



LING5026

HY'Ghf Wf fy'cZ@Ub[i U[Y

HYfa 'CbY' #'&\$%

7 ci fgY`Cj Yfj]Yk

`GHJZ`7cbHJW`i8YHJ`g`

`7cbj Ybcfg`

B Ua Y	9a U`	5j U]`UV]`]m	@cWJh`cb	D\cbY
A Yb[]gh `5a VYfVYf	a "Ua VYfVYf4 i bgk "YXi "Ui			

7ci fgY'8YHJ]`g

7fYX]hDc]bhtg`*`

Gi a a UfmicZ\hY'7ci fgY

Gi V'YW'h5fYU.'>[Yg[ef[Ue

H\]g'Wci fgY`]g'Ub`]bhfci Xi W]cb`hc`"]b[i]gh]Wg`f\hY`gWYb]h]ZWgh XmcZ`Ub[i U[YL`UbX`ZcW`gYg`cb`hY`
fUX]h]cbU`WcfY`UfYUg`cZ`Ub[i U[Y`ghfi W]h`fY`]bW] X]b[.`hY`gci bX`gmghYa`fD`cbYh]Wg`UbX`d`c`bc`c[mŁ
a cfd`c`c[mfk`cfX`ghfi W]h`fYŁ`gmb]U]`fWU] gY`UbX`gYb]h]bW`ghfi W]h`fYŁ`UbX`a`YUb]b[`fgYa`Ub]h]Wg`UbX
dfU[a`U]h]Wg`Mci`k`]"`U] Y`hY`cddcf] b]m]hc`k`cf`_`k`]"`b[i]gh]WXU]h]Zfca`'9b[`]g`UbX`U`k`]XY`fUb[Y`cZ
X]ZYfYb]h]Ub[i U[Yg`Mci`k`]"`YUfb`hc`UbU`mgY`Ub[i U[Y`i`g]b[`Uddfcdf]U]h`]"`b[i]gh]WwŁ`bW`dhg`UbX
hYfa`]bc`c[mUbX`hc`Uf[i Y`hY`a`Yf]hg`cZ`h`U]h]UbU`mg]g"

7ci fgY`@YUfb]b[`Ci hWŁa Yg

%`5dd`mi`hY`hY`W]b]ei Yg`cZd`cbYh]Wg`#`d`c`bc`c[m]hc`fUbgW]dh]cb`UbX`XU]h]UbU`mg]g"
&`5bU`mgY`hY`a`cfd`c`c[]W]`ghfi W]h`fY`cZk`cfXg`UbX`WU] gYg`#`gYb]h]bW`g"
'`" `9]d`U]b`gYa`Ub]h]WwŁ`bW`dhg`UbX`X]gh]bW]cbg"
(`" `5bU`mgY`]"`b[i]gh]WXU]h]UbX`Uf[i Y`hY`a`Yf]hg`cZ`hY`UbU`mg]g"

HYUW]b[`GhfU]hY[]Yg`

H\]g`]g`U`WcfY`Wc[bU]hY`Wci fgY`]b`hY`@]b[i]gh]Wg`dcgh`fUXi`U]h`dfc[fUa`UbX`dfcj`]XYg`Ub`]bhfci Xi W]cb`hc`
[YbYfU`]"`b[i]gh]Wg`

H\Y`k`YY`_`mgYa`]bUfg`UfY`X]]XYX`]b]hc`h`c`d`Uf]hg`" `#`hY`Z]fghdUf]h]VUg]WwŁ`bW`dhg`UbX`hY`c`fYh]W]`]ggi Yg
UfY`dfYgYb]h]X`k`]h]b`hY`fUX]h]cbU`Xca`U]bg`cZ`Ub[i U[Y`ghfi W]h`fY`]bW] X]b[`d`c`bc`c[nŁ
fUa`a`UfZ`UbX`
gYa`Ub]h]Wg`" `#`hY`gY`Wc`bX`dUf]h]j`Uf]ci`g`dfcV`Ya`g`UbX`XU]h]gYhg`UfY`dfYgYb]h]X`UbX`X]gW`ggYX`]b`Ub
]b]hYfUW]j`Y`a`UbbYf`UbX`gh`XYb]h]UfY`YbWci`fU[YX`hc`Wc`b]f]Vi`hY`hc`hY`X]gW`gg]cb`" H\Y`h`hc`f]U`g`dfcj`]XY`hY`
cddcf] b]m]Zc`f`Ub`]b]XYd`h`YI`Ua`]bU]h]cb`cZ`]"`b[i]gh]WXU]h]fXfUk`b`Zfca`U`k`]XY`fUb[Y`cZ`Ub[i U[YgŁZ`k`]h
dUf]h]W`Uf`ZcW`g`cb`WfYU]h]Y`dfcV`Ya`!gc`]"`b[`g`_`]"`g`]"`b`U`Wc`"UVcfU]h]Y`Ybj`]fcb`a`Yb]h`

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y`8UHŸ	Ghi XYbh@YUfb]b[Ci hŸca Yg`5ggYggYX
7`Ugg`HYgh=	' \$i	K YY_)	&ž(
7`Ugg`hYgh=	' \$i	K YY_;	%ž(
HU_Y`\ca Y`dfcV`Ya `gYh	(\$i	\$' #)\$ #&\$%- '\$(. \$\$`DA	%ž&ž ž(

5ggYgga Ybh8YHU]`g

5ggYgga Ybh%`7`Ugg`HYgh=

GHUfhXUHŸ. `Bch5dd`]WUV`Y

8YHU]`g. `(\$`a`]bi hŸ`hYghWčj Yf]b[`hŸ`WčbhŸbhcZ`YWŸi fYg`UbX`h hčf]U`g" `Mci `k`]`fYVW]j Y`]bX]j]Xi U`ZYXVUW`"

5ggYgga Ybh&.`7`Ugg`hYgh=

GHUfhXUHŸ. `Bch5dd`]WUV`Y

8YHU]`g. `(\$`a`]bi hŸ`hYghWčj Yf]b[`hŸ`WčbhŸbhcZ`YWŸi fYg`UbX`h hčf]U`g" `Mci `k`]`fYVW]j Y`]bX]j]Xi U`ZYXVUW`"

5ggYgga Ybh' .`HU_Y`\ca Y`dfcV`Ya `gYh

GHUfhXUHŸ. `Bch5dd`]WUV`Y

8YHU]`g. `H\]g`]g`U`HU_Y!\ca Y`Ugg][`ba Ybhk` \]WŸ`Wčj Yfg`U`hŸ`a`U`čf`hčd]Wg`cZ`hŸ`Wči fgY" `5`dfcV`Ya `gYh]g`U`gYf]Yg`cZ`XUH`gYh`g`Yg][`bYX`gi`WŸ`hŸ`Ugh`XYbh`g`Udd`m`]b[`i`]gh]WŸ`bW`dŸ`UbX`UbU`m]WŸ`Z`Ua`Yk`cf`_g`hč`UWŸ`i`bhZ`f`]b[`i`]gh]Wd`Ybca`YbU" `5`dd`fcl`]a`UHŸ`m`%`\$\$`k`cfXg" `Mci `k`]`fYVW]j Y`]bX]j]Xi U`ZYXVUW`" `H\]g`]g`hŸ`Z]bU`UggYgga YbhZ`f`U`hŸ`bX`UbWŸ`di`fdcgYg"

Gi Va]gg]cb`bchŸg. `HŸ`HU_Y!\ca Y`dfcV`Ya `gYh]g`\UbXYX`ci`hcbY`k`YY`_`df]cf`hč`]hg`Xi`Y`XUHŸ"

Hi`fb]h]b`gYh]b[. `H\]g`Ugg][`ba`Ybh]g`gi`Va`]hŸX`hčci`[`\`Hi`fb]h]b`UbX`gh`XYbh`g`Xc`bchgY`Y`Hi`fb]h]b`g]a`]Uf]m`fYdcfŸg"

	Hi ħcf]U`	; YbYfU`X]gW gg]cb`ei Ygh]cbg`cb`ħY`Ub[i U[Y gW]YbVW`g" B 6": cf`h ħcf]U`g`ħUhZU`cb`ħY`H\i fgXUm5bnUW di V`]W\c`]XUnž`ħY`fY`Yj Ubhħ ħcf]U`UW]j]h]Yg`WUb`VY UW]ggYX`j]U`A ccX`Y"
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F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

F Yei]fYX`hYI hc_c_` : fca _]bZJ`"YhU`"&\$% "3` ;` fdaVgUf[a` fa >S` YgSYW +fZ 3gefD`fS` !@W` LWS`S` V
Wf[a` z7Yb[U[Y"

K YVg]hYg`9h\bc`c[i Y/I 7 @5`d\cbYh]Wg`UV

5b`YI hYbg]j Y`]ghcZUXX]h]cbU`Y`YWfcb]WfYgci fWg`]g`dfcj]XYX`]b`A ccX`Y`"Mci`a`i`ghWcbgi`hA ccX`Y`
fY[i`UfmZcf`i`dXU`hYg"

F YWca a YbXYX`F Ygci fWg

6cc_g`fZWefgXaXfZagYZf, >S` YgSYWSe S i [`Vai [`fa Zg_ S` `SfgdWz

5b`YI hYbg]j Y`]ghcZUXX]h]cbU`fYgci fWg`]g`dfcj]XYX`]b`A ccX`Y`"Mci`a`i`ghWcbgi`hA ccX`Y`fY[i`UfmZcf`
i`dXU`hYg"

7ci fgY`9j U`i Uh]cb`UbX`8Yj Y`cda Ybh

7ci fgYg`UfY`dYf]cX]WU`mfYj]Yk YX`UbX`gh`XYbfg`ZYXVUW`]g`i`gYX`hc`]a`dfcj Y`hYa` "

: YXVUW`]g`[U`hYfYX`Zfca`gh`XYbfg`i`g]b[`a`n9l`dYf]YbW`"`h]g`YbWci`fU[YX`gh`XYbfg`Wca`d`Yh`hY]f`
gi`fj`Ymg`VmUVWYgg]b[`hY`dYfgcbU`]gYX`k`YV`]b`_j`]U`hY`A`ccX`Y`Wci`fgY`g]hY"

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

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" #WUb'hU_Y'a Ubm Zcfa gž Zca 'XY]VYfUHY'WXUhf]b['hc'UWV]XYbhU`mWcdm]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['WUHY[cf]Yg.

7cdm]b[.i g]b['hY'gUa Y'cf'j Yfmg]a]Uf'k cfXg'hc'hY'cf][]bU`hYI hcf]XYU'k]h'ci hUW_bck 'YX[]b['hY'gci fW'cf'i g]b['ei chU]cb'a Uf_g" 'H\]g'U'gc'Udd'Yg'hc']a U[Ygž UfhUbX'XYg][b'dfc'YWgž Ug'k Y`Ug dfYgYbhU]cbg'k \YfY'gca YcbY'dfYgYbhg'UbchYf'g']XYUg'cf'k cfXg'k]h'ci hW'YX]h'

#Uddfcdf]UHY'dUfUd\fUg]b[.7 \Ub[]b['U'Zk'k cfXg'UbX'd\UgYg'k \]Y'a cghm'fYU]b]b['hY'cf][]bU'gfi W'fY'UbX'#f'dfc[fYgg]cb'cZ]XYUg'cZhY'cf][]bU'Z'UbX']bZcfa U]cb'k]h'ci hUW_bck 'YX[Ya Ybh' 'H\]g'U'gc'Udd'Yg']b'dfYgYbhU]cbg'k \YfY'gca YcbY'dUfUd\fUgYg'UbchYf'g']XYUg'cf'k cfXg'k]h'ci hW'YX]h'UbX'hc d]Y]W]b['hc[Y'hYf'ei chYg'UbX'dUfUd\fUgYg']bhc'U'bYk'k \c'Yžk]h'ci hUddfcdf]UHY'fYZYfYbW]b["

7c`i g]cb.'k cf_]b['k]h'chYfg'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_'hc'UbchYf'g'hi XYbhVYZc'fY'hY'Xi Y'XUHY'Zc'f'Zc'f'hY'di fdcgY'cZ'hYa d'U[]Uf]g]b['UhUbmi]h'a Yž'dUm]b['UbchYf'dYfgcb'hc'dYfZc'fa 'Ub'UWUXYa]W]Ug_ž'ghU']b['cf'UW'ei]f]b[UbchYf'dYfgcb'g'UWUXYa]Wk cf_'UbX'Wcdm]b[]ž'cZ]f]b['hc'Wca d'YH'UbchYf'dYfgcb'g'k cf_'cf'gYY_]b[dUma YbhZc'f'Wca d'Y]b['UWUXYa]Wk cf_"

#Uddfcdf]UHY'W]hU]cb.'7]b['gci fW'g'k \]W\Uj Y'bchVYYb'fYUXžk]h'ci hUW_bck 'YX[]b['hY'"gYWcbXUfm' gci fW'Zca 'k \]W'_bck 'YX[Y'cZ'hYa '\Ug'VYYb'cVhU]bYX"

8i d']WU]cb'f'fY'Z'd`U[]Uf]ga "L'gi Va]h]b['mci f'ck b'k cf_ž]b'k \c'Y'cf']b'dUf'žk \YfY']h\Ug'dfYj]ci g'm VYYb'dfYdUfYX'cf'gi Va]h]YX'Zc'f'UbchYf'UggYgga Ybhcf'Wci fgY'Uhl BGK 'cf'UbchYf'i b]j Yfg]m'

7c'fYW'fYZYfYbW]b['dfUW]W'g.

- DUfUd\fUg]b[žgi a a Uf]g]b[žYggUmk f]h]b['UbX'hja Y'a UbU[Ya Ybh
- 5ddfcdf]UHY'i gY'cZUbX'Uhf]Vi h]cb'Zc'f'U'fUb[Y'cZa UHYf]U'g']bWi X]b['hYI hž]a U[Ygž Zc'fa i 'UY'UbX WcbW'drg"

#X]j]Xi U'Ugg]ghUbW']g'Uj U]UV'Y'cb'fYei YghZca 'H\Y'@Yf]b['7YbhY'f'f'hd.## k k "Wi bgk "YXi "Ui #"
Gh XYbhg'UfY'U'gc'fYa]bXYX'h.UhWfYZ 'hja Y'a UbU[Ya Ybh]g'Ub]a dcfU]bhdUfhicZgh XmiUbX'cbY'cZ'hY]XYbh]ZYX'Wli gYg'cZd'U[]Uf]ga]g'dccf'hja Y'a UbU[Ya Ybh'Gh XYbhg'g'lc'i 'X'U'ck'gi Z]W]Ybh]hja Y'Zc'fYgYUfW'ž'XfU]h]b['UbX'dfcdYf'fYZYfYbW]b['cZgci fW'g']b'dfYdUf]b['U'UggYgga Ybh]h'a g"

I BGK '@]VfUfm'U'gc'\Ug'hY'9@G9'hc'Uj U]UV'Y'hc'Ugg]ghmci 'k]h'mci f'g'hi XmiUhl BGK "'9@G9']g XYg][bYX'hc']b]fcXi W'bYk'gh XYbhg'hc'g'hi Xn]b['Uhl BGK 'Vi h]h'WUb'U'gc'VY'U']fYUhfYZYg\Yf'Xi f]b['mci f'gh Xn'

7ca d'Y]b['hY'9@G9'h'hc'f]U'UbX'ei]n'k]`YbUVY'mci 'hc.

- UbU'mgY'hc'd]Wgž'd'Ub'fYgdcbgYg'UbX'cf[Ub]gY'fYgYUfW'Zc'f'UWUXYa]Wk f]h]b['UbX'chYf'UggYgga Ybh]Ug_g

i bXYfghUjX'mci f'f][\hg'UbX'fYgdcbg]V']hYg'Ug'U'gh XYbhUhl BGK

5 WUXYa]WbZcfa Uh]cb`

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

- fYei Yghg`ZcfYI hYbg]cb/
- `UhY`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk`cZa Uf_g/
- I B GK `<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]hmUbX`X]gUV`]`]m/
- UbX`chYf`YggYbh]U`UWUXYa]W]bZcfa Uh]cbz`gYY

[\hhdg.#k k k "Ufng"i bgk "YXi "Ui #W ffYbhghi XYbh\]bZcfa Uh\]cb`dfc\]Vc`g!\[i \]XY`\]bYg#](#)

⇒ U[Y`7 fYX]h

GmbYf[]Yg`]b`Gci bX`&\$%*`

7 F ⇒ C G

7 F ⇒ C G`Dfcj]XYf`7 cXY. '\$\$\$- , ;