



7ci fgY`Cj Yfj]Yk

GhJZZ'7cbhJWw'8YhU]`g

7cbj Ybcfg

B Ua Y	9a U]`	5j U]UV]]m	@cW]h]cb	D\cbY
A Uth\Yk `?YUfbYg	a "_YUfbYg4 i bgk "YXi "Ui	6miUddc]bha Ybh	A 6' *)	D`YUgY`Ya U]` ei Yf]Yg"

GW\cc``7cbhJWw'Zcfa U]h]cb

GW\cc``cZ<i a Ub]h]Yg`UbX:@Jb[i U[Yg

@cW]h]cb. 'GW\cc``C Z]W]ZA cfj Yb'6fck b'6i]X]b[ž@Yj Y`&ž&),

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

7ci fgY'8YHJ]`g

7fYX]hDc]bqg`*`

Gi a a UfmicZ\hY'7ci fgY

H\]g`Wci fgY`]bffcXi Wg`mci`hc`hY`\]gfcf]WU`žgcW]U`UbX`W`h`fU`]a`d`]WU]cbg`cZ`hY`k`UghYg`[`YbYfU`hY`X`Vm
\i`a`Ub`gcW]Ym`"8]a`Ybg]cbg`UbX`hcd]Vg`mci`gfi`Xm]bW`XY`"ZY`W`WYg`cZa`U`hYf]U`gž`ck`k`Y`a`U`_Y
`_bck`YX[`Y`UVci`hk`UghY`ž`hY`gcW]U`]a`d`]WU]cbg`cZk`UghY`a`UbU[`Ya`Yb`hY`W`bc`c[`]Ygž`fY[`U`W`f]ggi`Yg`UbX
hY`f`W`cb]gU]cb`cZ`hY`Z`h`fYfVmk`UghYg`"C`i`f`k`UghY`gfYUa`YI`Ua`d`Yg`]bW`XY`d`UghY`gž`k`U`hY`f`UbX
gYk`U[`Yž`bi`WYUf`a`U`hYf]U`gž`]bXi`gf]U`gYU`Xi`a`d]b[`ž]b`hY`fb`U]cbU`h`f`UXY`]b`h`c`I`]Wk`UghYgž`Xca`Ygh]W`UbXZ`ž
UbX`hY`W`Y`U]cb`cZ`f`k`UghY`UbXgf]UbX`W`cb`h`Ja`]b`U`hY`X`g]hYg`"M`ci`YI`d`c`fY`gc`i`h`c`bg`h`c`h`Y`[`YbYfU]cb`cZ
k`UghYg`Vmigh`Xm]b[`hY`d`fY`W]i`h`cb`Uf`m`d`f]b`W]d`Yž`Ybj`]f`c`ba`Yb`hU`"↑`gh]W`ž]b`hY`fb`U]cbU`k`UghY`W`cbj`Yb]cbg

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y'8UHŸ	Gh XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
9ggUmi	')	%* #/\$#&\$&\$'%%\$\$'DA	%ž&ž ž)
K UghŸ: i hi fYg'!': fci d DfYgYbhUH]cb`	&\$	Bch5dd`]WUVY	%ž ž(
K UghŸ: i hi fYg'!':]bU` F Ydcfh	()	&+ #/%%#&\$&\$'%%\$\$'DA	%ž&ž ž(ž)

5ggYgga Ybh8YHU]`g

5ggYgga Ybh%9ggUm

GHUfhXUHŸ. Bch5dd`]WUVY

@Yb[h. % \$ \$'k c fXg

8YHU]`g.

8Yg][b'mci fYggUmhcd]WŸc U`ck 'mci 'hc 'Udd'mihŸY fYUX]b[g'hc WcbŸYa dcfUfm]ggi Yg'cZk UghŸ"

hX]j]Xi U`ZYXVUW`k]`VY'dfcj]XYX VmhŸY`YWh fYf#i hc f"

Hi fb]hb'gYH]b[. H\]g Ugg][ba Ybh]g'gi Va]hŸX'hfci [\ Hi fb]hb'UbX'gh XYbŸg WUb'gYŸ'Hi fb]hb'g)a]Uf]m
fYdcfŸg %o

5 hYbXUbW F Yei]fYa Ybhg

Gh XYbhg UFY ghfcbl mYbWci fU[YX'hc UhhYbX'U''WUggYg UbX'fYj]Yk ''YWhi fY'fYWcfX]b[g"

7 ci fgY'GWXYXi `Y

[J \]Yk WUgg'ha YhUVY](#)

H]a YhUV`Y`

8UhY	HmdY	7cbhYbh
K YY_%`%(`GYdhYa VYf! %`GYdhYa VYf	GYa]bUf	K \Uh]g`k UghY3` 7 ci fgY`cj Yfj]Yk . :`bhfci Xi W]cb'hc`k UghY""A UhhYf]b[" F YUX]b[g`Uj U]UV`Y`j]U`Wci fgY``Y[Ubhc`g]hY"
	C b`]bY`5W]j]hm	C b`]bY`UW]j]hYg`Uj U]UV`Y`j]U`hY`Wci fgY`a ccX`Y`g]hY"
K YY_&.`&%GYdhYa VYf! &)`GYdhYa VYf	GYa]bUf	H\Y`F cUf]b[`-%`&\$g.`b] Ybh]b[`hY`7cbgi a Yfz` F Y]bj Ybh]b[`K UghY`fDfcZ`B]Wc`Ug`F Uga i ggYbL` F YUX]b[g`Uj U]UV`Y`j]U`Wci fgY``Y[Ubhc`g]hY"
	C b`]bY`5W]j]hm	C b`]bY`UW]j]hYg`Uj U]UV`Y`j]U`hY`Wci fgY`a ccX`Y`g]hY"
K YY_` .`&.`GYdhYa VYf! &`C`Wc`VYf	GYa]bUf	K UghYfYX`hY`c`fm` F YUX]b[g`Uj U]UV`Y`j]U`Wci fgY``Y[Ubhc`g]hY"
	C b`]bY`5W]j]hm	C b`]bY`UW]j]hYg`Uj U]UV`Y`j]U`hY`Wci fgY`a ccX`Y`g]hY"
K YY_(`.)`C`Wc`VYf!`-` C`Wc`VYf	<ca Yk cf_	DI 6@7`<C@85M` .
	GWYYb]b[5gmbWkfcpci g`gYa]bUf!`[Yc[fUd\]Yg`cZi fVUb` XYWUm`
	C b`]bY`5W]j]hm	C b`]bY`UW]j]hYg`Uj U]UV`Y`j]U`hY`Wci fgY`a ccX`Y`g]hY"
K YY_) .`%&`C`Wc`VYf!`%*` C`Wc`VYf	GYa]bUf9j YfmXUmik UghY`d` G]W]fmgUmik UghY`dfUW]W]g`	G]W]fmgUmik UghY`dfUW]W]g` .
	C b`]bY`5W]j]hm	C b`]bY`UW]j]hYg`Uj U]UV`Y`j]U`hY`Wci fgY`a ccX`Y`g]hY"

Gi Va]gg]cb`cZ5ggYgga YbhiHUg_g

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

~Zmci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UH`Ya` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`Y`Ug`Y`
HY`Yd`cb`Y`9I`HY`fb`U`Gi`ddc`fh`cb`-`,`,)`````%cf`Ya`Uj`h`Ya`icb`YI`HY`fb`U`HY`hgi`ddc`fh`4`i`bgk`"YXi`"Ui`""`Gi`ddc`fh`
`l`ci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`icb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`icb`k`YY`YbXg`fI`*)`XUmg`U`mY`UfI`"~Zmci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Zi`h`k`]h`Hi`fb]h]b`mci`a`Um`Udd`m`Zc`f`Ub`YI`HY`bg]cb`z`Vi`hmc`i`
a`i`gh`fY`h]b]mci`f`h]W`Y`hbi`a`VY`f`Z`ca`9I`HY`fb`U`Gi`ddc`fh`f`U`cb[`k`]h`Ub`mci`h`Y`f`fY`Yj`Ub`h`Xc`W`a`Y`b`hg`L`hc`
]b`Wi`XY`Ug`Yj`]XY`b`V`hc`gi`ddc`fh`mci`f`YI`HY`bg]cb`Udd`]W`h]cb`"~Zmci`Ya`Uj`9I`HY`fb`U`Gi`ddc`fh`mci`k`]`
Ui`hc`a`U`h]W`m`f`Y`W`j`Y`U`h]W`Y`hbi`a`VY`f`z`Vi`h]Z`mci`HY`Yd`cb`Y`mci`k`]`b`Y`Y`X`hc`gd`Y`W`Z]W`m`Ug`_`Zc`f`cb`Y`"
Hi`fb]h]b`U`gc`d`fcj`]XY`gi`d`XU`h`g`icb`h`Y]f`gm`gh`Ya`ig`h`U`h`g`icb`Hk`]h`Y`f`"

;`Yb`Y`f`U`m`z`Ugg`Y`gga`Yb`hi`U`g`_`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`cb]W`m`j`]U`Y`]h`Y`f`Hi`fb]h]b`cf`U`A`cc`X`Y`
Ugg][`ba`Yb`h`i`h`]b`gh`U`b`W`g`k`Y`f`Y`h`g`]g`b`ch`d`c`gg]V`Y`z`]h`k`]`V`Y`g`h`U`h`X`icb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`h`Y`fb`U`h]`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`cf`]b`Z`fa`U`h]cb`cb`l`ck`hc`gi`Va`]h`Ugg][`ba`Yb`hg`icb`]b`Y`j`]U`A`cc`X`Y`.\`h`d`g`#`gh`XY`b`h`i`bgk`"YXi`"Ui`#`ck`!
gi`Va`]h`Ugg][`ba`Yb`h`a`cc`X`Y`"

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

D`U[]Uf]ga `]g`i`g]b[`h`Y`k`c`f`X`g`c`f`]X`Y`U`g`c`Z`c`h`Y`f`g`i`U`b`X`d`f`Y`g`Y`b`h]b[`h`Y`a` `U`g`m`c`i`f`c`k`b`" `#`W`U`b`h`U`_`Y`a` `U`b`m`
Z`c`f`a`g`Z`Z`c`a` `X`Y`]V`Y`f`U`h`Y` `W`X`Y`U`h]b[`h`c` `U`W`W`Y`X`Y`b`h`U` `m`i`W`c`d`m]b[`Z`c`a` `U`g`c`i`f`W` `k`]h`c`i`h`U`W`_`b`c`k` `Y`X[`Y`a` `Y`b`h`

I`B`G`K` `[`f`c`i`d`g`d`U[]Uf]ga `]b`h`c` `h`Y` `Z`c` `c`k`]b[`W`U`h`Y`[`c`f`]Y`g.

- i bXYfghUbx'mci f'f][\hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[]Uf]ga ž'Wc'dmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dY'W'X'cZYj Yfmcby`]b'h'Y'I BGK 'W'a a i b]m
- `cW'W'h'gYfj]W'g'UbX']bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k]`VY'ZJa]]Uf'hc'mci ž'c'h'Y'fg'k]`VY'bYk " "; U]b]b['U'gc`]X'i bXYfghUbx]b['cZU`'h'Y fY'U'Y'X'UgdY'W'g'cZ9@-G9'k]`'Y'd'mci 'a U_Y'h'Y'a cgh'cZ'mci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'f'i \]X'Y'g" \]V'f'U'f'm'i b'gk "Y'X'i "U'i #' \]g'Y'#J'V'c'i h' \]g'Y](#)

5 WUXYa]WbZcfa Uh]cb

: cfYggYbh]U`gh XYbh]bZcfa Uh]cb fY`Uh]b[`tc.

- fYei Yghg`Zcf`YI H`bg]cb/
- `UhY`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
- I BGK `<YU`h`UbX`GUZY`mdc`]WYg/
- YI Ua]bUh]cb`dfcW`Xi fYg/
- gdYW]U`W`bg]XYfUh]cb`]b`hY`Yj Ybhcz]`bYgg`cf`a]gUXj Ybh fY/
- gh XYbhYei]m]UbX`X]gUV`]m/
- UbX`c`hYf`YggYbh]U`UWUXYa]W]bZcfa Uh]cbz`gYY

[\ftdg.#k k k "Uftg"i bgk "YXi "Ui #W ffYbh\]gh XYbh\]UWUXYa \]W\]bZcfa Uh\]cb#dfchW`g`\[i \]XY`\]bYg#](#)

⇒ U[Y`7 fYX]h

D\chc`Vm>]VYfh9VfU\]a]`cb]_bgd`Ug\

7F ⇒ CG

7F ⇒ CG`Dfcj]XYf`7cXY.`\$\$\$- ;

5W_bck `YX[Ya Ybhcz7ci bhfm

K Y`UW_bck `YX[Y`hY`6YXY[U`dYcd`Y`k \c`UfY`hY`fUX]h]cbU`W`ghcX]Ubg`cZ`hY`UbXg`cb`k \]W`I BGK
? Ybg]b[hcb`W]a`di`g`]g`cW]hYX"