

: fUb_Zi fh. ') +!≯À\f][Yf'bUWX 'Vfi hU`Ya A YggYfUb[f]ZZ'ZYgh[Ybca a Yb°

) +! $^{\dot{A}}$ \ f][Yf $^{\dot{A}}$ Ubb $^{\dot{C}}$]b $^{\dot{C}}$: fUb_Zi fh $^{\dot{C}}$ fh $^{\dot{C}}$ Yfgi W hYb $^{\dot{C}}$ HchgW $^{\dot{C}}$ U[g ZYgh[Ybca a Yb $^{\dot{C}}$ GhfY]h $^{\dot{C}}$ a $^{\dot{C}}$ | Yb $^{\dot{C}}$ XUWX $^{\dot{C}}$ c V XUWX $^{\dot{C}}$ C $^{\dot{C}}$ C $^{\dot{C}}$ C $^{\dot{C}}$ Yb $^{\dot{C}}$ C $^$

8 UW Ui ž8 Yi hgW `Ub X !! \Rightarrow : fUb_Zi fh'k i fXY Y]b') +! 'À\f][Yf A Ub b' Ui Z[fi b X XYg Xf]b [Yb XYb J YfXUW hg' Ui Zj Yfgi W hYb Hc hgW `U['ZYgh[Yb ca a Yb" 8 Yf' HUhj YfX A W h][Y'gc ``'9b XY '\$Ub i Uf Y]b Yb') \$! 'À\f][Yb' k c\bi b[g`cg Yb' A Ub b' a]h'Y]b Ya 'A Ygg Yf gW k Yf'j Yf' Yhnh `UVYb" 8 Yf' J cf ZU ``'YfY][b YhY'g]W '`Yhnh Yb A]hhk cW UVYb X ž' U`g' Y]b' GhfY]h nk]gW Yb' XYb' VY]XYb' A Abb Yfb Yg_U`]YfhY" 8 Ug' Cd ZYf'[Y`Ub['Ygž' b UW 'XYa '5b[f]ZZ'ni 'Z]Y\Yb ž i b X'Yg' k i fXY' Ubg W `]Y » Yb X']bg'? fUb_Yb\Ui g'Y]b[Y`]YZYfh" 8]Y YfghY: U\b Xi b['b UW XYa '5b[fY]ZYf'V`]YV'ni b AW gh'c\b Y'9fZc`[ž XYb b c W '_cbb hY'X]Y Dc`]nY] 'Ua 'X Uf Ui ZZc`[Yb XYb' GcbbhU['XYb HUhj YfX AW h][Yb' ZYghb Y\a Yb" 8]YgYf'k i fXY'i a [Y\Yb X'XYa < UZhf]W hYf'j cf[YZØ\fh'i b X'VYZ]b XYh'g]W 'bi b']b' < UZh''

DUfU``Y`XUni `[UV Yg`Y]bYb`À\b`]W\Yb'J cfZU``]b'8 UW\Ui ž
CVYfVUmYfbžk c'Y]b'(\$!^A\f][Yf'A Ubb']b'Y]bYf
CVXUW\`cgYbi bhYf_i bZh'Y]bYb'&(!^A\f][Yb'A Ubb'a]h'a Y\fYfYb
A YggYfgh]W\Yb'j Yf'YmhY"'5i W\\]Yf'_Ua 'Yg'ni 'Y]bYa 'GhfY]h
nk]gW\Yb'XYb'A ÀbbYfb"'8]Y'Dc`]nY]'k i fXY'Ua 'GcbbhU['U`Ufa]Yfhž
i bX'XYf'&(!;A\f][Y'k i fXY'a]hYf\YV`]W\Yb'J Yf'Yhni b[Yb']b'Y]bY
?']b]_'[YVfUW\hž'VYZ]bXYh'g]W\'YXcW\'Ui Z'XYa 'K Y['XYf
6YggYfi b["'8Yf'J YfXÀW\h][Yž'XYf'g]W\'ni a 'NY]hdi b_h'XYg'J cfZU``g
]b'Y]bYa 'ghUf_'U`_c\c`]g]YfhYb'Ni ghUbX'VYZUbXž'_cbbhY'ZUgh'nk Y]
Ghi bXYb'bUW\'XYa 'J cfZU```]b'XYf'BÀ\Y'XYg'HUhcfhg'[YZUggh
k YfXYb"'8]Y'9fa]hh'Yf'[Y\Yb'j cb'j Yfgi W\hYa 'HchgW\'U['gck]Y
[YZÀ\f`]W\Yf'? OfdYfj Yf`Yhni b['Ui gž'i bX'X]Y'HUhk UZZY'k i fXY

9]b VYgcf[b]gYffY[YbXYf HfYbX

 $6Y]XY'JcfZA``Y'kYfZYb'Y]b'GWX`U[`]WXh'UiZ'Y]b'kUWXgYbXYg \\ DfcV`Ya'XYf'; YkU`h_f]a']bU`]hAh']b'8YihgWX`UbXž'X]Y'`Uih'XYf \\ U_hiY``Yb'Dc`]nY]`]WXYb'?f]a']bU`ghUh]gh]_'&$&'Y]bYb \\ VYgcf[b]gYffY[YbXYb'5bgh]Y['jYfnY]WXbYh''8]Y'YfZUgghYb \\ GhfUZhUhYb'g]bX']a'jYf[Ub[YbYb'*J\f'ia')ž)'DfcnYbh'[Ygh]Y[YbžkUg'X]Y'\OWXghY':U``nU\``gY]h'&$%'XUfghY``h''6YgcbXYfg'UiZZA```][]gh'XYf'5bgh]Y[']b'XYf';YkU`h_f]a']bU`]hAhž'X]Y'a']h'&%('"$--':A``YbY]bYb'5bgh]Y['ia', ž*'DfcnYbh']a'JYf[`Y]WX'nia'Jcf'U\f'YffY]WXh\Uh''$

8]Y'6Yf]WXhY'nY][Ybž'XUgg'%-\$"*\$) 'HUhj YfXÀWXh][Y']a '6YfY]WX; Yk U`h_f]a]bU`]hÀh'Yfa]hhY`h'k i fXYbž'i bX'Ui WX'X]Y'NU\`'XYf hUhj YfXÀWXh][Yb'?]bXYf'i bX'¾[YbX`]WXYb'\Uh'ni [Ybca a Yb"'9]b 8f]hhY`'XYf'HUhj YfXÀWXh][Yb'k UfYb'b]WXhXYi hgWXY'GhUUhgVØf[Yfž k Ug'X]Y'8]g_i gg]cb'ØVYf'Ni k UbXYfi b['i bX'♣hY[fUh]cb'ni gÀhn`]WX Ub\Y]nh"

±0.5 b V Y h f U W N h X] Y g Y f : U_h Y b i b X : X Y f 'Ø b [gh Y b ' J c f Z À ``Y ' V `Y] V h n i \ c ZZ Y b ž 'X U g g 'X] Y 'n i gh À b X] [Y b '6 Y \ Ò f X Y b ' X] Y g Y '9 b h k] W_`i b [Y b Y f b g h 'b Y \ a Y b ' i b X 'Y b h g d f Y W X Y b X Y 'A U » b U \ a Y b 'Y f [f Y] Z Y b ž i a 'X] Y g] W X Y f \ Y] h g f Y `Y j U b h Y `G] h i U h] c b 'n i ' j Y f V Y g g Y f b " 8] Y 'X U f i b h Y f Y] X Y b X Y b '5 b [Y \ Ò f] [Y b 'X Y f ' C d Z Y f ' i b X 'X] Y '; Y g Y ``g W U Z h] b g [Y g U a h ' k U f h Y b ' U i Z '@Ò g i b [Y b ' i b X 'Y] b Y 'V Y g g Y f Y 'D f À j Y b h] c b "

 $: \emptyset f'k Y]hYfZ\emptyset \land fYbXY' = bZcfa Uh]cbYb' \emptyset VYf'X]Y'JcfZÅ``Y']b': fUb_Zifh ibX'8 UWXUi'ghY \land Yb'Zc`[YbXY'@]b_g'nif'JYfZ\emptyset[ib[.'h!cb`]bY VYf]WXhYh'ibX'GhYfb' VYf]WXhYh''5i » YfXYa '`]YZYfh'XUg'6?5 XYhU]``]YfhY'GhUh]gh]_Yb'nif'?f]a]bU`]hÀh']b'8 YihgWX`UbX''$

8 Y hU]`g	
J c f ZU``	HchgWX`U[ž'?ÒfdYfjYf`Yhnib[
I fgUW Y	GhfY]hž'5`_c\c`
Cfh	8UWXUiž8YihgWX`UbX
J Y f`Y hn hY	&
: YghbU\a Yb	&

8 Y hU]`g	
EiY``Yb	• k k k "h!cb`]bY"XY
	• k k k "ghYfb"XY
	• k k k "V_U"XY

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'b!U["X Y