

5 W hi b['5 V n c W_Y']a 'I f`Ui V. 'DY hYf';]YgY` k Ufbh'j cf'hYi fYb': U``Yb']b'GYci`*

HJ!FYdcfhYf'DYhYf';]YgY`'hYghYh'I f`Ui Vgn]Y`Y']b'GØX_cfYUž k Ufbh'j cf'ØVYfhYi YfhYb'FYghUi fUbhg'i bX'[]Vh'H]ddg'ZØf Hci f]ghYb"



GYci `z˙GØX_cfYU'! + XYf˙U_hi Y``Yb˙: c`[Y`XYf˙GYbXi b[

5Whi b['5VncW_Y` 'I f`Ui VgVYhfØ[Yfb˙Ui Z'XYf˙Gdi f 'hYghYh˙HJ!

FYdcfhYf˙DYhYf˙;]YgY``VY`]YVhY`I f`Ui Vgn]Y`Y" 8]Yga U``j YfgW\`À[h

Yg˙]\b˙bUW\ 'GØX_cfYUž˙k c`Yf˙]b`Y]bYa '_cfYUb]gW\Yb˙66E!

FYghUi fUbh'Y]bY`k U\f`]W\ 'gW\cW_]YfYbXY`FYW\bi b['j cb`ZUgh`%, \$

9i fc`dfÀgYbh]Yfh`VY_ca a h"\8]Y`9d]gcXY``Y[h`XYb`:]b[Yf˙]b`X]Y

K i bXY`hci f]gh]gW\Yf˙DfY]ghfY]VYfY]ž˙X]Y`Ui W\`]b`GØX_cfYU`b]W\h

i bØV`]W\`]gh"'@Ui h`A\Yf_i f`k]fX`;]YgY``gW\bY```]a 'FYghUi fUbh

Ub[YgdfcW\Yb˙i bX`ni a 'D`Uhn`[Y`Y]hYh"'CVk c\``X]Y`6YghY``i b[
i a [Y\YbX`VYUfVY]hYhi bX`XUgʻ9ggYbʻ]b`kYb][Yf˙U`gʻnkY]`A]bi hYb

gYfj]Yfhk]fXž˙cZZYbVUfhg]W\`Y]bY`ghfYgg][Y`5ha cgd\ÀfYž`X]Y

;]YgY``b]W\h'bi f`]a 'I a [Ub['a]h`XYa '9ggYbž'gcbXYfb`Ui W\`a]h

XYb`ØVYfhYi YfhYb`DfY]gYb`ni 'gW\UZZYb`a UW\h''

Bi fr&\$rA]bi hYbrbuW xYfr6YghY`i b[rk]fX xYfrH]gW a]h'Y]bYf i bYfk UfhYhr\c\YbrFYW\bi b[rVYXUW\hžrX]Y'Y]brni gÀhn`]W\Yg ; Yf]W\hzvYghY``hrk i fXY"8]Ygr`Ògh ; Yf]W\hzvYghY``hrk i fXY"8]Ygr`Ògh ;]YgY`grJ YfXUW\hzWYfrY]bY a Ò[`]W\Yr5VncW_YrUi gri bXrj YfghÀf_h X]Yr6YXYb_Ybrj]Y`YfrHci f]ghYbžrX]Yr]brØVYfZØ``hYbrGhUXh[YV]YhYb bUW\r9ggYbga Ò[`]W_Y]hYbrgi W\Yb"Ni fØW_r]brgY]bYfrI bhYf_i bZh VYgW\r]Y\r\rangle hr;]YgY`zrYgrUarb\r\rangle h\W\ghYbrhU[r]brY]bYarUbXYfYb FYghUi fUbhrni rj Yfgi W\Yb"8cfhrYf`YVhYfrY]brXi fW\kY[rdcg]h]j Yg 66E!9f`YVb]gri bXr`cVhX]YrA\r\rangle [`]W_Y]hzgy`Vghrni r[f]``Yb"

?cghYb i bX 9fZU\fi b[Yb]b GØX_cfYU

8]Y'DfY]gdc`]h]_']b'GØX_cfYU'ghY\h']a'; Y[YbgUhn'ni 'XYb 9fk Ufhi b[Yb'j]Y`Yf'Yi fcdÀ]gW\Yf'Hci f]ghYb"'BUW\'U_hi Y``Yb 5b[UVYb'j cb'K Y`h'DfY]gY'g]bX'X]Y'@YVYbga]hhY`dfY]gY']a 8i fW\gW\b]hh'i a'&\\$'DfcnYbh'hYi fYf'U`g']b'8Yi hgW\`UbXž'k À\fYbX X]Y'FYghUi fUbhfYW\bi b[']a'JYf[`Y]W\'()'DfcnYbh'[Øbgh][Yf Ui gZÀ``h"'HfchnXYa'_ObbYb': Y]Yf`]W_Y]hYb'i bX'5i g[UVYb'ZØf U``hÀ[`]W\Y'8]b[Yž'k]Y'XUg'5VYbXYggYbž'Yf\YV`]W\'j Uf]]YfYb"

IbhYf_ibZhghmd 8ifWXgWXb]hhg_cghYb 8ifWXgWXb]hhg_cghYb f9ifcŁ ff?FKŁ

9]b!GhYfbY! <chy`< th=""><th>((</th><th>+\$"&\$\$`?FK</th></chy`<>	((+\$"&\$\$`?FK
&!GhYfbY! <chy`< td=""><td>(+ .</td><td>+*" \$\$?FK</td></chy`<>	(+ .	+*" \$\$?FK
'!GhYfbY! <chy`< td=""><td>)) .</td><td>, , ", \$\$?FK</td></chy`<>)) .	, , ", \$\$?FK
(!GhYfbY! <chy`< td=""><td>+&`</td><td>%%) "\$\$\$[:]?FK</td></chy`<>	+&`	%%) "\$\$\$ [:] ?FK
)!GhYfbY! <chy`< td=""><td>%' , '</td><td>&&&"\$\$\$`?FK</td></chy`<>	%' , '	&&&"\$\$\$`?FK

 $: \emptyset f `Hci f] ghYb \check{z} `X] Y `X] Y `_cfYUb] gW Y `< Ui dhghUXh `GYci ``VYgi W Yb$

- $a \ \grave{O}W\ hY\ b\ \check{z}'Y\ a\ d\ Z]Y\ \char`h';\ \]Y\ gY\ \char`\check{z}' \ \varnothing V\ Y\ fZ \ \varnothing \char`hY' + b\ b\ Y\ b\ ghUX\ hV\ Y\ fY\]W\ Y'\ ni$
- a Y]XYb'i bX'ghUhhXYggYb']b'k Yb][Yf'VYgi W\hY'@U[Yb'ni 'gi W\Ybž

 $\label{thm:constraint} $$i$ a ``Ui h\Ybh]gW\Y'i bX'dfY]gj U`cf]g]YfhY'FYghUi fUbh!9fZU\fi b[Ybni 'gUa a Y`b"'Hfchn'XYf'dchYbn]Y``Yb'DfY]gUbca U`]Yb'V`Y]Vh $$GØX_cfYU'Y]b'ZUgn]b]YfYbXYg'FY]gYn]Y``a]h'_i `]bUf]gW\Yb $$<][\`][\hgž'X]Y'`Ui Z'YXYb': U```Y]bYb'JYfgi W\'k Yfh'g]bX''$

8 YhU]`g	
Cfh	GYci `ž'GØX_cfYU
EiY``Yb	• k k k "a Yf_i f"XY
	k k k "k Y`h!dfY]gY"XY

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