

9fZU\fi b[Yb'Y]bYg': G>Yfg. '6UfUb'8Ya]f j YfnUi VYfh'NY``U!A Y\`]g°

6UfUb'8Ya]fž'%- ž'UVgc`j]Yfh'Y]b': G>]a'?]bXYf!'i bX i [YbXZfY]nY]hhfYZZ'NY``U!AY\`]g'i bX'gUa a Y`h'k Yfhj c``Y 9fZU\fi b[Yb"



NY``U!A Y\`]gž'8 Yi hgW\`UbX'!-a '< YfnYb'j cb'NY``U!A Y\`]g

VY[Y[bYb'k]f'Y]bYa 'Yb[U[]YfhYb'' b[Yb'A Ubbž'XYf'gY]bY

9fZU\fi b[Yb'i bX'=XYYb']b'Y]bYa ': fY]k]``][Yb'Gcn]U`Yb'*J\ffl G*\frac{1}{2}

j c```Ui g`YVh'''6UfUb'8 Ya]fž'%-'*J\fY'U'hž\Uh']a 'GYdhYa VYf'&\$&(
gY]b': G>]a '?]bXYf!'i bX'* [YbXZfY]nY]hhfYZZ'VY[cbbYb'''K]Y'X]Y'

]bGØXh\Øf]b[Yb'VYf]W\hYhž'`]Y[h'XYf'; fc*hY]``gY]bYg': G*g'VYfY]hg
\]bhYf']\a "'*\db'X]YgYf'NY]h'\Uh'6UfUb'j]Y'Y'i bYfk UfhYhY

9fZU\fi b[Yb'[Ya UW\hž'VYgcbXYfg'k A\fYbX'XYf'Jcfa]hhU[Yž'X]Y

Yf'g]W\'[Ubn'UbXYfg'j cf[YghY``h'\UhhY'''GhUhh']bhYbg]j Yf'5fVY]h'a]h

?]bXYfb'i bX'* [YbX`]W\Ybž'k]Y'Yf'Yg'g]W\'\AhhY'k ØbgW\Yb
_`ObbYbž'g]bX'X]YgY'Ghi bXYb'cZh'j cb'6YgdfYW\i b[Yb'i bX

6ØfcUfVY]h'[YdfA[hž'XU'X]Y'\Øb[YfYb'6Ygi W\Yf'ni 'X]YgYf'NY]h']b

XYf'GW\i 'Y'g]bX''

; YgY``gW\UZh`]W\Yg'9b[U[Ya Ybh'i bX dYfgÒb`]W\Y'9bhk]W_`i b[

9]b k]Wk h][Yf 5gdY_hž XYf]a :: G>j Yfa]hhY h k]fXž]gh X]Y : ÒfXYfi b['XYf 6] Xi b[gZÀ\][_Y]h i bX 'XYg VØf[YfgWk UZh]Wk Yb 9b[U[Ya Ybhg 8 Ug :: G>k]fX]b 'XYf FY[Y ``U `g K UfhYnY]h ZØf Y]b Ghi X]i a 'UbYf_Ubbh i bX '_Ubb 'U `g DfU_h]_i a '[Y `hYb " '9g V]YhYh Ui Wk 'X]Y A Ò[`]Wk _Y]hž k Yfhj c ``Y '9f ZU\ fi b[Yb 'ni 'gUa a Y `bž X]Y]b XYf Ni _i bZh j cb '[fc » Ya 'Bi hnYb 'gY]b '_ObbYb " '6UfUb '\ Uh 'g]Wk 'ZØf XUg :: G>YbhgWk]YXYbž bUWk XYa 'Yf X]Y 'nk Ò ZhY '? `UggY 'Ua ; ma bUg]i a 'Yf Zc `[fY]Wk 'UV[YgWk `cggYb '\ Uhž i bX 'Yfk À[hž 'gdÀhYf Gcn]U`UfVY]h c XYf 'Gdcfh ni 'ghi X]YfYb"

9]b dfU_h]gWX Yg $\lambda \$ f a]h < Yfn

6UfUb`]gh`ZYgh`YbhgW\`cggYbž`XUg`6YghY`Ui g`gY]bYf`NY]h`]a `?]bXYf!

i bX '\$ [Yb X ZfY]nY]hhfY ZZ'\YfUi gni \c`Yb"'9f'\Uh'Y]bYb'[i hYb 9]bXfi W_']a 'HYUa '\]bhYf`UggYb'i bX 'X]Y'C ZZYb\Y]hž'a]h'XYf'Yf'Ub X]Y'5i Z[UVYb'\YfUb[Y\hž'gcf[h'ZØf'Zf]gW\Yb'K]bX"'GY]bY @Y]XYbgW\UZh'ZØf'X]Y'5fVY]h'a]h'?]bXYfb'i bX '\$ [YbX`]W\Yb']gh gdØfVUfž'i bX'Yg']gh'c ZZYbg]W\h`]W\ž'XUgg'Yf'Y]b'[i hYg'< AbXW\Yb'ZØf X]Y'; YghU`hi b['j cb'5_h]j]hAhYb'\Uh"'GY]bY'dcg]h]j Y'9]bghY``i b[i bX'?fYUh]j]hAh'a UW\Yb']\b'ni 'Y]bYa'k Yfhj c``Yb'HY]`'XYg'HYUa g"

A]h'X]YgYf'9]bghY``i b['i bX'XYf'I bhYfghØhni b['gY]bYg'I a ZY`Xg k]fX'6UfUb'g]WXYf`]WX'b]WXh'bi f'X]Y'?]bXYf'i bX'¾ [YbX`]WXYb']a HfYZZ'VYfY]WXYfbž'gcbXYfb'Ui WX'Y]bY'gdUbbYbXY'dYfgÒb`]WXY FY]gY'Yf`YVYbž'X]Y'gY]bY'Ni _i bZh'a U» [YV`]WX'dfÀ[Yb'_ObbhY"

8 YhU]`g	
Cfh	NY``U!AY\`]gž'8Yi hgW\`UbX
Ei Y``Yb	k k k "]bgi YXh\i Yf]b[Yb"XY
	nY``U!a Y\`]g"XY
	k k k "'î [YbXZfY]k]``][YbX]YbghY"
	XY

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