GJ < UgVcfb 'ZY]Yfh'6YZfY]i b[ggW\`U['i bX j Yf`Àggh'XYb'`YhnhYb'D`Uhn°

GJ '< UgVcfbž'i bhYf'HfU]bYf'DUgWU``6UW\ž'g]W\Yfh'g]W\'a]h Y]bYa '(.&!G]Y['[Y[Yb E i]YfgW\]YX'XYb'YfghYb B]W\hUVgh]Y[gd`Uhn']b'XYf'GUUf`UbX`][U"



A Yhh`UW ž'8 Yi hgW `Ub X 'I'8 Yf'GJ' < UgVcfb'ZY]YfhY'Ua

j Yf[Ub[YbYb'GcbbhU['Y]bYb'k]W h][Yb'G]Y[']b'XYf'GUUf`UbX`][U"

; Y[Yb'X]Y'Gdj [["'Ei]YfgW]YXž'X]Y'U_hi Y```Ui Z'F Ub['*'XYf

HUVY``Y'ghY\hž'[Y`Ub['Y]b'ØVYfnYi [YbXYg'(.&"'8]YgYf'9fZc`[']gh

VYgcbXYfg'VYXYi hYbXž'XU'XYf'GJ' < UgVcfb'ni f'NY]h'XYf

HfU]bYfØVYfbU\a Y'j cb'DUgWU``6UW ž'XYf'5bZUb['5df]``XUg'5a h

j cb' < Y]_c'K]`\Y`a 'ØVYfbU\a ž'Ui Z'XYa '`YhnhYb'D`Uhn'XYf'@][U

ghUbX"'A]h'XYa 'G]Y['\Uh'X]Y'A UbbgW UZh'bi b'XYb'%("'D`Uhn

YffY]W hž'XYf'XYb 'YfghYb'g]W YfYb'B]W hUVgh]Y[gd`Uhn'XUfghY``h"

8]Y'U_hi Y``Y'@][Ugh]hi Uh]cb'`Aggh'`YX][`]W 'a UI]a U`'j]Yf'5VghY][Yf

ni ž'k Ug'XYb'8 fi W_ZØf'X]Y'i bhYfYb'A UbbgW UZhYb'j Yff]b[Yfhž'UVYf

XYbbcW 'Y]bY' < YfUi gZcfXYfi b['V`Y]Vh"

8YfKY[bUWkcVYb

8 Yf'G]Y['[Y[Yb'Ei]YfgW\]YX'_ObbhY'ZØf'XYb'GJ'< UgVcfb'XYf
K YbXYdib_h'XYf'GU]gcb'gY]b"'6UW\'\Uh'[YnY][hž'XUgg'Yf']b'XYf
@U[Y']ghž'X]Y'A UbbgW\UZh'ni 'a cV]\']g]YfYb'i bX'X]Y'f]W\h][Yb
a di `gY'ni 'gYhnYb"'A]h'Y]bYa '6`]W_'Ui Z'X]Y'HUVY``Yž']b'XYf'XYf'GJ
< UgVcfb'bi b'Ui Z'FUb['%('ghY\hž'\Uh'X]Y'A UbbgW\UZh'X]Y
A O[`]W_Y]hž'g]W\'Ui g'XYf'5Vgh]Y[gncbY'ni 'VYZfY]Yb"

8]Y 'A UbbgW UZhg`Y]ghi b['gW.Y]bh'g]W 'bUW 'XYa 'K YW.gY` 'Ub'XYf GY]hYb`]b]Y 'XYi h`]W 'j YfVYggYfh'ni '\UVYb" 'K À\fYbX'X]Y [YgUa hY GU]gcb'V]g'ni 'X]YgYa 'Di b_h'j cb'l bg]W Yf\Y]hYb'[YdfÀ[h'k Ufž _Ubb'XYf'GJ' < UgVcfb'bi b'a]h'bYi Ya 'GY`Vghj YfhfUi Yb']b'X]Y bÀW ghYb'DUfh]Yb'[Y\Yb"

GWX`ØggY`'ni a 'JYfV`Y]V']b'XYf'@][U

: Øf DUgWU``6UWX ii bX'XYb'GJ' < UgVcfb'k]fX'Yg'YbhgWXY]XYbX'gY]bž X]Y'dcg]h]j Yb'9ZZY_hY'XYg'`YhnhYb'Gd]Y`g'Ui ZfYWXhni Yf\U`hYb"'I a XYb'?`UggYbYf\U`h'ni 'g]WXYfbž'a ØggYb'g]Y'b]WXh'bi f'[Y[Yb X]fY_hY'?cb_i ffYbhYb'YfZc`[fY]WX'gY]bž'gcbXYfb'Ui WX'[Y[Yb ghÀf_YfY'HYUa gž'X]Y'YVYbZU``g'Di b_hY'gUa a Y`b'k c``Yb"'8]Y _ca a YbXY'NY]h']b'XYf'GUUf`UbX`][U'j Yfgdf]WXh'gdUbbYbXY'8i Y``Yi bX'_ObbhY'ZØf'XYb'GJ' < UgVcfb'ni f'GWX]W_gU`gghi bXY'k YfXYb"

8]Y'JYfUbhk cfh`]W\Yb'i bX'X]Y': Ubg'XYg'JYfY]bg'XØfZYb'Ui Z'X]Y
@Y]ghi b['i bX'X]Y'9bhk]W_`i b['i bhYf'XYf': Ø\fi b['j cb'DUgWU`'6UW\
[YgdUbbh'gY]b"'+b'X]YgYf'G]hi Uh]cb'k]fX'g]W\'nY][Ybž'cV'XYf'GJ
<UgVcfb'XUg'Fi XYf'\Yfi a fY]»Yb'_Ubb'i bX']b'XYf'@][U'V`Y]Vh''CV
6UW\'gY]bYa 'HYUa 'XUg'bOh][Y'GY`Vghj YfhfUi Yb'[YVYb'_Ubb'i bX

YgʻgW\UZhžX]Yʻ5Vk Àfhggd]fU`Yʻni ʻghcddYbžV`Y]Vhʻbi fʻni ʻ\cZZYb"

 $: \emptyset f `k Y] hY fY ` + D Z c fa Uh] c b Y b ` \emptyset V Y f ` D U g W U ` ` 6 U W ` i b X ` g Y] b Y \\ + H f U] b Y f _ U f f] Y f Y ` _ O b b Y b ` G] Y ` H f U b g Z Y fa U f _ h " X Y ` V Y g i W Y b " \\$

Ni gUa a YbZUggYbX``Àggh'g]W\'gU[Ybž'XUgg'X]Y`<cZZbi b['ZØf'XYbGJ'<UgVcfbž'hfchn'XYf'GW\k\]Yf][_Y]hYb']b'XYf'GU]gcbž ni fØ\\(\frac{1}{2}\)[Y_Y\fh']gh\'8]Y``YhnhYb'9f[YVb]ggY'_\ObbhYb'XYb; fi bXghY]b'\(Z\)Øf'Y]bY'\dcg]h]j Y'\(Z\)bU`Y'\D\\UgY']b'\XYf'\GUUf`\UbX`][\U\`Y[Yb''

: Øf'a Y\f'8YhU]`g'ni 'XYa 'Øb[ghYb'G]Y['i bX'XYb'9bhk]W_`i b[Yb VY]'GJ '< UgVcfbž'`YgYb'G]Y'Ui W\'GUUfVfØW_Yf'NY]hi b["

8 YhU]`g	
Cfh	AYhh`UWXž'8YihgWX`UbX
EiY``Yb	k k k "gUUfVfi YW_Yf!nY]hi b["XY
	k k k "hfUbgZYfa Uf_h"XY

6Ygi WXYb G]Y i bg Ui Z. a Y]b!k]Yb bYh