA^*h][Yb^*5_h]j]hAhYb^*XYf^*j YfgWX]YXYbYb^*J YfY]bYz^*]b_^i g]j Y^*; chhYgX]YbghYbz^*Dfc_^`Ua Uh]cbYb^*i bX^*: Yghi a n<math>\emptyset$ [Ybz^*gcf[Yb XUZØfz^*XUgg^*Ui WX^*]b^*XYf^*FY[]cb^*fY^*Yj UbhY^*HfUX]h]cbYb^*[Y^*YVh^*i bX b]WXh^*j Yf[YggYb^*k YfXYb''^9]b^*NY]WXYb^*XUZØfz^*XUgg^*GWXØhnYbZYghYUi WX^*k Y]hYf^\]b^*Y]b^*ZYghYf^*6YghUbXhY]^*XYg^*[YgY^*gWXUZh^*]WXYb^*@YVYbg^*g]bX''

5```X]Yg`VYghÀh][hž`XUgg`X]Y`GWXØhnYbZYghY`b]WXh`bi~f`Y]b`HYfa~]b`]a~?U`YbXYf`g]bXž`gcbXYfb`Y]bY``YVYbX][Y`HfUX]h]cbž`X]Y

[YbYfUh]cbgØVYf[fY]ZYbX`nY`YVf]Yfh`k]fX"`K]Y`U``Y!
gW\iYhnYbjYfY]bY"XY`ZYghghY``hž`V]YhYb`g]Y`FUia`ZØf
; YaY]bgW\UZh`ibX`XUg`:Y]Yfb`_i`hifY``Yf`KifnY`bž`X]Y`]b`j]Y`Yb
XYihgW\Yb`Gh\XhYb`ni`Z]bXYb`g]bX"`8Ug`aUW\h`XUg`GW\ØhnYbZYgh
]b`5gW\Yb`ibX`j]Y`Y`UbXYfY`ni`Y]bYa`9f`YVb]gž`XUg`\J\f`ZØf`\J\f
AYbgW\Yb`nigUaaYbVf]b[h`ibX`X]Y`?i`hif``YVYbX][`\\\A`h"

K Y]hYfY '=b Zcfa Uh]cbYb 'ni 'XYb '_ca a YbXYb 'GW\ØhnYbZYghYb 'g]bX Ui Z'fi \fbUW\f]W\hYb"XY 'ni 'Z]bXYb"'

8 YhU]`g	
J c f ZU``	Gcbgh][Yg
Cfh	5gWXYbž8Yi hgWX`UbX
EiY``Yb	k k k "_fY]gnY]hi b["XY
	k k k "fi \fbUW\f]W\hYb"XY
	k k k "U``Y!gW\iYhnYbjYfY]bY"XY

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