

AERO3110

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HYfa &Z&\$&&

7ci fgY`Cj Yfj]Yk

GHJZZ'7cbHJW`8YHU]`g

7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]fm	@cWU]cb	D\cbY
8f`GcbmU`5`6fck b	gcbmU`Vfck b4 i bgk "YXi "Ui		5]bgk cft\ (\$, 8	

8Ya cbghfUhc fg

B Ua Y	9a U]`	5j U]`UV]`]fm	@cWU]cb	D\cbY
6Yb`Ua]b`HrbUb	V`mbUb4 i bgk "YXi "Ui		5]bgk cft\ '%%	
Gcd\]U`DUV`c	g"dUV`c4 i bgk "YXi "Ui			
5\`a YX`A U\ [ci V	U`a U\ [ci V4 i bgk "YXi "Ui		5]bgk cft\ (\$,	

GWXcc`7cbHJW`bZcfa U]cb

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I BGK `A YWU]WU`UbX`A Ubi ZUW` f]b[`9b[]bYYf]b[

5]bgk cft\ `Vi]X]b[`>%+z@Y] Y`%

5Vcj Y`7cZY`cb`7Ua di g

<ci fg

-.\$\$-).\$\$da zA cbXUm=: f]XUrt

f7`cgYX`cb`di V`]W\c`]XUmzGWXcc`gWYXi `YX`Yj Ybtg`UbX`I b] Yfg]hmG\i hXck b

K YV

[GWXcc`cZA YWU\]WU`UbX`A Ubi ZUW` f\]b\[`9b\[\]bYYf\]b\[](#)

[9b\[\]bYYf\]b\[`Gh XYbhGi ddcfhGYfj \]Wg](#)

[9b\[\]bYYf\]b\[`bXi g\]f\]U`HfU\]b\]b\[](#)

[I BGK `Gh Xm5VfcUX`UbX`9I WU\]b\[Y`fZcf`\]bVci bX`gh XYbtgk](#)

[I BGK `: i h fy`Gh XYbtg](#)

D\cbY

fZ *%&Ł-' ,) ;) \$\$-Bi WYi g'Gh XYbh<i V

fZ *%&Ł-' ,) '+**%-9b[]bYYf]b['łXi ghf]U`HfU]b]b[

fZ *%&Ł-' ,) " %+- -I BGK `Gh Xm5VfcUX`UbX`I BGK `9I W\Ub[Y`fŁcf`]bVci bX`gh XYbhgŁ

fZ *%&Ł-' ,) `(\$- +'-GWcc`C Z]WY††

††D`YUgY`bchY`h\UhihY`GWcc`C Z]W`k]`bch_bck`k`Yb#Zmci f`Wci fgY`Wcbj Ybcf`]g`cb`Wla di g`cf Uj U]UV`Y

9a U]

[9b\[\]bYYf\]b\[`Gh XYbhGi ddcfhGYfj \]Wg`-W ffYbhigh XYbhYbei \]f\]Yg](#)

- Y"["Ybfc`a YbłZdfc[fYgg]cbZ`WUg\`fYei YgrgZ`Wci fgY`]ggi Yg`cf`dfc[fUa !fY`UH`X`ei Yf]Yg

[9b\[\]bYYf\]b\['łXi ghf\]U`HfU\]b\]b\[-'łXi ghf\]U`HfU\]b\]b\[`ei Ygh\]cbg](#)

[I BGK `Gh Xm5VfcUX`-`gh XmUVfcUX`gh XYbhYbei \]f\]Yg`fŁcf`\]bVci bX`gh XYbhgŁ](#)

[I BGK `9I W\Ub\[Y`-`gh XYbhYI W\Ub\[Y`Ybei \]f\]Yg`fŁcf`\]bVci bX`gh XYbhgŁ](#)

[I BGK `: i h fY`Gh XYbhg`-`dchYbh\]U`gh XYbhYbei \]f\]Yg](#)

- Y"["UXa]gg]cbgZ`ZYgZ`dfc[fUa gZ`WYX]hHfUbgZ`f

[GWcc`C Z\]WY`-`GWcc`\[YbYfU`cZ\]W`UXa \]b\]ghfU\]cb`Ybei \]f\]Yg](#)

- B6. hY`fY`Yj UbhYUa g`]ghY`X`Uvcj Y`a i ghVY`WcbhUWYX`Zcf`U`gh XYbhYbei]f]Yg" H\Y`GWcc`k]`cb`mVY`UV`Y`h`fY`Z`f`gh XYbhg`cb`h`hY`fY`Yj UbhYUa]Z`WcbhUWYX

⇒a dcfhUbh@]b_g

- [Gh XYbhK Y`VY\]b\[](#)
- [I f\]YbhA YbhU`<YU`h`/`Gi ddcfh](#)
- [9ei \]hUV`Y`@YUfb\]b\[`GYfj \]Wg](#)
- [: UW`miHfUbg\]hcbU`5ffUb\[Ya Ybhg`Zcf`7CJ`-8!%-](#)
- [A ccX`Y](#)
- [@UV`5WYgg](#)
- [7ca di h\]b\[`: UW\]hYg](#)
- [Gh XYbhF`Ygci fWg](#)
- [7ci fgY`Ci h\]bYg](#)
- [A U`YfgdUWY](#)
- [I BGK `H\]a YhUV`Y](#)
- [I BGK `<UbXVcc_](#)

7ci fgY'8YHJ]`g

I b]hg'cZ7fYX]h*`

Gi a a UfmcZh\Y'7ci fgY

H\]g'Wci fgY'U]a g'hc'dfcj]XY'ghi XYbhg'k]h'U'[fci bX]b[]b'UYfcgdUWY'XYg][bž]b'hYfa g'cZVch'ghfi Wfi fU'XYg][b'UbX'UYfcgdUWY'gmghY'a g''H\Y'Wci fgY']bWi XYg'h\Y'XYg][b'dfcVWggžUYfcgdUWY''cUX'WUgYgž'a Uf[]bg


7`Ugg`H]a Yg

D`YUgY`fYZf`hc`mci`f`WUgg`h]a`YHUV`Y`Zc`f`h`Y`Y`Ufb]b[`UWVj`j]Yg`mci`UfY`Ybfc`YX`]b`UbX`UHy`bX`cb`mh`cgY`WUggYg`"

	8Um	H]a Y	@cW]h]cb
@YWi`fYg	A`cbXUm	%&da`!`%da	C`b`]bY`fK`YY_g`%d`&ž(!)`ž+!`%\$Ł
	Hi`YgXUm	(`da`!`*`da	:`&:`!`7`@`6`*`fK`YY_g`" `ž)`ž+ž,`Ł
	Hi`YgXUm	(`da`!`)`da	C`b`]bY`fK`YY_g`%d`&ž(`Ł
K`cf_g`\\`cdg`f]Ł	H\i`fgXUm	%&da`!`&da	5`]bgk`cfh`&\$`%`fK`YY_g`%d)`ž+Ł
	H\i`fgXUm	%&da`!`&da	5`]bgk`cfh`&\$`&`fK`YY_g`%d)`ž+Ł
	H\i`fgXUm	%&da`!`&da	G`fYUa`YX`:`UWV!`hc!:`UWV`7`Ugg`fK`YY_g`%d)`ž+Ł
@UV`bXi`W]cbg	H\i`fgXUm	&da`!`(`da`fK`_`&Ł	K`]`]g`5`bbYI`Y`>`%`&%(`!`H@
	:`f]XUm	;%\$Ua`!`%&da`fK`_`&Ł	
	H\i`fgXUm	&da`!`(`da`fK`_`" `Ł	
	:`f]XUm	;%\$Ua`!`%&da`fK`_`' `Ł	
	H\i`fgXUm	&da`!`(`da`fK`_`(`Ł	
:`f]XUm	;%\$Ua`!`%&da`fK`_`(`Ł		
K`YXbYgXUm	&da`!`(`da`fK`_`" `Ł	C`b`]bY`J`]Xyc`fK`YY_g`" `Ł	
@UVg	H\i`fgXUm	-`Ua`!`%&da`fK`_`,`!`-`Ł	K`]`]g`5`bbYI`Y`>`%`&%(`!`H@`fK`YY_g`,`!`%\$Ł
	H\i`fgXUm	-`Ua`!`%da`fK`_`%\$Ł	
	:`f]XUm	&da`!`(`da`fK`_`,`!`-`Ł	
	H\i`fgXUm	&da`!`*`da`fK`_`%\$Ł	
H\i`fgXUm	-`Ua`!`%&da`fK`_`,`!`-`Ł	G`fYUa`YX`:`UWV!`hc!:`UWV`7`Ugg`fK`YY_g`%\$Ł	
H\i`fgXUm	-`Ua`!`%da`fK`_`%\$Ł		

f`B`chY.`Z`mci`UfY`i`bk`Y`"cf`UfY`fYei`]fYX`hc`g`Y`Z`]gc`UHy`!`d`YUgY`Xc`bch`UHy`bX`W]a`di`g`cf`WUgg`"5Xj`]gY`h`Y`Wci`fgY`Wcbj`Ybcb`fB`f`GcbnU`6`fck`bŁ`df]cfz`UbX`k`Y`k`]`UHy`a`dhc`gfYUa`h`Y`WUgg`"

5ggYgga Ybh

5ggYgga YbhUg_	K Y][\h	8i Y'8UH	7ci fgY'@YUfb]b[Ci hWca Yg'5ggYggYX
%"8Yg][b'DfcV`Ya g	()	GYV`VY`ck	%ž&ž'
&"E i]nnYg	&\$	GYV`VY`ck	%ž&ž'
' "8Yg][b!6i]X!HYghfHYUa Ł' 	')	%) #\$, #&\$&&%%) \$`DA	%ž'

5ggYgga Ybh% 8Yg][b'DfcV`Ya g

Gi Va]gg]cb`bchYg. Gi Va]gg]cb`j]U`A ccX`Y"
 8i Y`XUH. `GYV`VY`ck
 8YUX`]bY`Zcf`UVgc`i hY`ZU]. `:]j Y`f) Ł`XUm]`UZfY`fY`Yj UbhXi Y`XUH"
 A Uf_g`fYh fbYX. `Hk c`k YY_g`UZfY`Xi Y`XUH`fcb`hja YŁcf`gi Va]gg]cb`fUH`k cf_Ł`

8Yg][b'DfcV`Ya `%f%) | Ł!`Hfi gg`!`8i Y`##,`" b_ | W` W`VSk | W] &
 8Yg][b'DfcV`Ya `&f%) | Ł!`8ci V`Yf`!`8i Y`##,`" b_ | W` W`VSk | W])
 8Yg][b'DfcV`Ya " `f%) | Ł!`GmghYa g`!`8i Y`##,`" b_ | W` W`VSk | W] #"

5ggYgga YbhW]hYf]U

DYf`8Yg][b'DfcV`Ya `A Uf_]b[`GWYa Yg`UbX`F i Vf]W]"
 W] XYgž`Vi hbch`ja]hX`hc.
 : 68gž`X]U[fUa g`UbX`XfUk]b[gž`W]W`U]cbg`UbX`k cf_]b[ž`XYg][b`^ gh]W]h]cbgž`fYUgcb]b[`UbX
 YI d`UbU]cbgž`fYgi `hg`UbX`X]gW`gg]cbž`Wca a i b]W]h]cbž`Wca d`Yh`bYggž`h.cfcf [`bYgg`UbX`Wc`ffYWbYggž
 i b]hg`UbX`g][b]Z]WbhZ][i fYgž`gci fW`g`cZ]bZcfa U]cb`UbX`fYZYfYbW]b[ž`dfYgYbU]cb`UbX`fYdcfhgfi W] fY"

5ggYgga Ybh& `E i]nnYg

Gi Va]gg]cb`bchYg. `W]Ugg`fGfi W] fYg`UbX`GmghYa g`H6@Ł`UbX`]bW] X]b[`A ccX`Y`gi Va]gg]cb`Zcf
 Gfi W] fYg`H6@
 8i Y`XUH. `GYV`VY`ck
 8YUX`]bY`Zcf`UVgc`i hY`ZU]. `B`#
 A Uf_g`fYh fbYX. `: cf`Gfi W] fYg`E i]n!`A Uf_g`fYh fbYX`k c`k YY_g`UZfY`ei]n": cf`GmghYa g`H6@E i]nnYg
 !`A Uf_g`fYh fbYX`Vmcby`k YY_`UZfY`ei]n"

Gfi W] fYg`f%) | Ł!`FgW`VSk | W] %f]bX]]Xi U`Ł`Xi f]b[`hY`gW`YXi `YX`YW] fY
 GmghYa g`f%) | Ł!`HYUa `6UgYX`@YUfb]b[`fH6@Ł`gYgg]cbg`f]bX]]Xi U`UbX`hYUa `f(!)`gh`XYb]hŁ`Wca dcbYb]hŁ
 Xi f]b[`gW`YXi `YX`YW] fYg.
 FgW`VSk | W] ` Ł FgW`VSk | W]) Ł FgW`VSk | W] *

5ggYgga YbhW]hYf]U

DYf`E i]n`A Uf_]b[`GWYa Yg"
 W] XYgž`Vi hbch`ja]hX`hc.
 Gfi W] fYg. : 68gž`X]U[fUa gž`W]W`U]cbg`UbX`k cf_]b[ž`fYUgcb]b[`UbX`fYgi `hg`Wc`ffYWbYggž`i b]hg`UbX

g][b]Z]Wb]h]Z][i fYgžVč a a i b]W]h]c]b]U]b]X]f]Y]Z]f]Y]b]W]b] ["
: cf`H6@`7 cffY`WbYgg. `#X]j]Xi U`UbX`HYUa `fYgi `hg"

5XX]h]c]b]U`XYH]j]g

E i]nnYg`k]`cVWV f]b]g]W]X]Y]X] `Y]X]Z]W]!`h]c]Z]W] `W]U]g]Y]g"

5ggYgga Ybh' . `8Yg][b!6i]`X!HYghfHYUa Ł'f] fci dŁ

5ggYgga Ybh`Yb[h. . &\$`dU[Yg`fa Ul]a i a Ł
8i Y`XUH. `%) #\$, #&\$&&%%) \$`DA
8YUX`]bY`Zc`f`UVgc`i hY`ZU]`. ``:]j Y`f] Ł`XUmg`UZf`f`Xi Y`XUH`"
A Uf_g`fYh` fbYX. ``F`Y`YUgY`cZ]bU`fYgi `hg

HYUa `dfc`Y`W]h]f]! (`gh`XYbh]d`Y`f`HYUa Ł`
8Yg][b!6i]`X!HYghcZ]h]d]W]U`UYfcgdUW`ghfi W]h`fY`"
HYghd]Y`W`d`l`mg]W]`gi Va]gg]cb. `#!`W]U]gg`"
F`Y`dc`f]h]i Va]gg]cb`j]U`A`cc`X`Y`"

5ggYgga YbhW]h]f]U

DYf`8Yg][b!6i]`X!HYghA Uf_]b[`GW]Ya Y`"
#W]i XYgž`Vi h]b]c]h]`ja]h]X`h]c.
8Yg][b`fYdc]f]h]!`X]U[fUa`g`UbX`X]f]Uk]b[gž]W]`W`U]h]c]b]g`UbX`k`cf_]b[ž]XYg][b`↑`gh]Z]W]h]c]b]g`UbX`fYUgcb]b[ž
fYgi `hg`UbX`X]g]W`gg]cb]ž`Vč`a`a`i`b]W]h]c]b]ž`Vč`a`d`Y`h]b]Y]g]g]ž`h]c]f]c]i [`b]Y]gg`UbX`Vč`f]Y`W]b]Y]g]g]ž`i`b]h]g`UbX`
g][b]Z]W]b]h]Z][i fYgž`g]c]i`f]W]g`c]Z]b]Z]c]f]a`U]h]c]b]`Ub]X]f]Y]Z]f]Y]b]W]b] [ž`d]f]Y]g]b]h]U]h]c]b]`Ub]X]f]Y]d]c]f]h]g]f]i`W]h`fY`/`Y]b[]b]Y]f]b]b[
X]f]U]k]b[/`g]h]f]Y]b[h]ž`k`Y][`h]U]b]X`Vč`gh]c]Z]X]Y]g][b]Y]X`d]U]f]h`
#X]j]Xi U`Vč]b]h]f]Vi h]c]b]g`UbX`d]Y]f]Y]j`U`i`U]h]c]b`"

5XX]h]c]b]U`XYH]j]g

H]Y`h]Y]Ua `UggYgga Ybha Uf_`k]`VY`a`cXYfUH]X`VmUW]X]Ya]W]f]Y]j]Yk `UbX`d]Y]f]Y]j`U`i`U]h]c]b`h]c`[]j`Y`Ub
]b]X]j]Xi U`a`Uf_`Zc`f`h]Y`UggYgga Ybh`

: cf`h]Y`h]Y]Ua `UggYgga Ybh]ž`Ub`]b]X]j]Xi U`gh]U]h]Y`a`Y]b]h]c]Z]W]U]a`c]Z]Wč]b]h]f]Vi h]c]b]g`a`i`gh]VY`gi`Va]h]Y]X
Y`Y`W]f]c]b]W]U`m]V]m]h]Y`UggYgga Ybh]Xi Y`XUH`": U]i`fY`h]c`gi`Va]h]U]b`]b]X]j]Xi U`gh]U]h]Y`a`Y]b]h]c]Z]W]U]a`Zc`f`h]Y`
UggYgga Ybh]k]`fYgi`h]b]U]b`]b]X]j]Xi U`d]Y]b]U`h]m]c]Z`%\$i`c]Z]h]Y`a`Ul]a`i`a`Uf_`dc]g]V]Y`Zc`f`h]Y`UggYgga Ybh`

: cf`h]Y`h]Y]Ua `UggYgga Ybh]ž`U`d]Y]f]Y]j`U`i`U]h]c]b`a`i`gh]VY`Vč`a`d`Y]h]X`Y`Y`W]f]c]b]W]U`n`d]Y]f]Y]j`U`i`U]h]c]b]g`Zc`f`h]Y`
8Yg][b!6i]`X!HYghd]f]c`Y`W]h]a`i`gh]VY`Vč`a`d`Y]h]X`Vm(.`\$]d]a`:`f]X]U]m]%-`h]`5]i`[`i`gh`": U]i`fY`h]c`Vč`a`d`Y]h]Y`h]Y`
d]Y]f]Y]j`U`i`U]h]c]b`Vm]h]Y`f]Y]e]]f]Y]X`X]Y]U]X]b]Y`Zc`f`h]Y`UggYgga Ybh]k]`fYgi`h]b]U]b`]b]X]j]Xi U`d]Y]b]U`h]m]c]Z`%\$i`c]Z`
h]Y`a`Ul]a`i`a`Uf_`dc]g]V]Y`Zc`f`h]Y`UggYgga Ybh`

A Ul]a`i`a`dU[Y`bi`a`VYfg`Y]i`W]i`XY`Z]c]b]h]a`U]h]Y`f]ž`f]Y]Z]f]Y]b]W]g`UbX`U]d]d]Y]b]X]W]g`"

5 hYbXUbWV`F Yei]fYa Ybhg

Gh XYbfg`UFY`ghfcb[`mfYWta a YbXYX`hc`UhtYbX`U`YWhi fYg`cf`fYj]Yk`YWhi fY`fYWcfX]b[g"
 5 hYbXUbWV`]g`fYei]fYX`UhU`k`cf_g\cdg`UbX`UVg" =Zmci f`UVgYbWV`Yei UH`g`hc`a`cfY`h`Ub`&\$i`cZ
 k`cf_g\cdg`UbX`UVgZmci`a`UmZJ]`h`Y`W`i`fgY`Z`c`f`VY`XYb]YX`gdYWU`W`b`g]XYfU]h`c`b"

7 ci fgY`GWXYXi`Y

[J \]Yk`WUgg`h`a`YhUV`Y](#)

H]a`YhUV`Y`

8UH`Y	Hmd`Y	7cbh`Y`bh
K`YY`_%`"``\$`A`Um!`` >i`bY	@YWhi`fY	5. `b`f`c`X`i`W`h`c`b`h`c`5`Y`f`c`g`d`U`W`V`8`Y`g`][`b`Z`8`Y`g`][`b` D`f`c`W`g`g`U`b`X`F`Y`j`]Y`k`g` 6. `G`h`f`i`W`h`f`Y`g`!`F`Y`[`i`U`h`c`b`g`U`b`X`@`c`U`X`:`U`W`h`c`f`g` f`l`5`F`&`t` 7. `G`h`f`i`W`h`f`Y`g`!`G`h`f`i`W`h`f`U`@`c`U`X`g`U`b`X`:`f`Y`Y`6`c`X`m` 8`]U`[`f`U`a`g`f`l`5`F`&`t`
K`YY`_`&`.*`>i`bY`!`%\$` >i`bY	@YWhi`fY	5. `G`h`f`i`W`h`f`Y`g`!`5`Y`f`c`g`d`U`W`V`G`h`f`i`W`h`f`U`8`Y`g`][`b`f`l`5`F` &`t` 6. `G`h`f`i`W`h`f`Y`g`!`:`U`j`i`f`Y`H`m`d`Y`g`U`b`X`A`U`h`f`]U`8`U`h`U` f`A`A`D`8`G`/`7`A`<`!`%`+`t` 7. `G`h`f`i`W`h`f`Y`g`!`H`f`i`g`g`Y`g`f`b`f`i`b`5`&`-`/`5`&`%`\$`/` :`U`V`Y`%`%`\$`t`
K`YY`_`"``.%`>i`bY`!`%+` >i`bY	@YWhi`fY	5. `G`h`f`i`W`h`f`Y`g`!`6`Y`U`a`g`f`l`U`V`Y`%`(`Z`%)`Z`%`*`Z`%`+`Z` 7`\\`&`t` 6. `G`h`f`i`W`h`f`Y`g`!`7`i`h`C`i`h`g`/`8`c`i`V`Y`f`g`f`B`j`i`7`\\`*`/` :`U`V`Y`7`\\`-`t` 7. `G`h`f`i`W`h`f`Y`g`!`E`i`]n`!`G`h`f`i`W`h`f`U`8`Y`g`][`b`
K`YY`_`(`.`&\$`>i`bY`!`&(` >i`bY	@YWhi`fY	5. `G`h`f`i`W`h`f`Y`g`!`>c`]b`h`g`/`:`U`g`h`Y`b`Y`f`g`f`b`f`i`b`8`%`/` :`U`V`Y`7`\\`t` 6. `G`h`f`i`W`h`f`Y`g`!`@`[`g`f`b`f`i`b`8`%`t` 7. `G`h`f`i`W`h`f`Y`g`!`G`h`f`i`W`h`f`U`8`Y`g`][`b`F`Y`j`]Y`k`
K`YY`_`)`.`&+`>i`bY`!`%` >i`m	@YWhi`fY	5. `G`m`g`h`Y`a`g`!`H`m`d`Y`g`c`Z`5`]f`W`U`Z`i`G`m`g`h`Y`a`g`f`A`c`]f`/` G`Y`U`V`f`]X`[`Y`&\$`%`7`\\`&`t` 6. `G`m`g`h`Y`a`g`!`G`m`g`h`Y`a`g`8`Y`g`][`b`7`c`b`g`]X`Y`f`U`]h`c`b`g`

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K YY_ ; . '%`>i `m!`&&>i `m	@YVh fY	5. '86H!' '86H'Gi ddcfh! 'A Ubi ZUVh fY`Z 7 cbgi `hU]cb`f]bfi \b'8%/` : 55!<! , \$, ' Ł 6. 'GmghYa g!' : i Y`'GmghYa g'fA c]f/ 'GYUVf]X[Y'&\$\$, '7\`' Ł 7. 'GmghYa g!' 'H6@E i]n' 7ca a i b]WU]cb`GmghYa g'fD]gUW]bY'7\` - Ł
K YY_-. '&)'>i `m!`&->i `m	@YVh fY	5. '86H!' '86H'Gi ddcfh! 'HYgh]b['Z`7 cbgi `hU]cb 6. 'GmghYa g!' '7 UgY`Gh Xm!`'6cY]b['+' + 'A 5L`f@]cb 5]f': '] [\h*%'\$`DfY`ja]bUfmF Ydcfh/ '9h.]cd]Ub 5]f]bYg': '] [\h' '\$&DfY`ja]bUfmF YdcfhŁ
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i bXYfa]bYg`UWUXYa]W]bhY[f]m]UbX`]g`bchlc`YfUHX`Uhl`BGK`"B`SY[Sde_`SfG@E|`[e VWX` VW`Se ge[`Y`
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D`U[]Uf]ga`]g`U`hmdY`cZ]bhY`YW`i`U`h`YZ`i`#iW]b`hU`_Y`a`UbmiZcfa`gžZca`XY`]VYfUHX`WX`YU]b[`hc`UWUXYbH`m`
W`dm]b[`Zca`U`gci`fW`k`]h`ci`hUW`bck`YX[`Ya`Ybh`I`BGK` `Ug`dfcXi`WX`U`k`YVg]h`k`]h`U`k`YU`h`cZ`
fYgci`fW`g`hc`gi`ddcfghi`XYbhg`hc`i`bXYfgHbX`UbX`Uj`c]X`d`U[]Uf]ga`ž`]g]h`[gh`XYbh`i`bgk`"YXi`"Ui`#d`U\[\]Uf\]ga`"](#)
H`Y`@YUfb]b[`7`YbhY`Ugg]ghg`gh`XYbhg`k`]h`i`bXYfgHbX]b[`UWUXYa]W]bhY[f]m]UbX`ck`bchlc`d`U[]Uf]gY`
H`Y`miU`gc`lc`X`k`cf_g`l`cdg`UbX`W]b`Y`d`gh`XYbhg`cbY!`cb!`cbY`"

Mci`UfY`U`gc`fYa`]bXYX`h`UhWUfYZ``h`a`Y`a`UbU[`Ya`Ybh]g`Ub`]a`dcfHbhdUfHcZghi`XmiUbX`cbY`cZ`h`Y`
]XYbh]Z`YX`W]i`gYg`cZ`d`U[]Uf]ga`]g`d`ccf`h`a`Y`a`UbU[`Ya`Ybh`G`h`XYbhg`g`l`ci`X`U`ck`gi`Z`W]Ybh]h`a`Y`Z`c`f`
fYgYUfW`ž`X`fU`Z]b[`UbX`h`Y`dfcdYf`fY`Z`fY`bW]b[`cZ`gci`fW`g`]b`dfY`dUf]b[`U`UggYgga`Ybh]Ug_g`"

ž`d`U[]Uf]ga`]g`Z`ci`bX`]b`mci`f`k`cf`_`k`Y`b`mci`UfY`]b`Z`fghmY`Ufž`mci`f`YW`i`fYf`k`]`c`Z`Y`f`mci`Ugg]ghU`bW`hc`
]a`dfcj`Y`mci`f`UWUXYa]Wg_]`g`"H`Y`ma`UmUg_`mci`hc`cc_`Uhgca`Y`cb`]bY`fYgci`fW`gž`U`hY`bX`h`Y`@YUfb]b[`
7`YbhY`ž`cf`gca`Y`h`a`Yg`fYgi`Va`]h`mci`f`k`cf`_`k`]h`h`Y`dfcV`Ya`Z]`YX`"<ck`Yj`Yf`a`cfY`gYf]ci`g`]bgHbW`g`]b`Z`fgh`
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U`fYXi`W`h`cb`]b`a`Uf_gž`Z]`]b[`U`W`i`fgY`cf`Zc`f`h`Y`a`cghgYf]ci`g`a`UH`Y`fg`f]`_Y`d`U[]Uf]ga`]b`Ub`l`cbci`fg`
h`Y`g]g`L`Yj`Yb`gi`gdYbg]cb`Zca`h`Y`i`b]`Yfg]m`H`Y`G`h`XYbhA`]gW`bXi`W`h`DfcW`Xi`fYg`UfY`Uj`U]UV`Y`Y`fY`.

[k`k`k`"\[g`i`bgk`"YXi`"Ui`#d`U\[\]Uf\]ga`\]W`<`cb`Y`g`m`i`U`b`X``D``U`\[` \]`U`f`\]`g`a`"\]`g`U`h`m`d`Y`c`Z`\]`b`h`Y``Y`W`i`U`h``Y`Z`i`#`i`W`\]`b`h`U`_`Y`a`U`b`m`i`Z`c`f`a`g`ž`Z`c`a`X`Y`\]`V`Y`f`U`H`X``W`X``Y`U`\]`b`\[` `h`c`U`W`U`X`Y`b`H`m`W`d`m`\]`b`\[` `Z`c`a`U`g`c`i`f`W`k`\]`h`c`i`h`U`W`b`c`k`Y`X\[`Y`a`Y`b`h`I`B`G`K` `U`g`d`f`c`X`i`W`X`U`k`Y`V`g`\]`h`k`\]`h`U`k`Y`U`h`c`Z`f`Y`g`c`i`f`W`g`h`c`g`i`d`d`c`f`g`h`i`X`Y`b`h`g`h`c`i`b`X`Y`f`g`H`b`X`U`b`X`U`j`c`\]`X`d`U`\[\]U`f`\]`g`a`ž` \]`g`\]`h`\[g`h`X`Y`b`h`i`b`g`k`"Y`X`i`"U`i`#`d`U`\\[\\]U`f`\\]`g`a`" `H`Y`@`Y`U`f`b`\\]`b`\\[`7`Y`b`h`Y`U`g`g`\\]`g`h`g`g`h`i`X`Y`b`h`g`k`\\]`h`i`b`X`Y`f`g`H`b`X`\\]`b`\\[`U`W`U`X`Y`a` \\]`W`\\]`b`h`Y`\\[`f`\\]`m`\\]`U`b`X`c`k`b`c`h`l`c`d`U`\\[\\]U`f`\\]`g`Y`" `H`Y`m`i`U`g`c`l`c`X`k`c`f`_`g`l`c`d`g`U`b`X`W`\\]`b`Y`d`g`h`X`Y`b`h`g`c`b`Y`!`c`b`!`c`b`Y`" `M`c`i`U`f`Y`U`g`c`f`Y`a`\\]`b`X`Y`X`h`U`h`W`U`f`Y`Z` `h`a`Y`a`U`b`U`\\[`Y`a`Y`b`h`\\]`g`U`b`\\]`a`d`c`f`H`b`h`d`U`f`H`c`Z`g`h`i`X`m`i`U`b`X`c`b`Y`c`Z`h`Y`\\]`X`Y`b`h`\\]`Z`Y`X`W`\\]`i`g`Y`g`c`Z`d`U`\\[\\]U`f`\\]`g`a` \\]`g`d`c`c`f`h`a`Y`a`U`b`U`\\[`Y`a`Y`b`h`G`h`X`Y`b`h`g`g`l`c`i`X`U`c`k`g`i`Z`W`\\]`Y`b`h`\\]`h`a`Y`Z`c`f`f`Y`g`Y`U`f`W`ž`X`f`U`Z`\\]`b`\\[`U`b`X`h`Y`d`f`c`d`Y`f`f`Y`Z`f`Y`b`W`\\]`b`\\[`c`Z`g`c`i`f`W`g`\\]`b`d`f`Y`d`U`f`\\]`b`\\[`U`U`g`g`Y`g`g`a`Y`b`h`\\]`U`g`_`g`" `ž`d`U`\\[\\]U`f`\\]`g`a` \\]`g`Z`c`i`b`X`\\]`b`m`c`i`f`k`c`f`_`k`Y`b`m`c`i`U`f`Y`\\]`b`Z`f`g`h`m`Y`U`f`ž`m`c`i`f`Y`W`i`f`Y`f`k`\\]`c`Z`Y`f`m`c`i`U`g`g`\\]`g`h`U`b`W`hc`\\]`a`d`f`c`j`Y`m`c`i`f`U`W`U`X`Y`a` \\]`W`g`_\\]`g`" `H`Y`m`a`U`m`U`g`_`m`c`i`hc`cc_`U`h`g`c`a`Y`c`b`\\]`b`Y`f`Y`g`c`i`f`W`g`ž`U`h`Y`b`X`h`Y`@`Y`U`f`b`\\]`b`\\[`7`Y`b`h`Y`ž`c`f`g`c`a`Y`h`a`Y`g`f`Y`g`i`V`a`\\]`h`m`c`i`f`k`c`f`_`k`\\]`h`h`Y`d`f`c`V`Y`a`Z`\\]`Y`X`"<`c`k`Y`j`Y`f`a`c`f`Y`g`Y`f`\\]`c`i`g`\\]`b`g`H`b`W`g`\\]`b`Z`f`g`h`m`Y`U`f`ž`g`i`W`U`g`g`h`U`\\]`b`\\[`U`b`c`h`Y`f`g`h`X`Y`b`h`g`k`c`f`_`c`f`d`U`\\]`b`\\[`g`c`a`Y`c`b`Y`hc`X`c`m`c`i`f`k`c`f`_`ž`a`U`m`V`Y`\\]`b`j`Y`g`h`\\[`U`H`X`i`b`X`Y`f`h`Y`G`h`X`Y`b`h`A`\\]`g`W`b`X`i`W`h`D`f`c`W`X`i`f`Y`g`"\]\(#\)](#)

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D9%") ? bck `YX[Y'cZYb[]bYYf]b['XYg][b'dfUW]W'UbX'WcbhYi h U`ZUW'c'fg]a dUW]b['hY Yb[]bYYf]b['X]gWd`]bY	
D9%"* 'i bXYfghUbX]b['cZhY'gW'cdY'z'df]bWd`Yg'z'bcfa g'z'UW'W'ci bHUV']h]Yg'UbX'Vci bXg'cZ gi gh]bUV'Y'Yb[]bYYf]b['dfUW]W']b'hY'gdYW]ZWX]gWd`]bY	
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DfcZYgg]cbU`UbX'dYfgcbU`Uhf]Vi hYg	
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D9' "*" '9ZYW]j Y'hYUa 'a Ya VYfg\]d'UbX'hYUa ``YUXYfg\]d	