

GhfY]h']b'6Yf`]b.'8fY]'A ÀbbYf'bUW A YggYfUhhUW_Y'j Yf`Yhnh

6Y]'Y]bYa 'GhfY]h'bU\Y'XYa '6Yf`]bYf'<Ui dhVU\b\cZ'k i fXYbXfY]'A ÀbbYf'gWkk Yf'j Yf`Yhnh"'Dc`]nY]'Yfa]hhY`hž'A YggYf']aGd]Y`"

GhfY]h']b'6Yf`]b'j YfghÀf_h'8]g_i gg]cb'ØVYf G]WXYf\Y]h']a 'GhUXhnYbhfi a

 $\pm 0. XYf'B A Y'XYg'6Yf']bYf' < Ui dhVU \b \c Zg'_Ua 'Yg'Ua '5VYbX'ni Y]bYa 'J cfZU'`ž'XYf'b]W h'bi f'X]Y'VYhfc ZZYbYb'DYfgcbYbž'gcbXYfb Ui W 'X]Y'G]W Yf \Y]h']b'XYf' \DYbghUXh'Ui Z'XYb'DfØZghUbX'ghY``h'' 6Y]'Y]bYa '[Yk U`hgUa Yb'?cbZ]_h'a i gghYb'XfY]'A AbbYf'a]h gW k YfYb'J Yf`Yhni b[Yb']bg'?fUb_Yb\Ui g'[YVfUW h'k YfXYb'''9]b k Y]hYfYf'A Ubb'Yf`]hh'Y]bYb'GW c \W_i bX'VYb\Oh][hY'YVYbZU``g a YX]n]b]gW Y'<]`ZY''$

8]Y 5i gY]bUbXYfgYhni b['Ui Z'XYf'; i ghUj! <Y]bYa Ubb!6fØW_Y

BchZU``a U» bU\a Yb'i bX ?fUb_Yb\Ui gUi ZYbh\U`hY 8]Y 'Dc`]nY]'VYf]W\hYhYž'XUgg'Y]b 'A YggYf'k À\fYbX'XYf
5i gY]bUbXYfgYhni b[']a 'Gd]Y`'k Uf"'8]Y 'J Yf`YhnhYb'k i fXYb'j cf'Cfh
j cb'BchÀfnhYb'VY\UbXY`hž'k À\fYbX'X]Y'9fa]hhìi b[Yb'VYfY]hg
Y]b[Y`Y]hYh'k i fXYb"'8]Y 'I a ghÀbXY'XYg'GhfY]hg'i bX'X]Y'[YbUi Yb
6Yk Y[[fØbXY'g]bX'V]g\Yf'i b_`Ufž'YXcW\'k]fZh'XYf'9]bgUhn'j cb
; Yk U`h': fU[Yb'ni f'G]W\Yf\Y]h']b'i fVUbYb'FÀi a Yb'Ui Z''

6YXYi hi b['XYg'JcfZU``g'ZØf'X]Y ; Ya Y]bgW\UZh

8 Yf'J cfZU```\Uh'b]W\h'bi f'X]fY_hY'5i gk]f_i b[Yb'Ui Z'X]Y

J Yf`YhnhYbž'gcbXYfb'k]fZh'Ui W\Y]b'@]W\h'Ui Z'X]Y'ni bY\a YbXY

; Yk U`h']b'ghÀXh]gW\Yb'; YV]YhYb"' +b'Y]bYf'NY]hž']b'XYf'GhÀXhY'a Y\f

G]W\Yf\Y]h'i bX'Y]b'; YZØ\``XYg'K c\`VYZ]bXYbg'ZØf']\fY'6Yk c\bYf
i bX'6Ygi W\Yf'ZÒfXYfb'k c``Ybž'k]fX'XYfUfh][Y'; Yk U`h'ni a 'H\Ya U
j cb'ÒZZYbh`]W\Yb'8YVUhhYb"' -a a Yf'a Y\f'6Øf[Yf'a UW\Yb'g]W\
; YXUb_Yb'ØVYf'X]Y'G]W\Yf\Y]h']a '5``hU['i bX'ZcfXYfb'j cb'XYb
6Y\ÒfXYb'A U» bU\a Yb'ni f'DfÀj Ybh]cb'gc`W\Yf'JcfZÀ``Y"

$5i gV^{Ui} Z^{ni} = \emptyset b Zh][Y^{9}bhk]W^{i} b[Yb]$

 $8]Y `9fa]hh`i b[Yb`XYf`Dc`]nY]`k YfXYb`nY][Ybž'k Y`WkY`: U_hcfYb`ni X]YgYf`; Yk U`hhUh`[YZØ\fh`\UVYb"`9g`V`Y]Vh`UVni k UfhYbž'cV`X]YgYf J cfZU```J YfÀbXYfi b[Yb`]b`XYf`G]WkYf\Y]hgghfUhY[]Y`XYf`GhUXh`ni f : c`[Y`\UVYb`k]fX"`<math>\pm$ b`^YXYa :: U```nY][h`XYf`J cfZU```Y]ba U``a Y\fž XUgg`[Yk U`hhÀh][Y`5i gVfØWkY`]b`i fVUbYb`NYbhfYb`Y]bY`Yfbgh\UZhY < YfUi gZcfXYfi b[`ZØf`X]Y`ÒZZYbh`]WkY`G]WkYf\Y]h`XUfghY``Yb"

B 5;

8 YhU]`g