



**EDST5808**

GWcc`cZ9XI WJhcb`#`! BGK ``5fng`UbX`GcWU`GvYbWg



7ci fgY`Cj Yfj JYk


7 ci fgY'8YHJ]`g

7 fYX]hDc]bHg`\*`

Gi a a UfmicZh\Y'7 ci fgY

H\]g`Wci fgY`]g`Ub`]bfcXi W]cb`hc`h\Y`\_YmWcbW`dHg`UbX`]ggi Yg`gi ffc`i bX]b[ ` [ ]ZHX`YXi W]h]cb" H\fc`i [ \`U`a` ]l`h`fY`cZcb`]bY`Y`W`fYg`z`gY`Z`X]fY`W`X`U`W`h]`]h]Yg`z`X]g`W`gg]cb`Z`c`f`i`a`g`UbX`g`Y`Z`X]fY`W`X`fY`UX]b[ `z`m`c`i`k` ]` [ U]b`]b`Z`c`f`a`U`h]cb`UbX`g`\_]`g`fY`U`h]b[ `hc`h\Y`f`U`L`X`Y`Z`b]h]cbg`z`W`c`b`W`d`h]cbg`z`UbX`a`c`X`Y`g`c`Z [ ]ZHX`b`Y`gg`z` ]b`W`i`X]b[ `h`c`g`Y`W`c`a`a`c`b`m`i`g`Y`X`]b`5`i`g`f`U`]Ub`g`W`c`c`g`z`f`V`L`h`Y`W`c` [ b]h] Y`UbX`U`Z`Y`W`h] Y`W`U`f`U`W`Y`f]g`h]W`g`c`Z [ ]ZHX`g`h`X`Y`b`h]f`U`b`X`h`Y`f`X]Z`Y`f`b`W`g`hc`h\Y`W`c` [ b]h] Y`UbX`U`Z`Y`W`h] Y`W`U`f`U`W`Y`f]g`h]W`g`c`Z`b`c`b`! [ ]ZHX`g`h`X`Y`b`h]g`z` f`W`L`h`Y`a`U`c`f`d`f]b`W`d`Y`g`UbX`]b`g`f`i`a`Y`b`h]i`g`Y`X`]b`h`Y`]X`Y`b`h]Z`W`h]cb`c`Z [ ]ZHX`g`h`X`Y`b`h]g`z`f`X`L`X]j`Y`f`g`Y` [ f`c`i`d`g`c`Z [ ]ZHX`g`h`X`Y`b`h]g`z`]b`W`i`X]b[ `h`k`]W`Y`i`W`d`h]cb`U`g`h`X`Y`b`h]g`z`UbX`Y`i`W`d`h]cb`U`m [ ]ZHX`g`h`X`Y`b`h]g`z`UbX`f`Y`L`W`Y`U`h] ]h`f`

5 h\Y`W`c`b`W`i`g]cb`c`Z`h]g`W`c`i`fgY`h\Y`g`h`X`Y`b`h]k`]`V`Y`U`V`Y`hc`

- % " X`Y`b`h]Z`m`UbX`Y`j`U`i`U`h`Y`h\Y`W`f`Y`b`h]g`g`i`Y`g`h`U`h]b`Z`i`Y`b`W`h\Y`Y`X`i`W`h]cb`c`Z]b`h`Y`W`i`U`m [ ]ZHX`g`h`X`Y`b`h]g`z`
- &" 8 ]g`W`g`g`k`U`m`g`]b`k`\]W`]b`h`Y`W`i`U`m [ ]ZHX`g`h`X`Y`b`h]g`z`X]Z`Y`f`Z`c`a`h\Y`f`U` [ Y`d`Y`f`g`]b`h\Y`f`W`c` [ b]h] Y`UbX`g`c`V]c!U`Z`Y`W`h] Y`X`Y`j`Y`c`d`a`Y`b`h`
- ' " 5 g`g`Y`g`g`h\Y`W`i`g`Y`g`c`Z`U`W`X`Y`a`]W`i`b`X`Y`f`U`W`]Y`j`Y`a`Y`b`h]b` [ ]ZHX`g`h`X`Y`b`h]g`z`
- (" 9 ]U`a`]b`Y`g`c`a`Y`c`Z`h\Y`W`c`a`a`c`b`a`m`h]g`U`g`g`c`W`U`h`Y`X`k`]h`h\Y`Y`U`f`b]b[ `b`Y`Y`X`g`c`Z [ ]ZHX`g`h`X`Y`b`h]g`z`
- ) " 8 ]g`W`g`g`k`U`m`g`]b`k`\]W`h`Y`U`W`Y`f`g`a`U`m`V`Y`U`V`Y`hc`]X`Y`b`h]Z`m [ ]ZHX`g`h`X`Y`b`h]g`z`

HYUWX]b[ `G`h`f`U`h] [ ]Y`g`

HYUWX]b[ `g`h`f`U`h] [ ]Y`g`

H\Y`h`Y`U`W`X]b[ `g`h`f`U`h] [ ]Y`g`hc`V`Y`i`g`Y`X`]b`h\Y`W`c`i`fgY`k`]`W`c`a`d`f]g`Y`U`a` ]l`h`fY`c`Z`cb`]bY`Y`W`i`fY`g`z`g`Y`Z`X]fY`W`Y`X`U`W`h]`]h]Y`g`z`d`U`f`h]W`d`U`h]cb`]b`c`b`]b`Y`X]g`W`g`g]cb`Z`c`f`i`a`g`z`UbX`g`Y`Z`X]fY`W`Y`X`fY`UX]b[ `h`U`h`f`Y`Z`Y`W`h]Y`j`X`Y`b`W`!`V`U`g`Y`X`h`Y`U`W`X]b[ `d`f`U`W`h]W`g`

F`U`h]cb`U`Y`

H\Y`W`c`b`h]b`h]c`Z`h\Y`W`c`i`fgY`d`f`c`j`]X`Y`g`m`c`i`k`]h`U`b`c`j`Y`f]j`Y`k`c`Z`h\Y`a`U`c`f`]g`g`i`Y`g`f`Y`Y`j`U`b`h]c`h\Y`Y`X`i`W`h]cb`c`Z [ ]ZHX`UbX`h`U`Y`b`h]X`g`h`X`Y`b`h]g`z`" H\Y`h`Y`U`W`X]b[ `U`d`d`f`c`U`W`X`U`h]Y`a`d`h]g`hc`U`W`h] Y`m`Y`b [ U [ Y`m`c`i` ]b`X]g`W`g`g]cb`c`Z`W`f`Y`b`h]h`Y`c`f`m`UbX`d`f`U`W`h]W`z`UbX`U`g`g]g`h]g`m`c`i`]b`Y`U`f`b]b[ `b`Y`k`]b`Z`c`f`a`U`h]cb`UbX`g`\_]`g`f`Y`U`h]X`hc`\_Y`m`W`c`b`W`d`h]g`]b` [ ]ZHX`Y`X`i`W`h]cb`" `M`c`i`k`]`V`Y`f`Y`e`i`]f`Y`X`hc`h`U`\_Y`f`Y`g`d`c`b`g]V`]h`m`Z`c`f`m`c`i`f`c`k`b`Y`U`f`b]b[ ]b`h`g`W`c`i`fgY`"

5i ghfU`]Ub`DfcZYgg]cbU` ; fUXi UhY`HYUW ]b[ `GHJbXUfXg

GHJbXUfX	8YgW]dh]cb
%"&"	9I dUbX`i bXYfghJbX]b[ `cZ\ck`gh`XYbhg`YUfb`i`g]b[ `fYgYUfW`UbX`k`cf_d`UW` _bck`YX[`Y`"
%)`""	9j U`i`UH`Y`YUfb]b[ `UbX`HYUW ]b[ `dfc[ fUa`g`i`g]b[ `gh`XYbhUggYgga`YbhXUH`Z`h`Uh`UFY` X]ZYfYbh]UH`X`Z`f`h`Y`gdYW]Z`W`YUfb]b[ `bYYXg`cZ`gh`XYbhg`UW`cgg`h`Y`Z`""fUb[`Y`cZ` UV]]]hYg"
`""`""	Gi`ddcfh`Wc`YU[`i`Yg`hc`gY`YW`h`UbX`Udd`m`YZ`W]j`Y`HYUW ]b[ `ghfUH`[`]Yg`hc`XYj`Y`cd` _bck`YX[`Y`Z`g_]`g`Z`dfcV`Ya`gc`j`]b[ `UbX`W]h]W`UbX`W`YU`h]`Y`h`b_]b[
`"*`"&	9j U`i`UH`dYfgcbU`HYUW ]b[ `UbX`YUfb]b[ `dfc[ fUa`g`i`g]b[ `Yj`]XYbW`Z`]bW`i`X]b[ `ZYXVUW` Z`ca`gh`XYbhg`UbX`gh`XYbhUggYgga`YbhXUH`Z`hc`]bZ`fa`d`Ubb]b[`"
*`"&`&	DUfh]W]dUH`Y`]b`YUfb]b[ `hc`i`dXUH`_bck`YX[`Y`UbX`dfUW]W`Z`h]f[`Y`h`X`hc`dfcZYgg]cbU` bYYXg`UbX`gW`cc`UbX`#`c`f`gm]h`a`df]c]f]hYg"
*`("`&	I`bXYfU`_Y`dfcZYgg]cbU`YUfb]b[ `dfc[ fUa`g`XYg][`bYX`hc`UXXfYgg`]XYbh]Z`YX`gh`XYbh` YUfb]b[ `bYYXg"

# 5ggYgga Ybh

; YbYfU`UggYgga Ybh]bZcfa U]cb`a UmVY`UWwYggYX`]b`A ccX`Y"

## 5ggYgga YbhHUg\_g`

5ggYgga YbhHUg_	K Y][ \h	Gh XYbh@YUfb]b[ Ci hWta Yg 5ggYggYX	5 #HG@DfcZYgg]cbU`]; fUXi UHY HYUW]b[ `GHUbXUfXg`5ggYggYX	8i Y 8UHY
F YZYW]cb`	( \$i	%z&z( z)	%&" z%) "" z "" "	&*#\$` #& \$% \$).\$\$ DA
5Xj cWUWniUfhjWY`	*\$i	&z z( z)	%&" z ""&z*"& &z*" ("&	&%( \$) #& \$% \$).\$\$ DA

D`YUgY`fYZf`hc`3gefS`[S` BdaXWee[a` S`^E`fS` VsdVe XadFWSUZWde`cb`hY`dfYj`]ci`g`dU[`Y

## 5ggYgga Ybh8YhU]`g

5ggYgga Ybh%`F YZYW]cb`

GHUfhXUHY`Bch5dd`]WUV`Y

8YhU]`g`HUg`\_%!`DfYdUFY`U`dUdYf`h`UhdFcj`]XYg`U`fYZYW]cb`cb`[`]ZYX`gh`XYbtrg`#`]ZYX`YXi`WU]cb`k`]h`  
fYZfYbW`hc`h`Y`]]fYfUhi`fY`Gh`XYbtrg`k`]`fYW]j`Y`k`f]hYb`ZYXVUW`k`]h`]b`%\$`XUmj`cZgi`Va`]gg]cb`

Gi Va ]gg]cb'cZ5ggYgga YbhHUg\_g

Gh XYbng'UFY'YI dYW'X'hc'di h'AY]f'bUa Yg'UbX'ghi XYbhbi a VYfg'cb'Yj YfmdU[ Y'cZ'AY]f'Ugg][ ba Ybng"

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

zmc i 'YbWci bhYf'U'dfcV'Ya 'k \Yb'U'HYa dh]b[ 'hc'gi Va ]hmc i f'Ugg][ ba Ybh'fci [ \ 'Hi fb]h]bzd'YUgY  
HY'Yd\cbY'9I HYfbU'Gi ddcfhcb'-' , ) ' ' ' %cf'Ya U]'h'Ya 'cb'[YI HYfbU'HY'fji ddcfh i bgk "YXi "Ui "](#)Gi ddcfh  
\ci fg'UFY' , .\$\$Ua '-'%. \$\$da 'cb'k YY\_XUmg'UbX'-. \$\$Ua '-') . \$\$da 'cb'k YY\_YbXg'f1 \*) 'XUmg'U'mYUfL' zmc i  
UFY'i bUV'Y'hc'gi Va ]hmc i f'Ugg][ ba YbhXi Y'hc'U'ZU' 'hk ]h'Hi fb]h]b' mci 'a UmiUdd'm'Zcf'Ub'YI HYbg]cbz'Vi hmc i  
a i ghfYhU]b' mci f'h]W\_Yhbi a VYf'Z'ca '9I HYfbU'Gi ddcfhfU'cb[ 'k ]h'Ubmc'h'Yf'f'Yj UbhXcW a Ybng'hc  
]bW' XY'Ug'Yj ]XYbW'hc'gi ddcfhmc i f'YI HYbg]cb'Udd' ]W]h]cb" zmc i 'Ya U]'9I HYfbU'Gi ddcfhmc i 'k ]`  
Ui 'ca U]W' m'f'Y'W'j Y'U'h]W\_Yhbi a VYfz'Vi h]Zmc i 'HY'Yd\cbY' mci 'k ]`b'Y'X'hc'gdY'W]W' m'Ug\_'Zcf'cbY"  
Hi fb]h]b'U'gc'dfcj ]XYg'i dXUHYg'cb'h'AY]f'gmghYa 'ghU'g'cb'Hk ]h'f"

; YbYfU'mz'UggYgga YbhHUg\_g'a i ghVY'gi Va ]h'X'Y'Y'W'fcb]W'mj ]U'Y]h'Yf'Hi fb]h]b'cf'U'A ccX'Y  
Ugg][ ba Ybh' b ]bg'U'bw'g'k \YfY'h' ]g' ]g'bchidcgg]V'YZ]hk ]`VY'g'U'Y'X'cb' mci f'Wci fgY'g'A ccX'Y'g]h'k ]h'  
U'h'fbU'h] Y'gi Va ]gg]cb'XYhU]g"

@UH'5ggYgga YbhDYbU'h]Yg

f`G][ b]Z]W]b]h]m]U]Z]Y]W]h]m]i] f]d]Y]f]Z]c]f]a] U]b]W]W] ]b]U]g]g]Y]g]g]U]V]`]Y]`]k] c]f]\_]Z]V]Y]`]h]U]`]Z]c]f]a] U]`]Y]b]X]!]c]Z]g]Y]a] Y]g]h]Y]f]`]Y]I] U]a] ]b]U]h]c]b]Z]U] W]U]g]g]`]h]Y]g]h]Z]U]`]U]V]c]f]U]h]c]f]m]h]Y]g]h]Z]U]`]g]Y]a] ]b]U]f]d]f]Y]g]Y]b]h]U]h]c]b]`]c]f]U]b]m]c]h]Y]f]`]Z]c]f]a] `]c]Z]U]g]g]Y]g]g]a] Y]b]h]

: c]f]`]Z] f]h]Y]f]`]X]Y]h]U]`]g]`]b]`]f]Y]`]U]h]c]b]`]h]c]`]G]d]Y]W]U]`]7]c]b]g]X]Y]f]U]h]c]b]`]b]W]i] X]b]b] [ ``]K] \]Y]b]`]h]c]`]5]d]d]`]m]Z]``<]c]k]`]h]c]`]5]d]d]`]m]`]U]b]X] ``]G]i] d]d]c]f]h]b] [ `]8]c]W] a] Y]b]h]U]h]c]b]``]d]`]Y]U]g]Y]`]f]Y]Z]f]`]h]c]`]h]Y]`]G]d]Y]W]U]`]7]c]b]g]X]Y]f]U]h]c]b]`]k] Y]V]g]h]Y]`].`

[\\]h\]c\]g.\]#\]g\]h\] X\]Y\]b\]h\]i\] b\]g\]k\] "Y\]X\]i\] "U\]i\] #\]g\]d\]Y\]W\]U\]`\]!\]W\]c\]b\]g\]X\]Y\]f\]U\]h\]c\]b\]](#)

## 5 WUXYa ]W<c bYghmUbX '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 gž Zca`XY`]VYfUh`WXYU]b[ 'h`UW]XYbhU`mW`dm]b[ Zca`U`gci fW`k ]h`ci hUW`bck`YX[ Ya`Ybh`

I BGK` [ fci dg`d`U[ ]Uf]ga` ]bhc`hY`Z`ck ]b[`WU]h[ cf]Yg.

7cdm]b[ .`i`g]b[ 'hY`gUa`Y`cf`j`Yfmg]a` ]Uf`k`cfXg`h`hY`cf][ ]bU`hY`hcf`]XYU`k` ]h`ci`hUW`bck`YX[ ]b[ 'hY`  
gci`fW`cf`i`g]b[ `ei`ch]cb`a`Uf`g`"H`]g`U`gc`Udd`]Yg`h` ]a`U[ Ygž`Ufh`UbX`XYg][`b`dfc`YWgž`Ug`k`Y`"Ug`  
dfYgYbh]cbg`k` \Yf`gca`YcbY`dfYgYbh]`Ubc`hY`f`g`]XYUg`cf`k`cfXg`k` ]h`ci`hW]YX]h`

hUddfcdf]U]h`dUfUd`fUg]b[ .`W`Ub[ ]b[ `U`Z`k`k`cfXg`UbX`d`fUgYg`k` \]Y`a`cghm`fY]U]b]b[ 'hY`cf][ ]bU`  
g]h`i`W`fY`UbX`]bZcfa`U]cb`k` ]h`ci`hUW`bck`YX[ Ya`Ybh`"H`]g`U`gc`Udd`]Yg`]b`dfYgYbh]cbg`k` \Yf`gca`YcbY`  
dUfUd`fUgYg`Ubc`hY`f`g`]XYUg`cf`k`cfXg`k` ]h`ci`hW]YX]h` `hU`gc`Udd`]Yg`h`d`]YW]b[ `h`[ Y`hY`f`ei`chYg`UbX`  
dUfUd`fUgYg`]bhc`U`bYk`k` \c`Yž`k` ]h`ci`hY`ZYfYbW]b[ `UbX`U`gh`XYbh`g`ck`b`UbU`mg]g`h`Vf]b[ 'hY`a`U]h`f]U`  
h`[ Y`hY`f`

7c`i`g]cb.`k`cf\_]b[ `k` ]h`c`hYfg`Vi`hdUgg]b[ `cZ`hY`k`cf\_]`Ug`U`dYfgcb`g`]bX]j` ]Xi`U`k`cf\_]`7c`i`g]cb`U`gc`  
]bWi`XYg`dfcj`]X]b[ `mci`f`k`cf\_]`h`Ubc`hY`f`gh`XYbhVY`Zc`fY`hY`Xi`Y`XU]h`ž`cf`Zc`f`hY`di`fdcgY`cZ`hYa`  
d`U[ ]Uf]g]b[ `Uh`Ubmi`h]a`Yž`dUm]b[ `Ubc`hY`f`dYfgcb`h`dYfZc`fa`Ub`UW]XYa` ]W]Ug`ž`ghU`]b[ `cf`UW`ei` ]f]b[  
Ubc`hY`f`dYfgcb`g`UW]XYa` ]Wk`cf\_]`UbX`W`dm]b[ `]ž`c`ZYf]b[ `h`W`ca`d`Y`h`Ubc`hY`f`dYfgcb`g`k`cf\_]`cf`gYY\_]b[  
dUma`YbhZc`f`W`ca`d`Y]b[ `UW]XYa` ]Wk`cf\_]`

hUddfcdf]U]h`W]h]cb.`7`]h]b[ `gci`fW]g`k` \]W` \Uj`Y`bchVYYb`fYUXž`k` ]h`ci`hUW`bck`YX[ ]b[ 'hY`"gYW`bXUfm`  
gci`fW`Zca`k` \]W`\_bck`YX[ Y`cZ`hYa` \Ug`VYYb`cV]U]bYX`

8i`d`]W]h]cb`ffgY`Zd`U[ ]Uf]ga` "E`gi`Va` ]h]b[ `mci`f`ck`b`k`cf\_]b[ `k` \c`Y`cf`]b`dUf]ž`k` \YfY`]h`Ug`dfYj` ]ci`g`m`  
VYYb`dfYdUfYX`cf`gi`Va` ]hYX`Zc`f`Ubc`hY`f`UggYgga`Ybhcf`W`ei`fgY`U]h`I`BGK`cf`Ubc`hY`f`i`b]j`Yfg]h`

7c`ffY`W]h`fY`ZYfYbW]b[ `dfUW]W]g.

- DUFUd`fUg]b[ žgi`a`a`Uf]g]b[ žYggUm`k`f]h]b[ `UbX`h]a`Y`a`UbU[ Ya`Ybh`
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- VYhYf'a UbU[ Y'mci f'h]a Y
- i bXYfgHUbX'mci f'f][ \hg'UbX'fYgdcbg]V']hYg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'W'dmf][ \hž' BGK 'Gh XYbh7cXY'cZ7cbXi WñUbX'5WwdfUV'Y'l gY'cZ  
I BGK '⇒H'F Ygci fW'g'Dc`]Wñ




