

%\$ 'H]ddg'ZØf'Y]bYb'6Ygi W\']b'9d\Ygi gž Hi f_Ym

9]b 6 Ygi W.]b 9d \ Ygi g gc ``hY 'YXYa 'FY]gYbXYb 'Y]b '5b `]Y[Yb gY]b 'Hi f_Ym Fci hY "B UW. 'a Y\f'U`g'%) \$ '\$J\fYb 5i g[fUVi b[Yb \ UVYb 'X]Y 'ni fØW_[Yk cbbYbYb 'i bX fYghUi f]YfhYb 'Ghfi _hi fYb 'XYf 'GhUXh '9d \ Ygi g'ni f j c ``ghÀbX][ghYb 'Ubh]_Yb 'GhUXh '9i fcd Ug'[Ya UW. h" '8]Y '[fc > Y GhUXh 'k i fXY']a '%\$ "'\$J\f\i bXYfhj "'7\f" k À\fYbX 'XYf _`Ugg]gW. Yb '[f]YW.]gW. Yb 'ŸfU 'YfVUi h'i bX 'VY[Ubb 'ni 'V`Ø\Ybž bUW. XYa 'g]Y '%&- 'j "'7\f" I bhYf 'X]Y '? cbhfc ``Y 'XYf 'F Òa]gW. Yb F Ydi V`]_ '[Yf]Yh" '9g'k]fX '[YgW. Ahnhž XUgg 'X]Y '6Yj Ò`_Yfi b[XYf 'GhUXh 'nY]hk Y]gY 'nk]gW. Yb '' ' "\$\$\$ 'i bX') * "\$\$\$ 'A YbgW. Yb `U["'9d\Ygi g'k Uf 'gc 'k c\`\UVYbXž XUgg 'gY]b '< YfnghØW_ž XYf A Ufa cfhYa dY` XYf '5fhYa]gž Y]bgh XYf '[fÒ> hY 'HYa dY` XYf 9fXY 'i bX 'Y]bYg 'XYf 'g]YVYb '/ Ua d\Y`]d/

8]Y '[fc » Y 'GhUXh'k i fXY ']a '%\$" '\\\f\i bXYfh'j "'7\f" 'k \A\fYbX 'XYf _\Ugg]gW\Yb '[f]YW\]gW\Yb '\YfVUi h'i bX 'VY[Ubb 'ni 'V '\Ø\Yb\Z\ bUW\XYa 'g]Y '\%\- 'j "'7\f" 'I bhYf'X]Y '? cbhfc``Y 'XYf'F \Oa]gW\Yb FYdi V`]_ '[Yf]Yh" '9g'k]fX '[YgW\Ahnh\Z'XUgg'X]Y '\6Yj \O`_Yfi b['XYf GhUXh'nY]hk Y]gY 'nk]gW\Yb '' ' "\$\$\$'i bX') * "\$\$\$ 'A YbgW\Yb '`U["

9d\Ygi g'k Uf'gc'k c\`\UVYbXž'XUgg'gY]b'< YfnghØW_ž'XYf
A Ufa cfhYa dY``XYf'5fhYa]gž'Y]bgh'XYf'[fÒ» hY'HYa dY``XYf'9fXY
i bX'Y]bYg'XYf'g]YVYb'K Y`hk i bXYf'XYf'5bh]_Y'k Uf'''< Yi hY']gh'XYf
HYa dY``bi f'bcW\'Y]b'GW\UhhYb'gY]bYf'Y]bgh][Yb'DfUW\hž'bUW\XYa
Yf'XfY]a U``j c``ghÀbX]['k]YXYf'Ui Z[YVUi h'k i fXYž'VYj cf'Yf

gW\`]Y\``]W\`k\A\fYbX`Y]bYg`\\VYfZU``g`Xi\fW\`X]Y`;\c\hYbž`Y]bYa\cgh[\Yfa\Ub]gW\Yb`GhUa\a\ž`]a\`\\J\\f`(\\$%`b\"`7\\f\"\nYfgh\Of\k\i\fXY\"

Hfchn XYg J Yf i ghYg XYg HYa dY `g XYf 5 fhYa]g V `Y]Vh 9d \ Ygi g `X]Y Ua VYghYb Yf \ U `hYbY f Oa]g W Y `GhUXh `]a `A]hhY `a YYff Ui a `i b X Y]b Y j cb `]\ b Y b `Hi f_Y m g `Hcd! G Y \ Y b gk Ø f X][_Y]hYb " B U W Zc `[Y b X hY] `Yb `k]f `i b g Y f Y V Y g h Y b `H]d d g `ZØ f `Y]b Y b `6 Y g i W `]b `9d \ Y g i g "

%" , VYfdfØZYb G]Y X]Y FY]gY\]bk Y]gY

K]f`\UVYb`j]Y``XUfØVYf`[YgWkf]YVYb`Hi f_Ym`gY]h`i bgYfYf`FY]gY`]a `YhnhYb`A cbUh'' @Y]XYf`]gh`j]Y`Yg`XUj cb`gWk YfYb`< YfnYbg dUgg]Yfh''`K]f`\UVYb`i bgYfY`NY]h`Xcfh`Y]bZUWk`[Y`]YVh`i bX`k ØfXYbU``Y]b`Ui Z[fi bX`i bgYfYf`9fZU\fi b[`UbXYfY`ni `Y]bYa `6Ygi WkYfa i h][Yb`Hi f_Ym`]b`Y]bYa `< YfngWk`U["'6Y]`U``Ya ž`k Ug`]a `@UbX dUgg]Yfhž`k UfYb`k]f`YXcWk`[Ynk i b[Ybž`i bg`ni `ZfU[Ybž`cV`k]f Xcfh\]b`fY]gYb`Hi f_Ym`Yhnh`]gh`]a `K YgYbh`]WkYb`ni `f]g_Ubh3

 $\label{eq:conditional} $$ ``U`h1 j]g]h!Yd`Ygig!]b!Ufh]WY!Z`U[25h`Ug'/ `6cchg'8]Y`hØf_]gWXY: ``U[[Y'kY\h'`\cWX]$$

@Y]XYf']gh'Y]b'@UbXž'XUg'VYfY]hg'j cb'; Yk U'h'i bX
HYffcfUbgW\'À[Yb'YfgW\ØhhYfh'k i fXYž'gY]h'XYa' [YgW\Y]hYfhYb
Di hgW\']b'X]YgYa'AcbUh']b'bcW\'h]YZYfY'I bg]W\Yf\Y]h'[YfUhYb"
Hfchn'XYf'bYi Yb'9bhk]W_`i b[Yb'gdf]W\h'g]W\'XYf'U_hi Y``Y'FUh'XYg
: cfY][b'UbX'7ca acbkYU`h\'CZZ]WY'fl7CŁ'bi f' [Y[Yb'U``Y'FY]gYb
]b'Y]bYb'I a_fY]g'jcb'%\'_a'i a'X]Y'; fYbnY'ni 'Gmf]Yb'i bX']b'X]Y
GhUXh'8]mUfVU_]f' 'Ui g'i bX'b]W\h'[Y[Yb'U``Y'FY]gYb'bUW\'Gmf]Yb
Hi f_Ym'

8 YfnY]h'i bgYf'YfghYf'H]dd'ZØf'U``Yž'X]Y'Y]bYb'6Ygi W\']b'9d\Ygi g cXYf'UbXYfgk c']b'6YhfUW\h'n]Y\Yb'Hi f_Ym'9g']gh'k]W\h][ž'X]Y FY]gYk Ufbi b[Yb'ni 'ØVYfdfØZYb'i bX'XYb'FUhgW\'À[Yb'XYf Òfh`]W\Yb'6Y\ÒfXYb'ni 'Zc`[Ybž'VYj cf'G]Y'g]W\'ZØf'Y]bY'FY]gY YbhgW\Y]XYb"

&"D@5B9BG=9 = F9B69GI7 <

BUWW. XYb a Y]ghYb GWW. Ahni b[Yb \ UhhY 9d \ Ygi g k A \ fYb X \ XYf F Oa YfnY]h Y]bgh Y]b Y 6 Yj O`_Yfi b['nk]gWW. Yb '' ' "\$\$\$ 'i b X ') * "\$\$\$" Gc 'k]Y 'Yg 'Ui gg]Y \ hž k i f XYb 'bi f '&\$ 'i \ XYf 'GhUXh 'Ui g[Y[fUVYb" 8 Yf 'ZfY][Y `Y[hY '5 VgWW.b]hh '`]Y[h 'Ui Z'Y]b Yf : `A WW. Y 'j cb '('_a ‡ž Ybh\ A`h 'UVYf ']a a Yf 'b c WW. Y]b Y 'XYf '[fO» hYb 'GUa a `i b[Yb fOa]gWW. Yf 'F i]b Yb 'XYf 'K Y`h"

'U`h1 VYgi W.!Yd\Ygi g!_UfhY 2: U]fY`Bi hni b['9]bY'? UfhY'j cb 9d\Ygi g

D`UbYb'G]Y'j cf' \Rightarrow fYf'5b_i bZh' \Rightarrow fY'i b[YZÅ\fY'Fci hYž'i a 'XUg'6YghY Ui g' \Rightarrow fYa '6Ygi W\']b'9d\Ygi g'\YfUi gni \c`Yb"'K Ybb'G]Y'bi f Ui ZhUi W\Yb'i bX'gY\Yb ž'_ÒbbhYb'G]Y'`Y]W\h'Y]b][Y'XYf'VYghYb GY\Ybgk ØfX][_Y]hYb'j YfdUggYb"

9fk À[Yb'G]Yž'Ub'X]YgYa 'HU['Y]bYb'9d\Ygi g!FY]gYZØ\fYf a]hni bY\a Yb"'K]f'\UVYb'i bg'ZØf'i bgYfYb'VYk À\fhYb'6Y[`Y]hYfž XYb'@cbY`m'D`UbYh'; i]XYž'YbhgW\]YXYb'Hi f_Ym"

' " ? C A A 9 : F < fC 8 9 F G D Ÿ HŁ

 $8]Y `VYghY`NY]h`ZØf`Y]bYb`6Ygi WX`]b`9d\Ygi g`]gh`XYf`A cf[Ybž`VYj cf X]Y`a Y]ghYb`A YbgWXYba UggYb`Ub_ca a Ybž`Y]bgWX`]Y»`]WX`U``Yf?fYi nZU\fh!HU[YgUi gZØ[`Yfž`X]Y`j cb`XYf`?ØghY`_ca a Yb"`8]YUbXYfY`A <math>O[`]WX_Y]h`VYghY\h`XUf]bž`Ua `BUWXa]hhU[`Ubni fY]gYbž`XUX]Y`A Yb[Y`UVb]a a h"`5i WX`k Ybb`G]Y`Ua `BUWXa]hhU[`Ub_ca a Ybž gc``hYb`G]Y`[YbØ[YbX`NY]h`\UVYbž`g]WX`Zcfhni VYk Y[Ybž`gc`Ub[YG]Y`\$fY`Fci hY`[Yd`Ubh`\UVYb"$

 $8] Y `U_hi Y``Yb `^2 ZZbi b[gnY]hYb `g]bX `k] Y `Zc`[h.$

5df]``C_hcVYf	Bcj Ya VYf''A Àfn
, "\$\$!%- "\$\$, "\$\$!%+"\$\$

9]b'k Y]hYfYf'JcfhY]`'Y]bYf'ZfØ\YfYb'cXYf'gdÀhYfYb'5bfY]gY'VYghY\h XUf]bž'XUgg'G]Y'X]Y'gYb[YbXY'<]hnY'XYg'HU[Yg'nk]gW\Yb'%&.\$\$ i bX'%).\$\$'I\f'jYfaY]XYb'_ \dot{O} bbYb"

("; Y\Yb'G]Y'X]fY_h'ni 'XYb'k]W\h][ghYb GY\Ybgk ØfX][_Y]hYb

GcVU`X`G]Y`Y]bghY][Ybž'a UWXYb`G]Y`g]WX`Ui Z`XYb`K Y[`ni `XYb k]WXh][ghYb`GY\Ybgk ØfX][_Y]hYb": Øf`i bg`k UfYb`X]Y`k]WXh][ghYb GY\Ybgk ØfX][_Y]hYb`X]Y`< Ui dhZUggUXY`XYf`7Y`gi g!6]V`]ch\Y_ž`XUg 5a d\]h\YUhYf`j cb`9d\Ygi g`i bX`X]Y`< Ui dh\UZYbghfU» Y"

'U'h1 6Ygi W\!9d\Ygi g!]b!5fh]_Y` 25h`Ug'/ '6cchg' \pm 'XYf'7Y`gi g! 6]V`]ch\Y_']gh'_Y]b'Hci f]gh']b'G]W\h

± XYa 'k]f'X]fY_h'ni 'XYb'k]W\h][ghYb'GY\Ybgk ØfX][_Y]hYb'[]b[Ybž\UhhYb'k]f'g]Y'dfU_h]gW\'ZØf'i bg'U``Y]bYž'k]W\Yb'XYb'A UggYb'Ui g i bX'VY_Ua Yb'X]Y': chcgž'X]Y'k]f'k c``hYb"

) "'6Y[]bbYb'G]Y'Ua 'i bhYfYb'Hcf

K]f a UW hYb XYb : Y\ `Yfž Ua `cVYfYb '< Ui dhhcfini `VY[]bbYb i bX i bg ni a `i bhYfYb 'Hcfi bX 'k]YXYf ni fØW_ j cfni UfVY]hYb " K]f []b[Yb ni fØW_ži a `g]W Yfni ghY ``Ybž XUgg k]f i bhYfk Y[g b]W hg j Yfd Uggh \ UhhYbž XU k]f ni Yfgh X]fY_h ni `XYb k]W h][ghYb GY\Ybgk ØfX][_Y]hYb [YZU\fYb k UfYb"

- 'U`h1 2

- 'U`h1 2
- 'U`h1 2

K]f Ya dZY\`YbžUa ii bhYfYb 'Hcfini 'VY[]bbYb ii bX'Ua '9bXY' ⇒ fYg 6Ygi WXg'Xcfh\]b ini fØW_ni _Y\fYb"'9g'`]Y[h'bÀ\Yf'Ub'GY`Ãi _'i bX]gh'XU\Yf'`Y]WXhYfini 'YffY]WXYbžk Ybb'G]Y'j cb'XYf'GhUXh'Ui g \]bY]b[Y\Yb'a ÒWXhYb"'8 Ug'i bhYfY'Hcf'`]Y[h'Ui WX'bÀ\Yf'Ub'XYb UbXYfYb'GY\Ybgk ØfX][_Y]hYb'Ui » Yf\U`V'XYf'i a a Ui YfhYb Fi]bYbž'XUfi bhYf'X]Y' ⊕JU!6Ym'A cgWXYYž'X]Y'6i f['5mUgc`i _ž'XUg 5fWXÀc`c[]gWXY'A i gYi a 'j cb'9d\Ygi g'i bX'XYf'HYa dY'`XYf 5fhYa]g"'9g']gh'Ui WX'V]``][Yfž'k Ybb'G]Y'a]h'ÒZZYbh`]WXYb JYf_Y\fga]hhY`b'UbfY]gYbž'XU'Yg'bÀ\Yf'Ub'XYf'GhUXh'`]Y[h'

* "B9< A 9B G=9 J =9@K 5GG9F

9d\Ygi gʻ]ghʻgY\fʻ\Y]» žʻgY\fʻhfc \underline{W} Ybʻi bXʻ\Uhʻk Yb][ʻGW\UhhYb" 9fgW\k YfYbXʻ_ca a hʻ\]bni žʻXUggʻX]Yʻ<]hnYʻj ca ʻk Y]» YbʻGhY]b fYZY_h]Yfhʻk]fXžʻk UgʻYgʻa UbW\a U``ZUghʻi bYfhfÀ[`]W\`a UW\h'

8i k]fghij]Y`K UggYf'VfUi WXYbž'U`gc'b]a a 'Yg'a]h"K Ybb'fk Ubb°Ł G]Y'Ui g[Y\Ybž'_ObbYb'G]Y'Xf]bbYb'Yhk Ug'_Ui ZYb"'9g']gh'hYi fYfž UVYf'X]Yg']gh'b]WXh'X]Y'NY]h'ni a 'GdUfYb°'5b'YXYa '9]b[Ub['[]VhYg'_`Y]bY'7UZÅg'i bX'GUZhVUfg'gck]Y'Hc]`YhhYbž ±DZcfa Uh]cbgnYbhfYb'i bX'ZfYi bX`]WXYg'DYfgcbU`"

+" N=9 < 9B G=9 G=7 < 5B; 9A 9GG9B 5B

9]b'GcbbYb\i hžY]bY'GcbbYbVf]``Y'i bX'[YY][bYhY'GW\i\Y'g]bX'Y]bAigg"8]Y'<]hnY'i bX'X]Y'GcbbY'g]bX'i bYfV]hh`]W\ž'ghY``Yb'G]Y'U`gcg]W\Yfž'XUgg'G]Y'f]W\h]['j cfVYfY]hYh'g]bX"'G]Y'k YfXYbkU\fgW\Y]b`]W\n]Ya`]W\j]Y``ni':i»'[Y\Yb'i bX'X]Y'GhY]bVÒXYbg]bX'cZh'fi hgW\][ž'U`gc'g]bX':`]d!:`cdg'i bX'GUbXU`Yb'U``Yg'UbXYfYU`g']XYU`"

 $\label{eq:continuity} K Ybb[`Y]WX ``Hi f_Ym`]gh`Y]b``ØVYfk]Y[YbX`a i g`]a]gWXYg`@UbXž \\ GY`Ãi _ ']gh`b]WX h`gc `hfUX]h]cbY```cXYf`ghfYb[`k]Y`UbXYfY`@ÅbXYf`XYg \\ B U\Yb`C ghYbg`cXYf`UbXYfY`GY\Ybgk ØfX][_Y]hYb`Hi f_Ym`k]Y`X]Y \\ 6`Ui Y`A cgWXYY"`$\D`X]YgYa ``G]bbY`]gh`Yg`U_nYdhUVY`ž`$\Rightarrow fY`6Y]bY`ni$

nY][Yb"'GhY``Yb'G]Y'bi f'g]W\Yfž'XUgg'G]Y'[YbØ[YbX'GcbbYbWfYa YY]bdUW_Yb"

, "'NU\`Yb'G]Y'YI hfUž'i a 'X]Y'FY]\Yb\ λ i gYf'ni gY\Yb

6Y]a '6Ygi W\ 'gc`W\Yf'GhÀhhYb'VYghY\h']a a Yf'X]Y'; YZU\fž'XUgg a Ub' Ui g[Yhf]W_gh 'k]fX"'BUW\'Y]bYf'K Y]`Y'_Ubb'Y]b'gY\f'U`hYf HYa dY`'VY[]bbYbž'k]Y'Y]b'UbXYfYf'gY\f'U`hYf'HYa dY`
Ui gni gY\Ybž'ni a]bXYgh'ZØf'XUg'i b[YØVhY'5i[Y"'5`g'i bg'ni a YfghYb'A U`'X]Y'Ni gUhn_UfhY'ZØf'X]Y'FY]\Yb\Ài gYf'Ub[YVchYbki fXYž'ØVYf[UV']W\'X]Y'; YVØ\f'Àb[gh`]W\"'<UVY']W\'bi f'YI hfU'ZØf XYb'Ni [Ub['ni 'Y]bYa 'UbXYfYb'HYa dY`'VYnU\`hž'Ub'XYb']W\'a]W\ qdÀhYf'j [Y``Y]W\ h'b]W\ h'a Y\f'Yf]bbYfY3

'U`h1 VYgi W\Y!Yd\Ygi g!fY]\Yb\Ai gYf 25h`Ug'/ '6cchg'9]b
ZUgn]b]YfYbXYf'9]bV`]W_']b'X]Y'a Ø\Yj c``Y'5fVY]h'XYf'FYghUi f]Yfi b[

Bi bžbY]b"5b"YfghYf"GhY``Y ghY\Yb"X]Y"FY]\Yb\Ài gYfa]h"Y]bYf gW\ØhnYbXYb", VYfXUW\i b["VYXYW_hžX]Y"Y]bY"k]``_ca a YbY 5Vk YW\g`i b["j cb"XYf"i bYfV]hh`]W\Yb"<]hnY"V]YhYh"BcW\"k]W\h][Yf]ghž"XUgg"g]Y"Y]bYb"9]bV`]W_"]b"XUg"Ubh]_Y"@YVYb"XYf"6Yk c\bYf X]YgYf"Y]bgh"[fc»Ufh][Yb"GhUXh"V]YhYb"gck]Y"Y]bY"Z b_h]cb]YfYbXY 8Ya cbghfUh]cb"XYf"5fW\Ac`c[]Y"i bX"FYghUi f]Yfi b[ž"X]Y"]b 9d\Ygi g'bcW\"]a"; Ub[Y'g]bX""8]Y"K YVg]hY"V]YhYh"Y]bYb ZUgn]b]YfYbXYb"9]bV`]W_"]b"Y]b][Y"XYf"a Ø\Yj c``Yb"5fVY]hYbž"X]Y ghUhh[YZ bXYb"\UVYb"i bX"bcW\"\Yi hY"UbXUi Yfb""

 $8 \ Yf'9]bhf]hh'ni 'XYb'HYffUggYb\ \grave{a}i gYfb'_cghYh'\&\$'H@fh'I G8 \&'i bX X]Y'^2 ZZbi b[gnY]hYb'g]bX'_ØfnYf'U`g'X]Y'XYg'< Ui dh[Y`\grave{a}bXYgž'U`gcbY\a Yb'G]Y'g]W\'NY]h''$

5df]` 'C_hcVYf	Bcj Ya VYf''A Àfn
, "\$\$!%, "' \$, "\$\$!%*"' \$

- "'GY\Yb'G]Y'g]W\'X]Y'GY\Ybgk ØfX][_Y]hYb Ui » Yf\U`V'XYf'GhUXha Ui Yfb'Ub 'U`h1 VYgi W\!Yd\Ygi g!]a !Ufh]_Y`` '' 25h`Ug'/ '6cchg'5mUgc`i _ 7 Ugh`Y']gh'Y]b 'A i gg

5i » YfXYa []Vh'Yg'XUg'i fgdfØb[`]WXY'K Y`hk i bXYfž'XYb'HYa dY`XYf'5fhYa]g"Jca ii fgdfØb[`]WXYb'HYa dY`']gh'bi f'bcWX'Y]bY Y]bgUa Y'GÀi `Y'f[Y_fÒbh'j cb'Y]bYa 'GhcfWXYbbYghŁ'ØVf][ž'XU'X]Y a Y]ghYb'5fhYZU_hY'\Yi hY']a '6f]h]g\'A i gYi a ']b'@cbXcb Ui ZVYk U\fh'k YfXYb"'8Yf'i fgdfØb[`]WXY'GhUbXcfh']gh'YXcWX]a a Yf'bcWX'Y]bYb'6Ygi WX'k Yfhž'Ui WX'k Ybb'G]Y'g]WX'bi f'X]Y Ghfi _hi f']b']\fYf'ZfØ\YfYb'DfUWXh'j cfghY``Yb'a ÒWXhYb"

K Y]hYfY'GY\Ybgk ØfX][_Y]hYb']b'XYf'BÀ\Y'g]bX'XUg'< Ui g'XYf \$\darkappa b[\textit{ZfUi 'A Uf}]U\dot{ZfUi 'A Uf}U\dot{ZfUi 'A Uf}U\dot{ZfUi

%" 6Y]VYbG]Yb]WAh]aGhUXhnYbhfia

K]f`\UVYb`i bg`YbhgW\]YXYbž'b]W\h`]a ``GhUXhnYbhfi a `j cb``GY`\Ai _ ni ``ØVYfbUW\hYbž'gcbXYfb`i bg`Z@f`Y]b`fi \][Yg`<chY``bUa Ybg`5_Um YbhgW\]YXYbž'XUg`bi f`k Yb][Y`; Y\a]bi hYb`XYb`<@[Y``\]bUi Z Ui »Yf\U`V`XYf`GhUXh``]Y[h"`8]Y`; Y[YbX`k Uf`b]W\h`bi f`fi \][Yf`i bX fi \][Yf`U`g`XUg`hci f]gh]gW\Y`fi bX``Y]W\h`_]hgW\][YŁ'GhUXhnYbhfi a ž gcbXYfb`VYXYi hYhY`Ui W\ž'XUgg`k]f`bi f`k Yb][Y`5i [YbV`]W_Y`j cb XYb`UbXYfYb`GY\Ybgk @fX][_Y]hYb`fi bX`i a `GY`\Ai _`YbhZYfbh k UfYb"

'U`h1 VYgi WX!Yd\Ygi g!]a !Ufh]_Y`` '& 25h`Ug'/ '6cchg'8]Y'5i gg]W\h j cb'i bgYfYa '<chY`'Ui »Yf\U`V'XYf'GhUXh 8 UgʻVYfY]hgʻYfk À\bhYʻGW\`cggʻ5mUgc`i _ž'X]Yʻ&\UbbYgVUg]`]_Uʻi bX X]Yʻ=gU!6Ym!A cgW\YYʻg]bX`U``Yʻbi fʻk Yb][Yʻ; Y\a]bi hYbʻj ca '<chY` YbhZYfbh"ʻ9gʻ[]VhʻY]b][YʻFYghUi fUbhgʻ]bʻXYfʻl a[YVi b[ʻi bX`X]Y <Ui dhghUXhʻ]ghʻbi fʻ%\$ʻ; Y\a]bi hYbʻYbhZYfbh"

6Ygi WX ']b '9d \ Ygi g. 'XUg'K YgYbh`]WXY

K Ug. 6 Ygi W\ 1]b 9 d\Ygi g 1]b 1 Hi f_Ym 1

K c. 'K]f'YbhgW\]YXYb'i bg'ZØf'XUg'5_Um'<chY`ž'XUg'dYfZY_h'[Y`Y[Yb]ghž'i a '9d\Ygi g'gck]Y'X]Y'UbXYfYb'GY\Ybgk ØfX][_Y]hYb'fi bX'i a GY`Ãi_'ni 'VYgi W\Yb"'9g'`]Y[h']b'XYf'BÀ\Y'XYf'6i f['5mUgc`i_ž'XYf &\UbbYgVUg]`]_U'i bX'XYf'=gU!6Ym!A cgW\YY'i bX'bi f'%\$; Y\a]bi hYb'j ca 'GhUXhnYbhfi a 'i bX'XYa '6U\b\cZ'YbhZYfbh"

 $8 \ Ug' < chY `'j \ YfZØ[h'ØVYf'Y]bYb'Y]b`UXYbXYb'Gk]a a \]b[dcc`ž'Y]bY _`Y]bY'6Uf'a \]h'_U`hYb'; \ YhfÀb_Ybž'GbUW_g'i bX'6]Yf'i bX'gc[Uf'Y]b DUUf'GW\]`X_fÒhYbž'X]Y'Xi fW\'XYb'; UfhYb'ghfY]ZYb''8Yf'Y][Ybh`]W\Y 5bn]Y\i b[gdi b_h']gh'YXcW\'XYf'k Y]hY'6`]W_'Ui Z'X]Y'i a `]Y[YbXY GhUXh'i bX'@UbXgW\UZh''8 Ug': fØ\ghØW_'k]fX'Ui <math>\ Yf\ U`V' = \ fYg$ N]a a Yfg'a]h'6`]W_'Ui Z'X]Y'5i gg]W\h'gYfj]Yfhž'ZfU[Yb'G]Y'U`gc'bUW\Y]bYa'N]a a Yf']a 'C VYf[YgW\cgg''

8 UgʻDYfgcbU``\Uhʻbi fʻVY[fYbnhYʻ9b[`]gWX_Ybbhb]ggYž'k]fXʻg]WX UVYfʻgY\fʻVYa Ø\Ybž'\bYbʻVY]'U``Ya ž'k UgʻG]YʻVfUi WXYbž'ni \Y`ZYb"' Ø_fUb`\UhhYʻY]b`K ÒfhYfVi WX`]b`XYf`BÀ\Yʻi bX`gWXf]YV ZY]»][`GÀhnY`Ui Zž'i a `g]WXYfni ghY``Ybž'XUggʻk]fʻi bgʻf]WXh][j YfqhUbXYb"

- 'U`h1 2

- 'U`h1 2
- 'U`h1 2
- 'U`h1 2

 $K \ Ubb. \ "8] Y \ "VYghY \ "FY] gYnY] h \ "ZØf" 9d \ Ygi g"] gh \ XYf": fØ \ "]b[\ "fA \ Afn" V] g A] hh Y \ "$\ b] k Z k Ybb \ "XUg" K Yhh Yf" [Ya \ A \ "][h "i b X "X] Y \ "HU[Y \ "Ub[\ "g] b X " 6 Y U W h Y b \ "G] Y Z \ "XUgg \ "Yg "j c f "U \ "Ya \ "]a \ "5 d f] \ "Y] b \ "c XYf "nk Y] \ "HU[Y fY[b Y b \ "_Ubb \ "5 i W "k Ybb \ "Yg "a] \ "XYf "U \ "g']a \ "Gca a Yf" \ [gh Z i bh Yfg W \ Ahn Y b \ "G] Y \ "X] Y \ "Gcbb Y \ "b] W h \ "8 Yf \ "Gca a Yf "k] f X \ "XYZ] b] h] j \ \ Y] \ "i b X "k U \ fg W X Y] b \ "] W \ "Ø V Y f ZØ \ "h "g Y] b Z "k \ A \ fY b X "XYf "K] b h Yf \ "_U` h i b X "fY[b Yf] g W "g Y] b \ "_Ubb \"$

K]Y. BY\a Yb G]Y Y]b HUI]'j cb \Rightarrow fYa '< chY`ni 'Y]bYa 'XYf 9]b[Ub[ghcfY" 8 Ug cVYfY 'Hcf 'gc``hY 'b]W\h'a Y\f 'U`g '&\$ 'H@fl+ 'I G8 Ł i bX 'XUg'i bhYfY 'Hcf'%) 'H@f]) 'I G8 Ł'_cghYb" '8]Y '9]bhf]hhg[YVØ\f'ZØf 9d\Ygi g 'gY`Vgh'VYhfÀ[h'(\$ 'H@fl%('I G8 Łž'k cVY]'XYf'9]bhf]hh'ni 'XYb FY]\Yb\Ài gYfb '&\$ 'H@fl+ 'I G8 Ł'_cghYh"

K Ybb'G]Y'XUg'GW\`cgg'5mUgc`i _'i bX'X]Y'6Ug]`]_U'Gh'' \approx \b VYgi W\Yb'a ÒW\hYb'fi bX'XUg'gc``hYb'G]Y'k]f_`]W\'hi b½'_cghYh'XYf 9]bhf]hh'%\$'H@'fl \not ') 'I G8 \pm 'i bX'Vf]b[h'G]Y'ni 'VY]XYb GY\Ybgk ØfX][_Y]hYb"

K]f`g]bX`Ub[Y_ca a Yb`Hi f_Ym`Ua `]bhYfbUh]cbU`Yb`: `i [\UZYb5hUhØf_`]b`=ghUbVi ``i bX`j YfVfUW\hY`Y]b][Y`HU[Y`]b`=ghUbVi `ž'VYj cfYg`bUW\`GY`Ãi _`k Y]hYf[]b["'K]f`bU\a Yb`Y]bYb`=b`UbXgZi [`bUW\=na]f`f%`Ghi bXYŁ`i bX`gh]Y[Yb`XUbb`]b`Y]bYb`Ni [`bUW\`GY`Ãi _`f%Ghi bXY'&\$`A]bi hYbŁ"

8 Yf:: `i [\UZYb']gh']bhYfbUh]cbU``i bX'\Uh'ØVYfU```JYfV]bXi b[Yb'ni Y]bYf'FY]\Y'j cb'\\\`UbXgn]Y`Yb'Hi f_Ym"'6i W\Yb'G]Y'ØVYf G mgWUbbYf'ni 'XYb'VYghYb'DfY]gYb"

8]Y`NØ[Y`Yfk]YgYb`g]W\`U`g`gY\f`nijYf`Àgg][`ibX`Y]bZUW\`ni VYX]YbYb"'KY]hYfY`\DZcfaUh]cbYb`ibX`6iW\ib[gaÒ[`]W_Y]hYb Z]bXYb`G]Y`UiZ`XYf`KYVg]hY`XYf`HØf_]gW\Yb`GhUUhgVU\b"`K]f bihnhYb`UiW\`XYb`Ni[ž`ia`bUW\`8Yb]n`]`kY]hYfniZU\fYbž`ia DUai__U`Y`ni`VYgiW\Yb" 9]bgUa Yf'D`UbYh'Hi f_Ym']gh'Y]b'i a ZUggYbXYf'FY]gYZØ\fYf'ZØf'XUg @UbXž']XYU`'ZØf'X]Y'Yb][Ybž'X]Y'gckc\`'X]Y'k]W\h][ghYbGY\Ybgk ØfX][_Y]hYb'Yf_i bXYb'U`g'Ui W\'kYb][Yf'VYZU\fYbYGhfU»Yb'bY\a Yb'a ÒW\hYb"

@Y]hV]`X.`5h`Ug'/ '6cchg

8 Y hU]`c

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