

G_UbXU``]a `GUUfdZU`n!?fY]g.`: U\f[ÀghY _`U[Yb`ØVYf`6i g!7\Ucg°

: $U\f[\AghY^]a\GUUfdZU^n!?fY]g'_f]h]g]YfYb'i bni j Yf^Agg][Y 6i gj YfV]bXi b[Yb'i bX'DØb_h`]WX_Y]h'Ua '&'': YVfi Uf'&$&) "$

 $= \text{GUUfd} \text{ZU} `n!? fY] g` \& \text{i} \text{ZYb} `g] \text{W} `X] Y `6 Y g \text{W} & Y f \text{XYb} `Ø V Y f` X] Y \\ \text{Nij Yf} `Agg][_Y] h` i b X `DØ b_h`] \text{W}_Y] h` X Y f` 6 i gj Y f V] b X i b [Yb " K] Y` \\ \text{GUUfV} f @ \text{W}_Y f` N Y] hi b [`V Y f] \text{W} h Y h z` Y f` Y V Y b : U \ f[AghY `f Y[Y` f Y W h Y D f c V` Y a Y z` X] Y `X U g` U``h A[`] W Y `D Y b X Y` b `Y f \ Y V`] W `Y f g W k Y f Y b " 9] b Y `B i h n Y f] b` U i g`; Y f g \ Y] a `V Y f] W h Y h Y `j c b `j c f n Y] h] [Y b 5 V Z U \ f h Y b` X Y f` 6 i g g Y " \ \neq Y] b Y a `_c b_f Y h Y b` 6 Y] g d] Y` g Y] `Y] b` 6 i g g c [U f`[i h` n Y \ b` A] b i h Y b` n i `Z f Ø \` U V [Y Z U \ f Y b"$

8]Y'6YgWkYfXYb'[Y\Yb'kY]hYf.'9]bY'kY]hYfY'DYfgcb'Ài »YfhYž XUgg'_Y]b'6i g'a Y\f'dØb_h`]Wk'ZU\fY'i bX'hY]`kY]gY'gc[Uf'[Ubn Ui gZU``Y''': Øf'X]YgY': U\f[ÀghY'\Uh'XUg'YfbghY': c`[Yb'''9]b'UbXYfYf 6YhfcZZYbYf'[UV'Ubž'Ui Z[fi bX'\Ài Z][Yf'JYfgdÀhi b[Yb'gY]bY 5fVY]hgghY``Y'j Yf`cfYb'ni '\UVYb'''8Yf'8fi W_ž'g]Wk'Ui Z'U`hYfbUh]j Y JYf_Y\fga]hhY``ni 'j Yf`UggYbž'k]fX'XUXi fWk'j YfghÀf_hž'XUgg'j]Y`Y A YbgWkYb']b'BchZÀ``Yb'Ui Z'A]hZU\f[Y`Y[Yb\Y]hYb'Ub[Yk]YgYb g]bX''

$DØb_h^{\dagger}WA_Y]h^{\dagger}U^{\dagger}g^{\dagger}AcV]^{h}h^{h}gdfcV^{\dagger}Ya$

8]Y'H\Ya Uh]_'XYf'DØb_h`]W_Y]h']a 'ÒZZYbh`]W\Yb'BU\j Yf_Y\f']gh b]W\h'bi f'`c_U`'fY`Yj Ubh''9]bY'5bU`mgY'XYg'5857'j YfXYi h`]W\hž XUgg'I bdØb_h`]W_Y]h'cZh'U`g'<Ui dh[fi bX'[YbUbbh'k]fXž'k Ufi a A YbgW\Yb'j YfghÀf_h'Ui Z'XUg'5i hc'i a ghY][Yb'''\dangle '8Yi hgW\`UbX k]fX'DØb_h`]W_Y]h'j cb'XYf'8Yi hgW\Yb'6U\b'f86Ł'XYZ]b]Yfhž']bXYa Y]bY'J YfgdÀhi b['j cb'V]g'ni 'gYW\g'A]bi hYb'U`g'dØb_h`]W\'[]`h'' 5i gZÀ``Y'k YfXYb'b]W\h']b'X]YgY'DØb_h`]W_Y]hgghUh]gh]_Yb

Y]bVYnc[Ybžk Ug'X]Y'K YfhY'_Øbgh`]WX'\cWX'YfgWXY]bYb'`Àggh"8Yf 5857'\Uh'XU\Yf'ghfYb[YfY'A U»ghÀVY'Y]b[YgYhnh'i bX'ZcfXYfhž XUgg'Ui WX'5i gZÀ``Y'U`g'JYfgdÀhi b[Yb'[Yk YfhYh'k YfXYbž'i a fYU`]qh]qWXYfY'DØb_h`]WX_Y]hqei chYb'ni 'Yf\U`hYb"

 $\begin{tabular}{l} $\pm Y] bYf'' \%b[ghYb'5igk Yfhib['XYg'5857ž'X]Y'9WkhnY] hXUhYb'XYf'G! ibX'I!6U\bYb'] b'6Yf'] bž' < Ua Vif['ibX': fUb_Zifh'UbU`mg] YfhYž nY] WkbYhY'g] Wk'Y] b'_`UfYg'6] `X.' < Ua Vif['inÀ\`hY'a]h'--'DfcnYbh XYf'[Yd`UbhYb': U\fhYb'] a'GYdhYa VYf'&$&('ni'XYb nijYf`Agg] [ghYb'GhAXhYb''=a'; Y[YbgUhn'XUni'`U[Yb'X]YD Øb_h`] Wk_Y] hgeichYb'] b'GhAXhYb'k] Y'6Yf`] b'ibX': fUb_Zifh'XYih`] Wk\] bhYf'X] YgYf'NU\`'nif Ø W_ž'k c'bif'_bUdd'X] Y' < A`ZhY'XYf'I!6U\bYb nY] h[YfYWkh'Ub_caah''] \end{tabular} \]$

I bni j Yf`Agg][_Y]h'U`g'<]bXYfb]g'ZØf'XYb A cV]`]hAhgk UbXY`</pre>

 $8 \ Yf' 58 \ 57 \ g] Y \ h'X] Y g Y' I \ b d \varnothing b _h'] W X _ Y] h'U \ g'Y] b Y b Y f \ Y V \] W Y b Y b U b [Y g h f Y V h Y b 'A c V] `] h A h g k U b X Y `'j Y f`U b [g U a h'' : Y \ Y b X Y 'H f U b g d U f Y b n z' [Y f U X Y 'V Y] '9 W h n Y] h X U h Y b z' k] f X 'U `g k Y] h Y f Y g' D f c V `Y a 'Y f _U b b h'' 8 Y f 'J Y f _Y \ f g g Y _h c f 'V f U i W Y 'X f] b [Y b X \ \ b j Y g h] h] c b Y b '] b 'X] Y \ \ \ b Z f U g h f i _h i f' i b X 'Y] b Y 'F Y Z c f a '\] b g] W h h`] W X Y f '_c a a i b] n] Y f h Y b 'D Ø b _h`] W _ Y] h g k Y f h Y "' 8] Y g Y `\ \ b j Y g h] h] c b Y b g] b X 'b] W h' b i f 'Z Ø f 'X] Y '[f c » Y b 'G h A X h Y 'b c h k Y b X] [z' g c b X Y f b 'U i W 'Z Ø f X] Y `F Y [] c b Y b z' k] Y '] a 'G U U f d Z U `n!? f Y] g z' k c 'X] Y 'X Y f n Y] h] [Y b 6 Y X] b [i b [Y b 'X] Y 'A c V] `] h A h' X Y f '6 Ø f [Y f' [f U j] Y f Y b X V Y Y] b h f A W h] [Y b "$

Ni gUa a Yb ZUggYb X '`Àggh'g]W 'gU[Yb ž' XUgg' X]Y '< YfUi gZcfXYfi b[Yb]a '2 DB J 'gck c\``]b 'ghÀ Xh]gW Yb 'U'g'Ui W ']b '`Àb X ']W Yb '; YV]YhYb Xf]b[Yb X 'Ub[Y[Ub[Yb 'k YfXYb 'a ØggYb" 'J cf'U``Ya 'X]Y FØW_a Y`Xi b[Yb 'XYf': U\f[ÀghY']a 'GUUfd ZU`n!? fY]g'g]b X 'Y]b XYi h`]W Yf' <]bk Y]g' XUfUi Zž' XUgg' < Ub X`i b[gVY XUfZ' VYghY\hž'i a X]Y 'G]hi Uh]c b 'ZØf' X]Y 'DYb X`Yf'b UW \U`h]['ni 'j YfV YggYfb" '8]Y : cf XYfi b[Yb 'XYg' 58 57 'b UW 'V YggYfYb 'GhUh]gh]_Yb ž'a Y\f \Dygh]h]cb Yb 'i b X'Y]b Ya 'I a XYb_Yb ']a 'I a [Ub['a]h' XYb I bg]W XYf\Y]hYb 'XYg' B U\j Yf_Y\fg'g]b X 'b chk Yb X][Y'GW f]hhY']b 'X]Y f]W hi b["

8 YhU]`g	
EiY``Yb	k k k "gUUfVfi YW_Yf!nY]hi b["XY
	• j]g]cb!a cV]`]hm"XY

$6\,Y\,gi\ WX\,Y\,b\,{}^*G\,]Y\,{}^*i\ b\,g\,{}^*Ui\ Z.\,{}^*b\,!\,U[\ "X\,Y$