

7ci fgY⁻Cj Yfj]Yk

GHJZ7cbHJWh8YHJ]`g

7cbj Ybcfg

BUa Y	9a U]`	5j U]`UV]`]lm	@cWUh]cb	D\cbY
A]bU'FcWfg	a "fcWfg4 i bgk "YXi "Ui	D`YUgY`WcbrUWrij]U Ya U]`	A cfj Yb 6fck b")-	

Hi hcfg

BUa Y	9a U]`	5j U]`UV]`]lm	@cWUh]cb	D\cbY
>Ua YgʻDUi ``		D`YUgY`WcbHUWij]U Ya U]`	A cfj Yb 6fck b" &(

GWXcc`7cbHJWhi±bZcfa Uh]cb

GWkcc`cZ<iaUb]h]Yg'/ '@Ub[iU[Yg

@c\\U||cb. G\\cc`C\\Z|\\\ž\Acfj\b'6fck\b'6i]\X]b[\z'@\j\Y`\&z\&),

CdYb]b['<ci fg. 'A cbXUm!': f]XUmž'- Ua '!') da

HY`.'\$&'-'(, '\$(\$*

9a U]`.'\<u>U`4 i bgk "YXi "Ui</u>

5W_bck `YX[Ya YbhcZ7ci bhfm

I BGK '5fhgž'8Yg][b'UbX'5fW]hYWhifY'?Ybg]b[hcb'UbX'DUXX]b[hcb'WUadigYg'UfY'Vi]hhcb'5Vcf][]bU`

7ci fgY 8YHJ] g

$I b hg c Z 7 f Y X h^*$

Gi a a UfmcZh\Y 7ci fgY

H\]g'; UhYk UmWci fgY']blfcXi WYg'mci 'hc'h\Y'X]ZYfYbhWci blf]Yg'h\Uha U_Y'i d'h\Y'5g]Ub'fY[]cb'UbX'h\Y]bhYfX]gW]d`]bUfma Yh\cXg'i gYX'hc'fYgYUfW\'UbX'ghi Xm5g]U'fl_bck b'Ug'5g]Ub'Ghi X]YgL''I g]b['Ub'U`'!5g]U UddfcUW\'k]h\'U'ZcW g'cb'h\Y'hk Ybh]Yh\'Wbhi fmž']hk]``'[]j Y'mci 'U'VfcUX'_bck `YX[Y'cZh\Y'X]j Yfg]lmicZh\Y gcW]Yh]Yg'h\UhiWcbgh]hi hY'5g]U''Mci 'k]```YUfb'UVci hih\Y'X]ZYfYbhW'hi fYg'h\Uha U_Y'i d'9Ughž'Gci h\'UbX Gci h\YUgh5g]Ub'\]bWi X]b['fY'][]cbž[YbYfU''Wc'cb]U'`\]ghcf]Ygž'Wcbghfi Whobg'cZ[YbXYfž'5g]Ub'WhYgž'h\Y dc']h]Wg'cZXYa cWfUWhUbX'Ui h\cf]hUf]Ub]ga ž'UbX'h\Y'WcbbYWhobg'VYhk YYb'5g]Ub'ZccX'UbX'Yh\b]W]XYbh]hYg''

7 ci fgY @YUfb]b[Ci hWca Yg

%" 5fh]W `UhY `U`VfcUX`VcXmcZ_bck `YX[Y`UVci hh\Y`X]j Yfg]lmiUbX`XmbUa]Wg`cZh\Y`5g]Ub`fY[]cb &" 8YgWf]VY`_YmYj YbhgždYcd`Yž`UbX`hfYbXg`Wcj YfYX`Vmh\]g`Wci fgY" ' " 5bgk Yf`ei Ygh]cbg`dcgYX`i g]b[`Uf[i a YbhUbX`Yj]XYbW (" A U_Y`gW\C`Uf`mUf[i a Ybhg`i g]b[`]bXYdYbXYbhm`cWUhYX`Yj]XYbW

HYUWX]b['GhfUhY[]Ya'

 $H\g`WcifgY`]g`XYg][bYX`hc`\Y`d`mci`XYjY`cd`U`eiYgh]cb]b[`a]bX`k\Yb`UddfcUWX]b[`h\Y`ghiXmcZ5g]U" \\ H\Y``YWnifYg`dfcj]XY`VUW_[fcibX`]bZcfaUh]cb`UbX`]bIfcXiWY`h\YcfYh]WU``UbX`UbU`mh]WU``dYfgdYWhjiYg`UbX`]bIfcXiWY`h\YcfYh]WU``UbX`UbU`mh]WU``dYfgdYWhjiYg`UbX`]bIfcXiWY`h\YcfYh]WU``UbX`UbU`mh]WU``dYfgdYWhjiYg`UbX`$

5ggYgga Ybh

D'YUqY'qYY'h\Y'AccX'Y'q]hY'Zcf'UhUW\aYbhq'cb.'

f&L'@YWfi fY'\UbXci hg'k \]W\'k]``VY'j Yfmi gYZ `'Zcf'H_]b['bchYg'UbX'Zcf'fYj]Yk]b['Zcf'h\Y'WUgg'hYgh'

.

5ggYgga Ybh'tUg_	K Y][\h	8iY'8UHY	7 ci fgY @YUfb]b[Ci HWca Yg 5ggYggYX
%" F YgdcbgYg hc F YUX]b[g	&\$I	%(#\$* #&\$&&`\$*.\$\$`DA	1
&"`<]ghcf]WU`g]hY`YI YfW]gY	&\$I	% #\$+#&\$&&`\$).\$\$`DA	(
' "'HYgh	&\$I	\$%#\$, #&\$&&`%%\$\$`5A	%ž`&ž`'
("AUcf9ggUm	(\$1	\$, #\$+#&\$&&`\$).\$\$`DA	%ž'' ž'(

5ggYgga Ybh% F YgdcbgYg hc F YUX]b[g

GHJfhXUhY.'' \$#\$) #&\$&&'\$-.\$\$'5A 5ggYgga Ybh'Yb[h\.'W*\$\$'k cfXg 8i Y'XUhY.'%(#\$*#&\$&&'\$*.\$\$'DA

Ghi XYbhgʻgi Va]hʻUʻfYgdcbgYʻfWU"') \$\$!*\$\$ʻk cfXgŁhcʻgYhei Ygh]cbgʻcbʻUʻk YY_`mfYUX]b['VYZcfY'cbY hi hcf]U`": YYXVUW_`]gʻVm]bX]j]Xi U``Wca a YbhgžUbX`]b!WUggʻX]gW gg]cb"

H\]g`Ugg][ba Ybh]g`gi Va]hhYX`h\fci [\'Hi fb]h]b`UbX`gh XYbhg`Wb`gYY`Hi fb]h]b`g]a]`Uf]hmfYdcfhg"

5XX]h]cbU`XYhU]`g

GYY'h\Y'Z]Y'cb'h hcf]U`fYUX]b[g'UbX'ei Ygh]cbg']bWi X]b['h\cgY'Zcf'h\]g'UggYgga Ybh']b'U'Z]Y'i d`cUXYX']b h\Y'A ccX'Y'g]h''''

$5\,ggYgga\ Ybh\&`<]ghcf]WJ``g]hY`YI\ YfW]gY$

GHJfhXUhY. '' \$#\$) #&\$&& \$- .\$\$ 5A 5ggYgga Ybh`Yb[h\. 'W \$\$ k cfXg 8i Y XUhY. '% #\$+#&\$&& \$) .\$\$ DA

Ghi XYbhgʻgY`YVhiU`\]ghcf]WU``g]hY`]b`Ubm5g]Ub`Wci bhfmUbX`gdYU_`Zcf'' a]bi hYgʻUVci hik\Uhih\Y`g]hY` Wca a Ya cfUhYgʻUbX`k\UhiY`Ya YbhgʻUVci hih\Y`g]hY'g`\]ghcfm]gʻZcf[chhYb`]b`h\Y`bUh]cbU``a Ya cfm'`Ghi XYbhg gi Va]hU`cbY!dU[Y`V]V`]c[fUd\mcZgci fWYg`Wcbgi `hYX`Zcf'h\Y]f`dfYgYbhUh]cb" : YYXVUW_`]g`Vm`]bX]j]Xi U``Wca a Ybhgž`UbX`]b!WUgg`X]gW gg]cb"

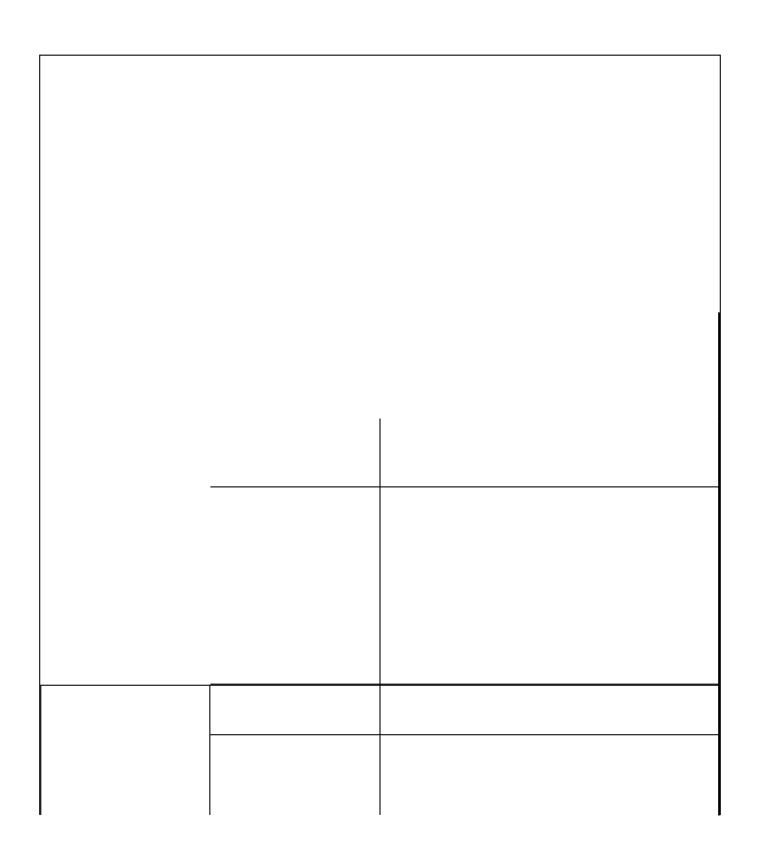
H\]g Ugg][ba Ybh]g gi Va]h\X h\fci [\ Hi fb]hb UbX gh XYbhg Wbb gYY Hi fb]hb g]a]\Uf]hmfYdcfhg"

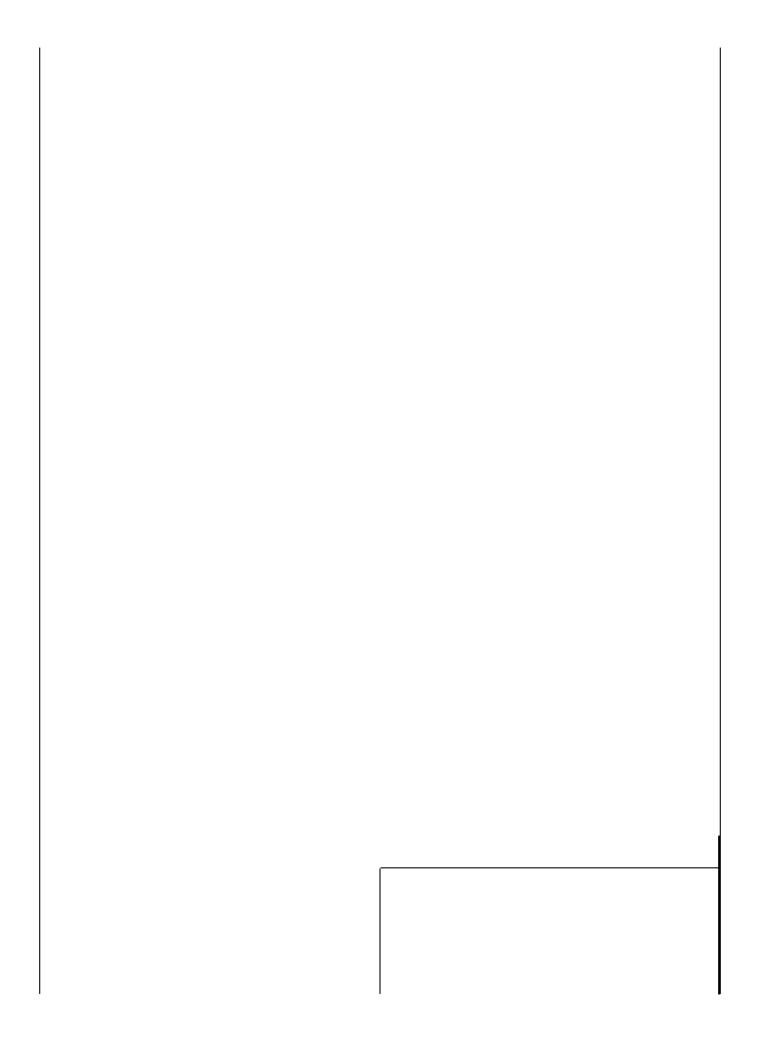
5XX]h]cbU`XYhJ]`q

5 b 'Y bh]fY ``Y Whi fY `]g `XY j chY X 'hc `\ck 'hc `Xc 'h\]g `Y I Y f V]gY" ``@]ghY b 'hc 'h\ Y ``Y Whi fY `Z]fgh V Y Zc fY `Xc]b ['h\ Y UggYgga Y bh' `GYY 'h\ Y ``Y Whi fY `\Ub Xci h Zc f' h\ Y `fY`Y j Ubh` Y Whi fY `Zc f`Y I Ua d`Yg `Ub X `a Uf_]b ['\Wf]hY f]U" `G hi XY b hg g\ci `X `B C H `Xc 'h\ Y `gUa Y \\]ghc f] \WU``g]hY g' df Y g Y b hY X `Ug `Y I Ua d`Yg `]b 'h\]g ``Y \Whi fY" ``H\]g `]g 'mci f' cf][]b U` fYgY U f W `dfc Y \Whi Ub X 'mci `UfY 'h\ Y `k cf X fbj Y I dY fhicb 'mci f' \W \cg Y b 'hcd] \W

8i Y'XUhY. "\$, #\$+#&\$&&"\$).\$\$"DA

F YgYUfWX '9ggUm'





		hcd]WZcfimci fick bi\]ghcf]WUig]hYiYl YfW]gY"''H\]g XcWa YbhUfmi]giUgg][bYXihci[]j Yimci iUbch\Yfi]XYU cbi\ckihciUddfcUWXih\]giYl YfW]gY"'
	5ggYgga Ybh	<]ghcf]WU``g]hY`YI YfW]gY
K YY_''&) '>i `m!'&- >i `m	@YWhi fY	DUfh% 'C f]YbfU`]ga
		DUfh'&: '8 fYgg 'UbX' =XYbh]mm]b '5g]U
	Hi hcf]U`	<]ghcf]ww``G]hY`9IYfw]gY`DfYgYbhUh]cbg`7cbh]biYX"
	Cb`]bY'5W¶j]hm	: YUhi fY':]`a 'H\Y'?]b['UbX'=!!'Uj U]`UV`Y'h\fci [\h\Y' BGK '@]VfUfm? UbcdmghfYUa]b['f]h]g'U`gc UWWgg]V`Y'h\fci [\'h\Y'@9[Ubhc``]b_'Zcf'h\Y Wci fgYŁ"''H\]g']g'U'hk c'\ci f'Z]`a 'gc'h\Y'cb`]bY UW]j]mWcbh]bi Yg'bYI hk YY_"
K YY_'%\$.'%'5i [i gh!') 5i [i gh	@YWn fY	C b`]bY'7`Ugg'HYgh''Ghi XYbhg'Wca d`YhY'h\Y'cb`]bY WUgg'hYghXi f]b['h\Y'`YWhi fY'h]a Y'cb'A cbXUmž 5i [i gh'%z'&\$&&?Ica '-!%%'Ua "
	Hi hcf]U`	<]ghcf]ww``G]hY`9IYfW]gY`DfYgYbhUh]cbg`7cbh]biYX
	C b`]bY 5 W]j]lm	: YUh fY':]`a .'H\Y'?]b['UbX'=Wcbh]bi YX'
	5ggYgga Ybh	HYgh

FYgci fWyg

DfYgWf]VYX F Ygci fWYg

H\YfY"]g'bc"hYl hVcc_"fYei]fYX"Zcf"h\Y"Wci fgY""

GYY'h\Y'A ccX`Y'G]hY'Zcf'h\Y'Z]`Y'cb'"Hi hcf]U``FYUX]b[g'UbX'EiYgh]cbg'Zcf'8]gWigg]cb"ii bXYf'h\Y'\YUX]b[g'TcbhYbhg'UbX'FYgcifWYg"Zcf'h\Y'`]ghcZfYUX]b[g'fYei]fYX'Zcf'YUW\kYY_"'`FYUX]b[g'Zcf'h\Y'\]ghcZfYUX]b[g'fYei]fYX'Zcf'YUW\kYY_"'`FYUX]b[g'Zcf'h\notation for [\'h\Y'@]VfUfm@Y[Ubhc'gmghYa'Ya VYXXYX']b'h\Y'A ccX`Y'g]hY'Zcf'h\Y WtifgY"''`7`]W_cb'h\Y'[fYYb']Wtb'Ybh]hYX'"FYei]fYX'FYUX]b[g'Zcf'Hi hcf]U`g'"

 $H(Y^*) = g'hc'h(Y'cb') + Y'cb') + Y'cb' + Y$

FYWca a YbXYX FYgci fWyg

GYY'a m\UbXci hcb'9ggUmei Yghjcbg'UbX'V]V`]c[fUd\]Yg"

7 ci fgY 9j U'i Uhjcb UbX 8 Yj Y'cda Ybh

 $: YYXVUW_k] ```VY'[U]bYX'h fci [\ A m9I dYf]YbW'Uhih Y'YbX'cZhYfa "`=\Uj Y'fYgdcbXYX'hc'h Y'ZYYXVUW_Vm' fYXi W]b['h Y'UggYgga Ybh'''@UghmYUf''f&$&$L'h c'fYgdcbgYg'hc'fYUX]b[g'k YfY'fYei]fYX"': fca '&$&%= \Uj Y'fYXi WXX'h]g'hc'cb'm%fYgdcbgY'hc'fYUX]b['Xi Y']b'k YY_'' "'$

+b '&\$&\$ 'h\ Y 'Wci fgY 'k Ug 'HUi [\hiZ ```mcb`]bY 'Zcf'h\ Y 'Zfgh'h]a Y 'Xi Y 'hc '7 cj]X! % 'fYghf]Wf]cbg" 'H\ Y 'Wci fgY Yj U'i Uh]cbg'k YfY 'YI WY ``Ybh'' +b 'fYgdcbgY 'hc 'h\ Y 'ei Ygh]cb ''Cj YfU`` =k Ug 'gUh]gZ]YX 'k]h\ 'h\ Y 'ei U`]hmcZh\ Y Wci fgY "z'5 F HG '&& '\$ fYWY]j YX 'U 'gWcfY 'cZ) ") - #* 'k \]Y 'h\ Y 'gW.cc` 'Uj YfU[Y 'a Uf_k Ug') "\$\$" +b 'fYgdcbgY 'hc h\ Y 'ei Ygh|cb. ''Cj YfU`` =k Ug 'gUh]qZ]YX 'k]h\ 'h\ Y 'ei U`]hmcZh\]g 'X\ ") - #

Gi Va]gg]cb cZ5ggYgga YbhHUg_g Hlinf[b][h]b/Gjg]Ka]gg]cb

5 WUXYa]W<cbYghmUbX D`U[]Uf]ga

D`U[]Uf]ga i]gii g]b[ih\Yik cfXgicfi]XYUgicZch\YfgiUbXidfYgYbh]b[ih\Ya iUgimci fick b"i=iWUbihU_Yia Ubm Zcfa gžZfca iXYi]VYfUhYiWXYUh]b[ihciUWW]XYbhU`mWcdm]b[iZfca iUigci fWYik]h\ci hiUW_bck iYX[Ya Ybh'i