

GWk]a a Yb i bX '? `]ddYbgdf]b[Yb 'Ua A UY 'GU] 'K UggYfZU``ž'7\]Ub['F U]

A UY 'GU] 'K UggYfZU```7\]Ub['FU] ']gh'Y]b 'K UggYfZU```a]h'nk Y]
9VYbYbžXYf'Yhk UgʻUVgY]hgʻXYf'fY[i `ÀfYb 'nk Y]hÀ[][Yb
Hci f]ghYbfci hY j cb '7\]Ub['FU]``]Y[h" '8]YgYf'K UggYfZU```]gh
dYfZY_h'ni a 'GWk k]a a Ybž'5V_Ø\`Yb'i bX'gc[Uf'ZØf'Y]bYb
\Y]a `]WkYb'?`]ddYbgdfi b["'K c']gh'A UY 'GU] 'K UggYfZU```8Yf
K UggYfZU```A UY 'GU] 'VYZ]bXYh'g]Wk']b 'A UY 'MUcž'7\]Ub['FU]"
I a 'a]h'XYa 'A chcffUX'\]Yf\Yf'ni '[Y`Ub[Ybž'g]bX'Yg
i b[YZÀ\f'') 'A]bi hYb'j cb XYf'GhUXh'YbhZYfbh" 8Yf'K UggYfZU``
gY`Vgh'VYZ]bXYh'g]Wk 'Ui Z'Y]bYa '_`Y]bYb'DZUXž'XYf'j cb 'Y]bYa
[fc»Yb'DUf_d`Uhn'ZØ\fhž'XYf'gY\f'gWkk Yf'ni 'ØVYfgY\Yb']gh"
51: 89F'GI 7<9'B57<'K 9\H9F9'K 5GG9F: Y`@@9B'\B'89F
BY<9'JCB'7<\5B; 'F5=/ Ua d\Y``]d/

A UY'GU]'K UggYfZU``'7\]Ub['FU]']gh'Y]b'K UggYfZU``'a]h'nk Y]
9VYbYbž'XYf'Yhk Ug'UVgY]hg'XYf'fY[i `ÀfYb'nk Y]hÀ[][Yb
Hci f]ghYbfci hY'j cb'7\]Ub['FU]'`]Y[h"'8]YgYf'K UggYfZU``']gh'dYfZY_h
ni a 'GWkk]a a Ybž'5V_Ø\`Yb'i bX'gc[Uf'ZØf'Y]bYb'\Y]a `]W\Yb
?`]ddYbgdfi b["

K c]gh A UY GU] K UggYfZU```

8 Y f 'K UggY f ZU```A UY 'GU]'VY Z]b XY h 'g]WX ']b 'A UY 'MUc ž '7 \]Ub['F U]"' I a a]h 'XYa 'A chcffUX'\]Y f \Y f 'ni '[Y`Ub[Yb ž 'g]b X 'Yg'i b[Y ZÀ\f'') A]bi h Yb 'j cb 'XY f 'GhUXh 'YbhZY f bh"

8 Y f 'K UggY f ZU```gY`Vgh'VYZ]bXYh`g]W\`Ui Z`Y]bYa '_`Y]bYb 'DZUXž'XYf j cb'Y]bYa '[fc»Yb'DUf_d`Uhn'ZØ\fhž'XYf`gY\f`gW\k Yf`ni 'ØVYfgY\Yb]gh"

K]Y _ca a Y]WX \]Yf \]b

Gck Y]h']W\'k Y]» ž'[]Vh'Yg'_Y]bY'fY[Y`a À»][Yb'FY]gYVi ggY'cXYf; fi ddYbž'X]Y'X]YgYb'K UggYfZU``'VYgi W\Yb"'8 Ug'VYXYi hYhž'XUgg G]Yž'k Ybb'G]Y'Yg'gY\Yb'a ÒW\hYbž'Y]b'A chcffUX'a]YhYb'i bX'gY`Vgh ZU\fYb'a ØggYb"

A chcffUXa]YhdfY]g`]b`7\]Ub[`FU].`%) $$`!&$$`6U\h`dfc`HU["`K YbbG]Y`]a `; fUWY`< cghY``ØVYfbUW\hYbž'_Ubb`XYf`6Yg]hnYf`Y]b`A chcffUX ZØf`G]Y`UffUb[]YfYb"$

 $8]Y : U \land fh \land i \ a \land UY \land GU] \land UggY f ZU ```] gh ``Ub XgW \land UZh `]W \land gY \land f \land fY] nj \ c ``i \ b X \land ZØ \land fh `Ui \ Z \land XY a \land K \ Y [\ `Ub \land a \ Y \land fY f Y b `HYY d `Ub hU [\ Y b z \in F Y] g ZY `XY f b i \ b X \land gUb ZhY b `< Ø [Y `b 'j \ c f V Y] " \ 8]Y ``Ghf U \ Y b `]b `i \ b X `i \ a ` 7 \]Ub [`F U] g]b X ``Ui \ W ``gY \ f `[i \ hz `k \ Ug `VY XY i \ hY hz `X Ugg ``G]Y `_Y]b Y `[f c \ Y b \ Df c V `Ya \ Y `\ UV Y b ``gc ``hY b z `Yg `ni `Z]b X Y b "$

 $K Ybb G]Y cVYb Ub XYf GhY W_bUXY Ub[Y_ca a Yb g]bX \check{z} dUf_Yb G]Y \\ = \{f: U fUX i bX Zc [Yb G]Y XYa K Y[Ub XYf Hci f]ghYb \emptyset hhY \\ j cfVY]Yhk U') A]bi hYb Ub[\check{z} V]g G]Y X]Y i bhYfghY 9VYbY \\ YffY]WXYb"$

 $: \varnothing f`X]Y`cVYfghY`9VYbY`_ObbYb`G]Y`Y]b`dUUf`GWXf]hhY`ni f \varnothing W_[Y\YbibX`XYb`YfghYb`ghY]`Yb`: Y`XkY[`bY\aYbž`XYf`bUWX`cVYb`Z\Dim\BUWX`kYb][Yf`U`g`)`A]bi hYb`YffY]WXYb`G]Y`X]Y`nkY]hY`9VYbY"U`h1 AUY`MUc`7\]Ub[`FU] 2$

A UY'GU]'K UggYfZU``'9]bhf]hhg[YVØ\f

8 Yf'A UY'GU]'K UggYfZU```]gh'j Ò``]['_cghYb`cg°'G]Y'a ØggYb'b]W\h VYnU\`Ybž'i a 'X]YgYb'K UggYfZU```]b'7\]Ub['FU]'ni 'VYgi W\Yb" U`h1 A 5 9!G5 \ K 5 GG9F: 5 @@ 2

K Ug'G]Y'Ua 'A UY'GU]'K UggYfZU``'7\]Ub['FU] Yfk UfhYh

8]Y'i bhYfghY'9VYbY'XYg'A UY'GU]'K UggYfZU``g']gh'Y]bY'_`Y]bY'_`Y]bY CUgY']a '8gWXi b[Y`'a]h'Y]bYa 'Yhk U'%\$'A YhYf'h]YZYb'K UggYfZU``ž XYf']b'Y]bYb'ØVYf'&ž) 'a 'h]YZYbž'UVYf'gWXa U`Yb'Dcc``a ØbXYh"

8 Yf'K UggYfZU``dcc`']gh'n]Ya `]W\'h]YZ'i bX'`Y]W\h'[Ybi [ž'i a 'XUf]b ni 'gW\k]a a Yb"

 $8]Y `nk Y]hY `K UggYfZU``YVYbY `]gh'Yhk Ug`[fÒ» Yf" `8]YgY `9VYbY `nY][h YXc W. `Y\Yf `Y]bYb `_Ug_UX]YfYbXYb `K UggYfZU``ž XYf `X]Y nYf_`ØZhYhYb `: Y`gYb `\]bi bhYf `]b `Y]b `UbXYfYg `GWk]a a VYW_Yb Z]Y » h"$

U`h1 969B9'NK 9=K 5GG9F: \mathbb{G} @9'A 59'G5=B'7<=5B; 'F5=2AUY GU]'K UggYfZU``'Ghi ZY'&

K UggYfZU``!? `]ddYbgdfi b[

BUWXXYa ']W\'X]Y'K UggYfh]YZY'[YhYghYh'\UhhY'fl]a a Yf'bchk YbX][ŁźYbhgW\]YX']W\Z'XUgg'Yg'h]YZ'[Ybi ['k Ufž'i a 'Y]bYb'?`]ddYbgdfi b[Ua 'i bhYfghYb'K UggYfZU``'ni 'j Yfgi W\Yb"

8 Yf 'Gdfi b[']gh'bi f'Yhk U'* 'A YhYf'\cW\ž'UVYf'Yhk Ug \YfUi gZcfXYfbXž'XU'G]Y'[YbUi ']b'XYf'A]hhY'XYg'6YW_Ybg'`UbXYb a ØggYbž'k c'XUg'K UggYf'Ua 'h]YZghYb']gh"

, 69FB57<HIB; '=B'7<=5B; 'F5=

 $A Y]bY'I bhYf_i bZh']b'7 \\ \\]Ub['A U].'; fUWY' < cghY`; fUWY' < cghY`'k Uf$

hUhgÀW\`]W\`Y]bYg`a Y]bYf`@]YV`]b[g\cghY`g`]b`BcfXh\U]`UbX"'8Ug_cghYb`cgY': fØ\ghØW_`]gh`[fc»Ufh]["'CVkc\``Yg`YhkUg`Ui»Yf\U`VXYg`GhUXhnYbhfiag``]Y[hž`_Ubb`XYf`ZfYibX`]W\Y`6Yg]hnYf`G]Y_cghYb`cg`ni XYb`AÀf_hYb`cXYf`nia 6igVU\b\cZ`ZU\fYb"

<cWX 'VYk YfhYhYg'; ÀghY\Ui g. 'Gi UbHi b['; i Ygh'< ci gY'8]Yg']gh
Y]bYg'XYf'VYghVYk YfhYhYb'6i X[Yh!; ÀghY\Ài gYf']b'7\]Ub['FU]"'9g
]gh'gi dYf'nYbhfU`ž'bi f'k Yb][Y'; Y\a]bi hYb'j ca 'BUW\ha Uf_h'i bX
XYa 'I\fhi fa 'i bX'XYf'6i g\U`hYghY``Y'YbhZYfbh"</pre>

; Øbgh][ghYf'GWX`UZgUU``]b`7\]Ub['FU].'6Uf'%, ('DUfhm'<cghY`6Uf
%, ('\Uh'GWX`UZgÀ`Y'ZØf'i bhYf'`) 'dfc'BUWXhž'k Ug'XYf'V]``][ghY']ghž
XYb'G]Y']b'7\]Ub['FU]'Z]bXYb'k YfXYb"'K Yf'DUfhmgh]a a i b['ni
Y]bYa'[Øbgh][Yb'DfY]g'gi WXhž']gh'\]Yf'[YbUi 'f]WXh]["'8]YgY'¾ b[g
cf[Ub]g]YfYb'Ui WX'A chcffÀXYfž'k Ybb'G]Y'a ÒWXhYbž'XUgg'G]Y'a]h
Y]bYa'ni a 'A UY'GU]'K UggYfZU```ZU\fYb"</pre>

#W. 'j Yf[`Y]Wk Y ']a a Yf 'I bhYf_Øb ZhY 'nk]gWk Yb '< cghY`k cf`Xž
6cc_]b["Wca 'i bX'5[cXU" 'Nk]gWk Yb 'X]YgYb 'XfY] 'Yf\U`hYb 'G]Y
]a a Yf'XYb '[Øbgh][ghYb 'DfY]g'i bX'X]Y 'VYghYb '5b[YVchY"' #Wk 'Z]bXYž
XUgg'6cc_]b["Wca 'ZØf'H\U]`UbX'bcfa U`Yfk Y]gY'X]Y 'VYghYb
5b[YVchY'\Uh"</pre>

K UggYfZU``!HU[YgUi gZ`i ['j cb'7\]Ub['FU]'

K Ybb'G]Y'bUWX'Y]bYa '[UbnhÀ[][Yb'K UggYfZU``!5VYbhYi Yf']b
7\]Ub['FU]'gi WXYbž'_ObbYb'G]Y'XYf'Fci hY'Zc`[Ybž'X]Y'k]f
[Ybca a Yb'\UVYb"'K]f'VY[UbbYb'XYb'HU['Ua 'A UY'GU]
K UggYfZU``ž'_ØfnhYb'XUbb'UV'i bX'Zi\fYb'ni a 'nk Y]hYb'K UggYfZU``/
<i Um'?UYk ž'[YZc`[h'j cb'Y]bYa '<U`h'Ub'XYb'bU\Y'[Y`Y[YbYb\Y]»Yb'EiY``Yb"

- 'U`h1 a UY'gU]'k UggYfZU``'YVYbY'nk Y] 2 A UY'GU]
- 'U`h1 <5| DH969B9'5A '<| 5M?59K 'K 5GG9F:5@@'\B\ 7<\\=5B; 'F5=2<\Ui\dh\Y\Y\b\Y\'Ua '<|\Um'?\U\k\'K\\Ugg\Y\f\Z\U`\`

'U`h1 GWk]a a Yb'i bX'?`]ddYbgdf]b[Yb'Ua 'A UY'GU]'K UggYfZU``ž 7\]Ub['FU] 2

п

8 YhU]`q

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'Y]bY!fY]gY "XY