



7ci fgY`Cj Yfj ]Yk

`GHUZZ7cbhUW`i8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]UV]`]m	@cWU]hcb	D\cbY
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@cWU]hcb. `GVXcc``C Z]WžA cfj Yb`6fck b`6i ]X]b[ ž`@Yj Y`&ž`& ,

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7 ci fgY'8YHJ]`g

7 fYX]hDc]bHg`\*`

Gi a a UfmicZ'h\Y'7 ci fgY

Gi V'YWhUfYU.'3e[S` E fgV[Mé

H\]g'Wci fgY'Wb'U'gc'VY'ghi X]YX']b'h\Y'Zc`ck ]b[ 'gdYW]U'gUh]cb.'5 Z[ ' WéWE fgV[Mé

7 \]bU'cZ]fg'U'f]W\ 'WébhYI hZcf'YI Ua ]b]b[ 'h\Y'W'hi fYg'UbX'dc`]h]Wg'cZa YX]U'UbX'Wéa a i b]WU]cb" 'H\Y'g]nY  
UbX'Wéa d'YI ]micZ7 \]bYgY'dc`]h]Wg'YWé bca mUbX'gc'W]Ymž'UbX'7 \]bU'g'fc'Y']b'g\Ud]b[ '[ `cVU'a YX]U'UbX

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A YX]U`7ca a YbhUfm	&\$!	&* # \$' #&\$%- '\$( . \$ \$' DA	&ž ž(
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## 5ggYgga Ybh8YHU]`g

5ggYgga Ybh%`DfYgYbhUH]cb`d`i`g`hfUbgW]dh

GHUfhXUHŸ. '\$) # \$' #&\$%- '%&.\$ \$' DA

8YHU]`g. `Gh XYbhg`dfYgYbhcb`h`Y`W`b`h`b`h`f`V`c`h` `Y`W`i` f`Y`g`U`b`X`'f`Y`U`X`]`b`[`g`E`c`Z`h`Y`]`f`U`g`g`[`b`Y`X`'k`Y`Y`\_`" `H` \ `]`g`'k` ]`  
 f`Y`e`i` ]`f`Y`'m`e`i` `h`c`'d`f`Y`g`Y`b`h`U`b`X`'X`]`g`W`g`g`'h`Y`'W`c`f`Y`'U`f`[`i`a`Y`b`h`g`Z`c`a`'h`Y`'k`Y`Y`\_'g`'f`Y`U`X`]`b`[`g`ž`k` ]`h`'U`X`X`]`h`c`b`U`  
 f`Y`g`Y`U`f`W`Ÿ`" `H` \ `Y`' [`c`U`'g`'c`Z`m`e`i` f`d`f`Y`g`Y`b`h`U`h`c`b`'U`f`Y`'h`c`'f`%`E`'W`c`a`a`i`b`]`W`U`h`'m`e`i` f`]`b`h`f`d`f`Y`U`h`c`b`'c`Z`h`Y`'k`Y`Y`\_'g`'a`U`]`b`  
 W`c`b`W`d`h`g`'U`b`X`' ]`X`Y`U`g`ž`'U`b`X`'f`&`E`[`Y`b`Y`f`U`h`'X`]`g`W`g`g`]`c`b`'U`a`c`b`[`'m`e`i` f`d`Y`Y`f`g`'U`b`X`'ž`'f`h`Y`f`i`b`X`Y`f`g`h`U`b`X`]`b`[`'c`Z`h`Y`  
 W`c`i`f`g`Y`'W`c`b`h`b`h`'M`c`i`'g` \ `c`i`'X`'g`i`Va` ]`h`h`Y`'f`U`b`g`W`]`d`h`c`Z`m`e`i` f`d`f`Y`g`Y`b`h`U`h`c`b`'Z`c`f`U`g`g`Y`g`g`a`Y`b`h`':`Y`Y`X`V`U`W`\_' ]`U`  
 ]`b`X`]`j` ]`X`i`U`'W`c`a`a`Y`b`h`g`'U`b`X`'f`i`V`f`]`W`

5XX]h]cbU`XYHU]`g.

F YZf`h`c`XYHU]`g`c`Z`U`g`g`Y`g`g`a`Y`b`h`HU`g`\_`g`'c`b`'A`c`c`X`Y`

Gi Va ]gg]cb`b`c`h`Y`g`D`Y`U`g`Y`'g`i`Va` ]`h`V`c`h`'d`f`Y`g`Y`b`h`U`h`c`b`'ž`Y`'U`b`X`'f`U`b`g`W`]`d`h`U`g`'c`b`Y`'ž`Y`'h`c`'H`i`f`b`]`h`b`'V`m`h`Y`'X`i`Y`  
XUHŸ

Hi fb]h]b`g`Y`h]b`[` . `H` \ `]`g`'U`g`g`[`ba`Y`b`h`]`g`'g`i`Va` ]`h`Y`X`'h`f`c`i` [ ` \ `H`i`f`b`]`h`b`'U`b`X`'g`h`i`XY`b`h`g`'W`U`b`'g`Y`Y`'H`i`f`b`]`h`b`'g`a` ]`U`f`]`m`  
f`Y`d`c`f`g`"

5ggYgga Ybh&`A YX]U`7ca a YbhUfm

GHUfhXUHŸ. `B`c`h`5`d`d`]`W`U`V`Y`

@Yb[ h. , \$ \$! % \$ \$ \$ `k`c`f`X`g`

8YHU]`g. `Gh XYbhg`UfY`f`Y`e`i`Y`g`h`Y`X`'h`c`'W`c`c`g`Y`'U`'g` \ `c`\$                      %o                      %o                      %o                      8YHU

Hi fb]hb'gYH]b[ . H\]g'Ugg][ ba Ybh]g'gi Va ]hX'h'fci [ \ 'Hi fb]hb'UbX'ghi XYbhg'WUb'gYY'Hi fb]hb'g)a ]'Uf]hm fYdcftg"

5ggYgga Ybh' . 'F YgYUfW'YggUm

GHUfhXUH' . Bch5dd']WVY

@Yb[ h. ' z\$\$\$'k cfXg

8YHJ]`g. 'Gh XYbhg'k f]h'Ub'YggUmifW"" z\$\$\$'k cfXg'VUgYX'cb']bXYdYbXYbhfYgYUfW": YYXVUW\_j ]U ]bXj ]Xi U`Wca a Ybhg'UbX'fi Vf]W'H\]g ]g'h'Y'Z]bU'UggYgga YbhZcf'UhhYbXUbVW'di fdcgYg"

5XX]h]cbU'XYHJ]`g.

F YZf'hc'XYHJ]`g:cZUggYgga YbhUg\_g'cb'A ccX'Y

Hi fb]hb'gYH]b[ . H\]g'Ugg][ ba Ybh]g'gi Va ]hX'h'fci [ \ 'Hi fb]hb'UbX'ghi XYbhg'WUb'gYY'Hi fb]hb'g)a ]'Uf]hm fYdcftg"



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Ʒmci`YbWci bhYf`U`dfcV`Ya`k` \Yb`U`H`Ya` dh]b[ `hc`gi Va ]hmc`i`f`Ugg][ ba YbhHfci [ \`Hi fb]hb`z`d`YUgY  
H`Y`d`l`cb`Y`9I`H`f`b`U``Gi` ddcfhcb`-`'` ,` )` " ` ' ` ' ` %cf`Ya` U]`H`Ya` `cb`YI`H`f`b`U`H`Y`hgi` ddcfh4` i` bgk` "YXi` "Ui` " `Gi` ddcfh  
`l`ci` fg`UfY` ,` .`\$\$Ua` -`-%\$.`\$\$da` `cb`k` YY`\_`XUmg`U`b`X`-` .`\$Ua` -`-` )` .`\$da` `cb`k` YY`\_`YbXg`f`l` \*)` `XUmg`U`m`Y`U`f`l`" Ʒmci  
UfY`i` bUV`Y`hc`gi Va ]hmc`i`f`Ugg][ ba YbhXi`Y`hc`U`Z`U`i`h`k`]H`Hi`fb]hb`mci`i`a`Um`U`dd`m`i`Z`f`U`b`YI`H`Y`bg]cb`z`Vi`hmc`i  
a`i`gh`f`Y`H]b`mci`f`h`W`Y`h`bi`a`VY`f`Z`ca`9I`H`f`b`U``Gi` ddcfhfU`cb[ `k`]H`U`b`m`c`H`Y`f`f`Y`Y`j`U`b`h`X`c`W`a`Y`b`h`g`l`hc  
]b`W`i`X`Y`U`g`Y`j`]X`Y`b`W`hc`gi` ddcfhmci`f`YI`H`Y`bg]cb`U`dd`]W`h`cb`" Ʒmci`Ya`U]`9I`H`f`b`U``Gi` ddcfhmci`k`]`  
Ui`hc`a`U`h`W`U`m`f`Y`W`]j`Y`U`h`W`Y`h`bi`a`VY`f`z`Vi`h`]Z`mci`H`Y`d`l`cb`Y`mci`k`]`b`Y`Y`X`hc`gd`Y`W`Z`W`U`m`U`g`\_`Z`f`cb`Y`"  
Hi`fb]hb`U`gc`d`fc`j`]X`Y`g`i`d`X`U`H`Y`g`i`cb`H`Y`]f`g`m`g`H`Ya`i`g`h`U`h`g`i`cb`H`k`]H`Y`f`"

; YbYfU`m`z`UggYgga YbhHUg\_g`a`i`gh`V`Y`gi`Va`]H`Y`X`Y`Y`W`f`cb]W`U`m`j`]U`Y`]H`Y`f`Hi`fb]hb`cf`U`A`cc`X`Y`  
Ugg][ ba Ybh`H`b`]bg`h`U`b`W`g`k` \Y`f`Y`H`l`g`]g`b`c`h`i`d`c`g`g`]V`Y`Z`]h`k`]`V`Y`g`h`U`H`X`i`cb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]H`Y`k`]H`  
U`H`f`b`U`h`j`Y`gi`Va`]gg]cb`X`Y`H]`g`"

: cf`]b`Z`c`fa`U`h`cb`cb` \c`k`hc`gi Va ]hUgg][ ba Ybh`g`cb`]b`Y`j`]U`A`cc`X`Y` .` \`h`d`g`#`g`h`X`Y`b`h`i` bgk` "YXi` "Ui` #`ack`!  
gi Va ]hUgg][ ba Ybh`a`cc`X`Y`"



5 WUXYa ]W<c bYghmiUbX 'D`U[ ]Uf]ga

D`U[ ]Uf]ga 'g'i g]b[ 'hY`k cfXg'cf]XYUg'cZchYfg'UbX'dfYgYbh]b[ 'hYa 'Ug'mci f'ck b" 'hWUb'hU\_Y'a Ubm  
Zcfa gžZca 'XY`]VYfUh'WXYUh]b[ 'h'UWVXYbhU`miW'cdm]b[ 'Zca 'U'gci fW'k ]h'ci hUW\_bck `YX[ Ya Ybh'

I BGK '[ fci dg'd`U[ ]Uf]ga ']bh' hY`Zc`ck ]b[ 'WUHY[ cf]Yg.

7 cdm]b[ .i g]b[ 'hY`gUa Y'cf'j Yfmg]a ]Uf'k cfXg'h' hY'cf][ ]bU`hI hcf']XYU'k ]h'ci hUW\_bck `YX[ ]b[ 'hY

- 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][ \hžI BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5Ww'dhUV'Y'I gY'cZ I BGK '⇒H'F Ygci f'Wg'Dc`]Wm
- VY'Uk UfY'cZh'Y'ghUbxUfXg'cZVY\Uj ]ci f'YI dYW'X'cZYj Yfmcby'jb'h'Y'I BGK 'Wc a i b]m
- `cWJh'gYfj ]Wg'UbX'jbZcfa Uhcb'UVci hl BGK 'UbX'I BGK '@VfUfm

Gca Y'cZh'YgY'UfYUg'k ]`VY'ZJa ]]Uf'hc'mci ž'ch'Yfg'k ]`VY'byk "; U]b]b[ 'U'gc`X'i bXYfghUbx]b[ 'cZU`h'Y fY'UH'X'UgdYW'g'cZ9@G9'k ]`Y'd'mci 'a U\_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\hd. #gj V'YWf i \]XYg" \]VfUfm'i bgk "YXi "Ui #'\]gY#JVci h' \]gY](#)

## 5 WUXYa ]WbZcfa Uhcb`

: cf`YggYbh]U`ghi XYbh]bZcfa Uhcb`fY`Uh]b[ `hc.

- fYei Yghg`ZcfYI hYbg]cb/
- `UH`gi Va ]gg]cbg`[ i ]XY`]bYg/
- fYj ]Yk `cZa Uf\_g/
- I BGK `<YU`h`UbX`GUZY`midc`]WYg/
- YI Ua ]bUh]cb`dfcVWXi fYg/
- gdYW]U`Vc]bg]XYfUh]cb`]b`hY`Yj Ybhcz]`bYgg`cf`a ]gUXj Ybh fY/
- ghi XYbhYei ]m]UbX`X]gUV`]m/
- UbX`chYf`YggYbh]U`UWUXYa ]W]bZcfa Uh]cbz`gYY

[\h\]dg.#k k k "Ufng`i b\]k "YXi "Ui #W ffYbh\]ghi XYbh\]bZcfa Uh\]cb`dfc\]Vc`g!\[ i \]XY`\]bYg#](#)

⇒ U[ Y`7 fYX]h

D\chc`VmF Uk d]l Y`cb`l b]gd`Ug\

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