



ARTS1452

ⓂhfcXi Wc fm7 \]bYgY`Zcf'6UW_[fci bX'GdYU_Yfg'5

HYfa`Cby`#`&\$%-

7ci fgY`Cj Yfj]Yk

`GHUZZ7cbhUW`i8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cW]h]cb	D\cbY
DUb`K Ub[	DUb`k Ub[4 i bgk "YXi "Ui	6mUddc]bħa Ybh	A cfj Yb`6fck b`&(*	- ' ,) &' (-

`@YWi fYfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cW]h]cb	D\cbY
DUb`K Ub[	DUb`k Ub[4 i bgk "YXi "Ui	6mUddc]bħa Ybh	A cfj Yb`6fck b`&(*	- ' ,) &' (-
7\Yb[!k Y]`K Ub[	7\Yb[!k Y]"k Ub[4 i bgk "YXi "Ui	6mUddc]bħa Ybh	A cfj Yb`6fck b`&(\$	- ' ,) `&, %)

`Hi ħcfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cW]h]cb	D\cbY
7\Yb[!k Y]`K Ub[	7\Yb[!k Y]"k Ub[4 i bgk "YXi "Ui	6mUddc]bħa Ybh	A cfj Yb`6fck b`&(\$	- ' ,) `&, %)
<i Ub[\i Ub[`7\Yb	\i Ub[\i Ub["WYb4 i bgk "YXi "U	6m5ddc]bħa Ybh	A cfj Yb`6fck b`&%\$	D`YUgY Ya U]`
M]b[`]Gi b	m]b[`]gi b4 i bgk "YXi "Ui	6m5ddc]bħa Ybh	A cfj Yb`6fck b`&(\$	- ' ,) `&*(\$
L]Uck Y]`N\Ub[	\U`4 i bgk "YXi "Ui	6m5ddc]bħa Ybh	A cfj Yb`6fck b`&%%	D`YUgY Ya U]`

GWXcc``7cbhUW`i`bZcfa Uh]cb

GWXcc``cZ<i a Ub]h]Yg`UbX`@Ub[i U[Yg

@cW]h]cb. `GWXcc``C Z]W]ŽA cfj Yb`6fck b`6i]X]b[Ž@Yj Y``&ž&),

C dYb]b[`<ci fg. A cbXUm! `: f]XUmž`- Ua `!) da

D\cbY. Ž*%&`- ' ,) `%* , %

: U! . Ž*%&`- ' ,) `; , +\$)

9a U]`. [\U`4 i bgk "YXi "Ui](#)

7ci fgY'8YHJ]`g

7fYX]hDc]bqg`*`

Gi a a UfmicZ\hY'7ci fgY

Gi VYWhUfYU. 5Z[WēWE fgV[Mē

H\]g`]bffcXi Wc fm7 \]bYgY`Wēi fgY`]g`Zcf'7 \]bYgY`VUW_[fci bX`gdYU_Yfg`k \c`fYWē[b]gY`Zyk Yf`hUb`) \$
7 \]bYgY`W\UfUWYfg`GhUfh]b[`Zca `D]bm]bž`hY`cZ]W]U`d\cbYh]Wgmg]hYa `cZGhUbXUfX`7 \]bYgY`ž`hY`Wēi fgY
\Y`dg`mci `Yg]UV`]g\`U`gmg]hYa Uh]WYUfb]b[`dU]hYfb`UbX`XYj Y`cdg`mci f`Zci f`Ub[i U[Y`g_]`g`f]"Y""`]ghYb]b[ž
gdYU_]b[ž`fYUX]b[`UbX`k`f]h]b[`k]b`Ub`]bhY[fU]hYX`a`UbbYf`"≠i]bffcXi W`g`mci `Uddfci]a U]hY`m%) \$`j`cWUvi `Ufm
k`cfXgž`U`cb[`k]h`hY`UggcW]U]hYX`gcW]cW`h`fU`UbX`"b[i]gh]WUk UfYbYgg`]b`XUm]hc!XUm]hd]Wgž`gi W\`Ug

5ggYgga Ybh(. :)bU`9I Ua

GhUfhXUHy. : cfa U`YI Ua `dYf]cX

@Yb[h. `%&\$`a]bi hYg

8YhU]`g. `H\Y`Z]bU`YI Ua `]g`Wta dfY\Ybg]j`Y`UbX`YI Ua]bYg`gh`XYbhgf@ghYb]b[žF YUX]b[`UbX`K`f]h]b[`g_]`g`
Wtj YfYX`h`fci [\ci h`h]g`Wti fgY" `h]g`gWXYXi `YX`]b`h\Y`Zcfa U`YI Ua]bU]cb`dYf]cX`f%&\$`a]bi hYgE`H\]g`]g`
h\Y`Z]bU`UggYgga YbhZc`f`UHy`bXUbW`di fdcgYg"

Hi fb]h]b`gYh]b[. `H\]g`]g`bchU`Hi fb]h]b`Ugg][ba Ybh

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

%`bH[fUHx`7\]bYgYzJc`i a Y`%žHYI hVcc_ž(h`9X]hcb`fG]a d`]ZYXŁ` f7 ca di`gcfmŁ`

&`bH[fUHx`7\]bYgYzJc`i a Y`%žK cf_Vcc_ž(h`9X]hcb`fG]a d`]ZYXŁ` f7 ca di`gcfmŁ`

'`bH[fUHx`7\]bYgYzJc`i a Y`%ž7\UfUWf`K cf_Vcc_ž(h`9X]hcb`fG]a d`]ZYX`UbX`HfUX]hcbUŁ`
#`fC dh]cbUŁ`

F YWca a YbXYX`F Ygci fWg

5i X]c`fYWcfX]b[g`cZhY`hYI hVcc_g`UbX`k cf_Vcc_g`UfY`Uj U]UV`Y`cb`A ccX`Y

%`GfC_Y`C fXYf

- 5fW`7\]bYgY. [\hd.#k k "UfWw\]bYgY"Wca](#)
- MY`ck`6f]X[Y. [\hd.#k k "mY`ck Vf\]X\[Y"Wca #W\]bYgY#W\]bYgY!X\]W\]cbUfm'd\d](#)

&`7\]bYgY!9b[`]g\`8]W]cbUfm

- A UbXUf]b`Hcc`f bU\$

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

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

≠mci`YbWci bhYf`U`dfcV`Ya`k`Yb`U`H`Ya`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`h`fci`[`\`Hi`fb]h]b`z`d`YUgY`
H`Y`d`cb`Y`9I`H`fb`U`Gi`ddcfh`cb`-`,`)`'`'`'`%`cf`Ya`U]`h`Ya`cb`YI`H`fb`U`H`hgi`ddcfh`4`i`bgk`"YXi`"Ui`"Gi`ddcfh`
`ci`fg`UfY`,`.\$\$Ua`-`%\$.\$\$da`cb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`cb`k`YY`YbXg`f`l`*)`XUmg`U`m`Y`Uf`l`"≠mci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`Xi`Y`hc`U`Z`U`h`k`]h`Hi`fb]h]b`mci`a`Um`Udd`m`Z`f`Ub`YI`H`bg]cb`z`Vi`hmc`i`
a`i`gh`f`Y`h]b`mci`f`h]W`Y`hbi`a`VY`f`Z`ca`9I`H`fb`U`Gi`ddcfh`f`U`cb[`k`]h`Ubmc`h`Y`f`f`Y`j`Ubh`Xc`W`a`Y`b`h`g`l`hc`
]b`Wi`XY`Ug`Y`j`]X`Y`b`W`hc`gi`ddcfh`mci`f`YI`H`bg]cb`Udd`]W`h]cb`"≠mci`Ya`U]`9I`H`fb`U`Gi`ddcfh`mci`k`]"`

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`]VYfUHY`WXYU]b[`hc`UWV]XYbhU`mWc`dm]b[`Zca `U`gci fW`k]h`ci hUW`bck `YX[Ya Ybh`

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

7 cdm]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`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hW`YX]h`

hUddfcdf]UHY`dUfUd`fUg]b[.`7`U`b[]b[`U`ZYk `k cfXg`UbX`d`fUgYg`k \]Y`a cghmifYU]b]b[`hY`cf][]bU`
ghfi W`i fY`UbX`#`f`dfc[fYgg]cb`cZ]XYUg`cZ`hY`cf][]bU`ž`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]YW]b[`hc[YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk `k \c`Yž`k]h`ci hUddfcdf]UHY`fYZYfYbW]b["

7 c`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_]7 c`i g]cb`U`gc
]bWi XYg`dfcj]X]b[`mci f`k cf_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi Y`XUHYž`cf`Zc`f`hY`di fdcgY`cZ`hY`a

- 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`]Wn
- VY'Uk UfY'cZh'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dYW'X'cZYj Yfmcby`]b'h'Y'I BGK 'Wc a i b]m
- `cWJh'gYfj]Wg'UbX'j]bZcfa Uh]cb'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](#)

