

8 Ug B Ygh X Yf Gmb c X Yb. K c; `Ui V Yb i b X Nk Y]ZY `g]WX 'V Y[Y[b Yb °

9bhXYW_Yb'G]Y'X]Y'hfUbgZcfa Uh]j Y'Fc``Y'j cb'GmbcXYb']b'XYf ?]fWXY'i bX'X]Y'nY]h`cgYb'; YXUb_Yb'j cb'H\ca Ug'A Ubb'Ua &- "'\(\frac{1}{2}\)b\\"



GcbbYVYf[ž8Yi hgW `UbX'!' \DixYf'\Yi h][Yb'NY]hž'Ua '&- "' \Dib b] &\$&) ž'k]fX']b'XYf'?]fWXY'ØVYf'X]Y'h]YZ[fØbX][Y': fU[Y'bUWX'XYa I fgdfi b['jcb'<i\b'i bX'9]'bUWX[YXUWXh''5b'X]YgYa 'Di b_h'Vf]b[h XUg'?cbnYdh'XYg'BYghg'@]WXh']bg'8i b_Y`ž']bXYa 'Yg'U`g'Cfh'XYf 6Y[Y[bi b['i bX'HfUbgZcfa Uh]cb'j YfghUbXYb'k]fX"'8Ug'BYgh'ghY``h Y]bY'NcbY'XYg', VYf[Ub[g'XUfž']b'XYf'BYi Yg'YbhghY\h'i bX'5`hYg g]WX'b]YXYf`Agghž'k]Y'a Y]bY!_]fWXYbnY]hi b["XY'VYgWXfY]Vh"

8]YgY'h\Yc`c[]gW\Yb', VYf`Y[ib[Yb'jYfXYih`]W\Ybž'XUgg'X]Y KU\f\Y]h'cZh'Y]bYb'FUia 'XYf'JYfkUbX`ib['VYbÒh][h''8UVY]'_Ubb X]YgYf'FUia 'ibfY]b'ibX'XifW\K]XYfghfY]h'[YdfÀ[h'gY]bž'kUg'X]Y ?cad`Yl]hÀh'X]YgYf'GiW\Y'bUW\KU\f\Y]h'ibhYfghfY]W\h''

8]Y'Fc``Y'XYf'GmbcXYb

8]Y?]fWXYk]fX:XYg'KY]hYfYb'a]h'Y]bYa?ÒfdYf'jYf[`]WXYbž'XYf Ui g'jYfgWX]YXYbYb'Cf[UbYb'VYghY\hž'kcVY]'X]Y'GmbcXY'U`g JYfXUi i b[ggmghYa'Ub[YgY\Yb'k]fX"'8]YgY'GmbcXYb'g]bX'b]WXh bi f'CfhY'XYf'fY]bYb'CZZYbVUfi b[ž'gcbXYfb'YVYbZU``g ; Àf_Ua a Yfbž']b'XYbYb'HfUX]h]cb'i bX'; Y[Ybk Ufh Ui ZY]bUbXYfhfYZZYb"'<]Yf'[YgWXY\Yb'XUg'GUa a Y`bž'5Vk À[Yb'i bX 9bhgWXY]XYbž'k Ug'Y]bY'YggYbn]Y``Y'5i Z[UVY']bbYf\U`V'XYf ; `Ui VYbg[Ya Y]bqWXUZh'XUfghY``h"

G]Y'g]bX'; Y`Y[Yb\Y]hYbž'Ub'XYbYb'gck c\``_`UfY'Xc[a Uh]gW\Y: cfa i `]Yfi b[Yb'U`g'Ui W\'Z'ØW\h][Y'dUghcfU`Y'; YXUb_Yb'ni a @YVYb'Yfk YW_h'k YfXYb"'8YbbcW\'g]Y\h'g]W\'XYf'?`Yfi g
[Y[Ybk Àfh]['a]h'<YfUi gZcfXYfi b[Yb'_cbZfcbh]Yfhž'X]Y'i bhYf'XYa 6Y[f]ZZ' GmbcX]h]g'UW hU'dfc[fYgg]j U 'ni gUa a Yb[YZUggh'k YfXYb" \dispression 5bVYhfUW\h'X]YgYf'I a gh\denote\text{b}XY'Z]bXYb'b]W\h'gY`hYb'GmbcXYb'ØVYf U_hi Y``Y'H\Ya Yb'ghUhhž'XcW\'cZh'c\bY'XUgg'_`UfY'@Y\fg\denote\text{b}nY\YbhghY\Yb"8]Yg'ZØ\fh'ni Y]bYf'_fYUh]j Yb'I bcfXbi b[ž']b'XYf'g]W\X]Y'K YfhY'Zcfa Uh]YfYb'i bX'j Yf\denote\text{b}XYfb'_\denote\text{obbYb}"

9]b'Y]bXfØW_`]WXYg'6Y]gd]Y``ZØf'X]Y'a YbgWX`]WXY': À\][_Y]h'ni f HfUbgZcfa Uh]cb'`]YZYfh'XYf'GWXf]ZhghY``Yf'H\ca Ug'A Ubb"'GY]bY K Yf_Yž'k]Y' HcX']b'JYbYX][ž'gd]Y[Y`b'b]WXh'bi f'd\mg]gWXY JYfZU```k]XYfž'gcbXYfb'VY]b\U`hYb'Ui WX'h]YZ[fØbX][Y'[Y]gh][Y 6YXYi hi b[Yb"'9b[Y`gVYf[]XYUg"Wca '\YVh'\Yfj cfž'XUgg'gY`Vgh Ui g'i bgWXY]bVUfYb'cXYf'nkY]ZY`\UZhYb'I fgdfØb[Yb'9f\UVYb\Y]h Yfk UWXgYb'_Ubb"

8]Y; YXi `X`a]h`XYa `I bj c``_ca a YbYb`k]fX`U`g`Y]bY`i bYf`Àgg`]W\Y
9][YbgW\UZh`XYg`; `Ui VYbg`\Yfj cf[Y\cVYbžk Ug`[i h`ni `A Ubbg
Y][YbYf`@YVYbg[YgW\]W\hY`dUggh"`Hfchn`XYf`GW\k]Yf][_Y]hYbž`X]Y
Yf`k À\fYbX`XYf`K Y`h_f]Y[Y`i bX`]b`XYf`NY]h`XYg`: UgW\]ga i g
Yf`YVhYž`V`]YV`XYf`GW\f]ZhghY``Yf`gY]bYf`?i bgh`i bX`A cfU``hfYi "`GY]b
@YVYb`k Uf`j cb`VYXYi hYbXYb`\]ghcf]gW\Yb`9fY][b]ggYb`[YdfÀ[hž
X]Y`g]W\`]b`gY]bYb`K Yf_Yb`b]YXYfgW\`i [Yb"

H\ca Ug'A Ubbg'9fVY

 $H\ca\ Ug`A\ Ubb`f\%,\ +)\ !\%-)\)\ \&\ 'h`ni\ `XYb`bUa\ \ UZhYb\ Yi\ fcdA]gWXYb`Fca\ UbW]Yfg`XYf`A\ cXYfbYž`XYf`VYgWXY]XYb`]b gY]bYa `Di V`]_i a `ghY\h`]a `J Yf[`Y]WX`ni `; fO`» Yb`k]Y`<math>x$ mWY`cXYf ?UZ_U"`GY]b``]hYfUf]gWXYg`GWXUZZYb`nY]WXbYh`g]WX`Xi\ fWX`XYb J Yfgi WX`Ui\ gž`XYa\ '7\Uch]gWXYb`CfXbi\ b[`i\ bX`G]bb`ni `j\ Yf`Y]\Yb'' A\ Ubbg`K\ Yf_Y``UXYb`XYb`@YgYf`Y]bž`8YhU]``i\ bX`;\ YXi\ `X`ni\ gWX\AhnYbž`K\ Ug`]\b`ni\ `Y]bYf`Y]bn][\Ufh][\Yb`:\][i\ f`]bbYf\U`V`XYf\ a\ cXYfbYb`@]hYfUhi\ f`a\ UWX\h''

9f'k Uf'Y]b'YbhgWk]YXYbYf'?f]h]_Yf'XYg': UgWk]ga i g'i bX'\UhhY'Y]bY j]Y`gWk]Wkh][Y'6Yn]Y\i b['ni f'XYi hgWkYb'?i `hi fž'X]Y'Ui Wk'X]Y Gh][a Uh]g]Yfi b['gY]bYf'=XYbh]hÀh'U`g'GWkf]ZhghY``Yf'dfÀ[hY'''GY]bY Yb[U[]YfhY'ÒZZYbh`]WkY'Gh]a a Y'i bX'gY]bY'`]hYfUf]gWkY'8]gn]d`]b\U`ZYb']\a ž'Xi fWk'X]Y'hi fVi `YbhY'NY]h'ni 'bUj][]YfYb'i bX VYXYi hYbXY'=a di `gY'ni '[YVYb"'+b'Y]bYf'K Y`hž'X]Y'k Y]h'YbhZYfbh j cb'l hcd]Yb'k Ufž'gYhnhY'A Ubb'Ui Z'X]Y'?fUZh'XYg'a YbgWk`]WkYb 9f`YVYbg"

Gc 'ghY\Yb 'Gmbc XYb 'i bX '`]hYfUf]gW\Yg 'GW\UZZYbž'; `Ui VY 'i bX
Nk Y]ZY `ž'U`g 'ØVYf[fY]ZYbXY 'H\Ya Yb ']b 'Y]bYa '_cbh]bi]Yf`]W\Yb
8]U`c[ž'XYf 'gck c\``X]Y 'J Yfk UbX`i b['XYg '\DX]j]Xi i a g 'U`g 'Ui W\
X]Y 'XYf'; Ya Y]bgW\UZh bUW\nY]W\bYh" \\DX]YgYf '8 mbUa]_ž'X]Y
gck c\``]b 'XYf'?]fW\Y 'U`g 'Ui W\`]b 'XYf @]hYfUhi f 'ni 'Z]bXYb ']ghž'k]fX
Yf_YbbVUfž'XUgg 'k]f 'hfchn 'U``Yf' < YfUi gZcfXYfi b[Yb 'k Y]hYf\]b
F Ui a 'ZØf'5i ghUi gW\'i bX 'K UbXY``VYbOh][Yb '' j]Y``Y]W\h'[YbUi
Xcfhž'k c'Y]bgh'X]Y ': fU[Y 'bUW\'XYa '<i \b'i bX 'XYa '9]'Ui Z_Ua "

8 Y hU]`g	
Cfh	GcbbYVYf[ž'8Yi hgWX`UbX
EiY``Yb	k k k "a Y]bY!_]fWXYbnY]hi b["XY
	Yb[Y`gVYf[]XYUg"Wca

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