



## ARTS1452

ƒhfcXi 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[ WwWE fgV[Mé

H\]g`]bffcXi Wc fm7 \]bYgY`Wci fgY`jg`Zcf'7 \]bYgY`VUW\_[ fci bX`gdYU\_Yfg`k \c`fYWc[ b]gY`Zk Yf`hUb`) \$  
7 \]bYgY`W\UfUWYfg`GhUfh]b[ `Zca `D]bm]bž`hY`cZ]W]U`d\cbYh]Wgmg]Ya `cZGhUbXUfX`7 \]bYgY`ž`hY`Wci fgY  
\Y`dg`mci `Yg]UV`]g\`U`gmg]Ya Uh]WYUfb]b[ `dU]Yfb`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]YX`a`UbbYf`"ñ]bffcXi W`g`mci `Uddfci ]a U]Y`m%) \$j`cW]Vi `Ufm  
k`cfXgž`U`cb[ `k]h`hY`UggcW]U]YX`gcW]cW`h`fU`UbX`"b[ i ]gh]W]Uk UfYbYgg`]b`XUm]hc!XUm]hd]W]ž`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]hb[ `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`U`hY`bXUbW`di`fdcgYg"

Hi fb]hb`gYhb[ . `H\]g`]g`bchU`Hi fb]hb`Ugg][ ba Ybh




## F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

%`bhr[ fUhrX`7\]bYgYzJ c`i a Y`%žHYI hVcc\_ž( h`9X]hcb`fG]a d`]ZYXŁ` f7 ca di`gcfmŁ`

&`bhr[ fUhrX`7\]bYgYzJ c`i a Y`%žK cf\_Vcc\_ž( h`9X]hcb`fG]a d`]ZYXŁ` f7 ca di`gcfmŁ`

' ``bhr[ fUhrX`7\]bYgYzJ c`i a Y`%ž7\UfUWf`K cf\_Vcc\_ž( h`9X]hcb`fG]a d`]ZYX`UbX`HfUX]hcbUŁ`  
# fC dh]cbUŁ`

## F YWŁa a YbXYX`F Ygci fWg

5i X]c`fYWŁfX]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 "UfW\W\]bYgY"WŁa](#)
- MY`ck`6f]X[ Y. [\hd.#k k "mY`ck Vf\]X\[ Y"WŁa #W\]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 YbhHfci [ \`Hi fb]h]bžd`YUgY  
H`Yd\cbY`9I H`fbU`Gi ddcfhcb`-` , ) `` `` ` %cf`Ya U]`H`Ya `cb`YI H`fbU`H`hgi ddcfh4 i bgk "YXi "Ui ``Gi ddcfh  
\ci fg`UfY` , .\$\$Ua `--`%\$. \$\$da `cb`k YY\_XUmg`UbX`- . \$\$Ua `--` ) . \$\$da `cb`k YY\_YbXg`fI \*) `XUmg`U`mYUfL` ≠mci  
UfY`i bUV`Y`hc`gi Va ]hmc`i f`Ugg][ ba YbhXi Y`hc`U`ZU`ihk ]H`Hi fb]h]b`mci `a UmiUdd`miZc`f`Ub`YI H`bg]cbžVi hmc`i  
a i ghfYH]b`mci f`h]W`Yhbi a VYf`Zca `9I H`fbU`Gi ddcfhfU`cb[ `k ]H`UbmchYf`fY`Yj UbhXcW a Yb]gk`hc  
]bWi XY`Ug`Yj ]XYbW`hc`gi ddcfhmc`i f`YI H`bg]cb`Udd`jW]h]cb" ≠mci `Ya U]`9I H`fbU`Gi ddcfhmc`i `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 gZ`Zca `XY`]VYfUHY`WXYU]b[ `hc`UWV]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`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[ YgZ`UfhUbX`XYg][ b`dfc`YWgZ`Ug`k Y`Ug  
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k ]h`ci hWYX]h`

hUddfcdf]UHY`dUfUd`fUg]b[ .`7`Ub[ ]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`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 hWYX]hU`bX`hc  
d]YW]b[ `hc[ YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk `k \c`YZ`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`XUHY`Zc`f`Zc`hY`di fdcgY`cZ`hY`a

- i bXYfghUjX'mci f'f][ \hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'Wc'dmf][ \hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'UjX'5W'W'dhUV'Y'I gY'cZ  
I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUjX'UfX'g'cZVY\Uj ]ci f'YI dY'W'X'cZYj Yfmc'bY'j]b'h'Y'I BGK 'W'a a i b]m
- `cW'U'Y'gY'fj ]W'g'UbX'j]bZ'c'fa U]cb'UVci hi BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k ]`VY'ZJa ]]Uf'hc'mci ž'c'h'Y'fg'k ]`VY'bYk "; U]b]b[ 'U'gc`X'i bXYfghUjX]b[ 'cZU`h'Y  
fY'U'Y'X'UgdY'W'g'cZ9@G9'k ]`Y'd'mci 'a U\_Y'h'Y'a cgh'cZ'mci f'gh X]Yg'Uhl BGK ""

[\h'c.##j V'Y'W'i \]X'Y'g"\]VfUfm'i bgk "Y'X'i "U'i #' \]gY#U'V'c'i h' \]gY](#)

