

7ci fgY^{*}Cj Yfj]Yk

GhJZZ 7 cbhJWh 8 YhJ] g

7cbj Ybcfg

BUa Y	9a U]`	5j U]`UV]`]hm	@cWUh]cb	D\cbY
>UY`>i b[ΔΥ"↑ b[4 i bgk "YXi "Ui	9a U]`hc'UffUb[Y Ub'Uddc]bha Ybh	A cfj Yb 6fck b 6i] X]b[; &+	

GWkcc`7cbhUWh ≠bZcfa Uh]cb

GW.cc``cZ9Xi WUH]cb 5fhgž8Yg][b'UbX'5fW.]hYWhifY

5W_bck `YX[Ya YbhcZ7ci bhfm

I BGK '5frgž8Yg][b'UbX'5fW,]hYWi fY'? Ybg]b[hcb'UbX'DUXX]b[hcb'Wa di gYg'UfY'Vi]'hcb'5Vcf][]bU`@UbXg"'K Y'dUmci f'fYgdYWrg'hc'h\Y'6]X'][U''UbX'; UX][U''dYcd'Yg'k \c'UfY'h\Y'7 i ghcX]Ubg'cZh\YgY'`UbXg" K Y'UW_bck 'YX[Y'h\Y'5Vcf][]bU`'UbX'HcffYg'GHfU]h=g`UbXYf'dYcd'Ygž'h\Y':]fgh5i ghfU`]Ubgžk \cgY'`UbXgž k]bXg'UbX'k UhYfg'k Y'U``'bck 'g\UfYž'UbX'dUmfYgdYWhc'h\Y]f'i b]ei Y'j U'i Ygž'UbX'h\Y]f'Wcbh]bi]b['UbX YbXi f]b['W' 'h fYg'k \]W XYYdYb'UbX'Ybf]W 'h\Y'`]ZY'cZci f'bUh]cb'UbX'Wca a i b]h]Yg"''

 $\label{eq:continuous} \begin{array}{ll} \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY'``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY'``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY'``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY'``cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY'```cf' = bX][Ybci g'] \\ \text{$:$} = \text{$U[Y'Wc$ if} \text{$fhYgmcZh}, Y'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY'C$ $Z_jWY'cZh}, Y'Dfc'J]WY!7 \setminus UbWY'C$ $Z_jWY'cZh}, Y'Dfc'J]WY'C$ $Z_jWY'CAL}, Y$

7ci fgY⁻8YHJ]^{*}g

I b]hg cZ7fYX]h**

K cf_`cUX

%) \$`\ci fg`]bWi X]b[`WUgg`WcbHUWfi\ci fgž`fYUX]b[gž`WUgg`dfYdUfUh]cbž`UggYgga Ybhž`Zc``ck`i d`UWhjj]hjYgž YHW

Gi a a UfmcZh\Y 7ci fgY

 $+ 0.1 \text{ lg Wc i fgY z mc i 'k]} \text{ 'N lg Y 'Ub 'cddcfhi b] hm hc 'Vi] 'X 'cb 'cf'YI hY bX '] bhY fY ghg 'XY j Y 'cdYX '] b 'mc i f'gdY W] U '] ghallow (a. 1) and (b. 1) an$

F UhjcbU'Y.'H\]g'Wci fgY']g'VY]b['cZZYfYX'hc'dfcj]XY'ghi XYbhg'k]h\'Ub'cddcfhi b]hmhc'i bXYffU_Y'Ub]bXYdYbXYbhgi dYfj]gYX'fYgYUfW\'dfc'YWhfYei]j U'Ybhhc'Ub'\cbci fg'h\Yg]g\']b'U'gdYWJZ]WUfYU'cZh\Y]f gdYWJU']gUhjcb']b'YXi WUhjcb"H\Y'Wci fgY'k]'`'U'gc'YbUV'Y'ghi XYbhg'hc'XYj Y'cd'U'XYYYdYf'fYZYWhj Y'UddfcUW\ hc'YXi WUhjcb'UbX'XYa cbghfUhY'h\Y'UV]']hmhc'UbU'mgYžYj U'i UhYžgmbh\Yg]gY'UbX'Udd'm_bck 'YX[Y'UbX'g_]``g Zfca 'YUf']Yf'ghU[Yg'cZh\Y]f'dfc[fUa"

HYUWW]b['glfUhY[]Yg. 'Mci 'k] ``k cf_']bXYdYbXYbhmUbX`\Uj Y`UWWYgg'hc`U'dfc^YWfigi dYfj]gcf'h\fci [\ci h k c' WcbgYW h]j Y`hYfa g"'C bY!cb!cbY'a YYh]b[g'k]h\ 'gi dYfj]gcfg'a UmWcj Yf'Ubm]ggi Yg`fY`Uh]b['hc'h\Y WcbXi WficZUb']bXYdYbXYbhfYgYUfW\ 'dfc^YWf]b'mci f'UfYU'cZgdYW]U`]gUh]cbz']bWi X]b['U'fYj]Yk 'cZh\Y `]hYfUhi fYz'h\Y 'Zcfa i `Uh]cb'cZfYgYUfW\ 'ei Ygh]cbgz'fYgYUfW\ 'XYg][bz'Yh\]WU``Uddfcj U`z'fYgYUfW\ ']bghfi a Ybhgz XUhU'Wc``YWf]cbz'XUhU'UbU`mgYgz']bhYfdfYhUh]cb'cZXUhU'UbU`mgYgz'UbX'h\Y'k f]hY'i d'cZfYgYUfW\"

5ggYgga Ybh

5ggYgga YbhHJg_	K Y][\h	8iY'8UHY	7 ci fgY @YUfb]b[Ci hWca Yg 5ggYggYX
%"`Dfc^YWidfcdcgU``UbX fYdcfh	%\$\$i	FYZYf'hc'AccX`Y'g]hY	%ž &ž' ž'(

5ggYgga Ybh'% 'Dfc YWhdfcdcgU' 'UbX fYdcfh

8i Y'XUhY. FYZYf'hc'A ccX`Y'g]hY

5"'DfcdcgU`

@Yb[h\.'%\\$\$\$\$'kcfXg

: cfa Uhjj Y ZYYXVUW_dfcj]XYX Vmmci f gi dYfj]gcf"

.

6"'F Ydcfh

: YYXVUW_'dfcj]XYX'k]h\]b'\%\'XUmg'cZgi Va]gg]cb"

5 'fYdcfhi]b 'U'Zcfa 'Uddfcdf]UhY 'hc'h\Y'bUh fY'cZh\Y'gh Xm"H\Y'fYdcfhig\ci `X'VY'Xci V'Y! **% %**

FI 6F = 7 # 998657? G<99H 98GH),,-A = BCF H<9G = €

I BGK 'G7<CC@'C: '98I 75H€B

 $5\,ggYgga\ Ybh'HUg_'\%'Dfc'YWh'dfcdcgU''UbX''fYdcfh$

GdYWJZJW7f]hYf]U	"flŁ—		2fŽŁ
I bXYfgHJbX]b[cZh\Yei Ygh]cbcf]ggi Y'UbX'h\Y_YmWcbWdhg]bj c`j YX			

<u>Z</u>]W7 f] H Yf]U	∵flŁ—		2fŽŁ
bHJhjcb`cZfYgdcbgY`UVWcfX]b[`hc`Uddfcdf]UhY`UVWXYa]WUbX ghjWWcbjYbhjcbg			

F Ygci fWYg

DfYgWf]VYX F Ygci fWYg

Gi [[YghYX fYgci fWYg

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

Hi fb]h]b Gi Va]gg]cb

☐ Inc i YbWci bhYf U'dfcV`Ya ik \Yb 'UrhYa dh]b['rc 'gi Va]hmci f 'Ugg][ba Ybhh\fci [\ 'Hi fb]h]bž'd`YUgY

HY `Yd\cbY '9I hYfbU``Gi ddcfhcb'-' ,) '' ' ' %cf 'Ya U] 'h\Ya 'cb'YI hYfbU`hY`hgi ddcfh4 i bgk "YXi "Ui ""`Gi ddcfh
\ci fg 'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY_XUmg 'UbX'-.\$\$Ua '-') .\$\$da 'cb'k YY_YbXg'fl *) 'XUmg'U'mYUfŁ" ☐ mci
UfY i bUV`Y 'rc 'gi Va]hmci f 'Ugg][ba YbhXi Y 'rc 'U'ZUi `hk]h\ 'Hi fb]h]b mci 'a Um'Udd`mZcf'Ub'YI hYbg]cbž'Vi hmci

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

D`U[]Uf]ga `]g`i g]b['h\Y`k cfXg`cf`]XYUg`cZch\Yfg`UbX`dfYgYbh]b['h\Ya `Ug`mci f`ck b"`=hWJb`hJ_Y`a Ubm Zcfa gžZca `XY`]VYfUhY`W\YUh]b['hc`UVW]XYbhJ``mWcdm]b['Zfca `U`gci fWY`k]h\ci hUW_bck `YX[Ya Ybh'

IBGK [fcidgdu[]Uf]ga]bhch\YZc``ck]b[WUhY[cf]Yg.

 $\begin{tabular}{ll} \hline \textbf{7.cdm}b[...] g]b[...] MY cf'j Yfmg]a] ``Uf'k cfXg'hc'h\Y'cf][] bU``HYI hcf']XYU'k]h\ci h`U\W_bck ``YX[]b[...] b[...] MY cf'i g]b[...] bU``HYI hcf']XYU'k]h\ci h`U\W_bck ``YX[]b[...] b[...] MY cf'i g]b[...] a UhYf]U`gž']XYUg'cf'WcbW'dhg'\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]WY\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]\bar{Z}ca '`U'Vcc_\bar{Z}Ufh]\bar{Z}ca '``U'Vcc_\bar{Z}Ufh]\bar{Z}Ufh]\bar{Z}ca '``U'Vcc_\bar{Z}Ufh]\b$

5 WUXYa]W + DZcfa Uhjcb

8 i Y 'hc 'Yj c'j]b['UXj]WY 'VmBGK '<YU'h\z'gh XYbhg'a i ghW\YW_'Zcf'i dXUhYX']bZcfa Uh]cb 'fY[UfX]b['cb`]bY 'YUfb]b['Zcf'U``'5fhgž'8Yg][b 'UbX'5fW\]hYWi fY 'Wci fgYg'h\]g'hYfa 'fJ]U'A ccX'Y'cf'Wci fgY']bZcfa Uh]cb dfcj]XYX"L

: cf`YggYbhJU``ghi XYbh`]bZcfa UhJcb`fY`UhJb['hc.