



ARTS1620

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7ci fgY`Cj Yfj]Yk

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`7cbj Ybcfg`

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@cWU]cb. `GWXcc``C Z]W`žA cfj Yb`6fck b`6i]X]b[ž`@Yj Y``&ž&),

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

7 ci fgY'8YHJ`g

7 fYX]hDc]bqg`*`

Gi a a UfmcZ`h`Y'7 ci fgY

hfcXi Wc fmi#U]Ub'5`k`j`VY`dYfZYWhZc`f`mci`j]Zmci` \Uj`Y`bc`f`c`f`U`a`cghbcE`dfYj`ci`g`_`bck`YX[`Y`c`Z`h`Y`
`Ub[`i`U[`Y`" `#k`j`Y`b`U`V`Y`mci` `hc`[`U]b`V`Ug]Ww`a`d`Y`h`b`V`Y`g`]b`gd`Y`U`_`b[`z`f`Y`U`X]b[`z`k`f]h]b[` `UbX`"ghY`b]b[` `hc`
Yj`Y`fm`X`Um`#U]Ub`Ub`X`k`j`[`j]`Y`mci` `Ub`]bg][` \h]bhc`W`c`b`h`a`d`c`f`U`f`m`#U]Ub`W` `h`f`Y`"

H\]g`W`ci`fgY`]g`U`V`Y[`]bb`Y`fg!`Y]`Y`"Ub[`i`U[`Y`W`ci`fgY`"5`"gh`XY`b`h`g`k` \c` \Uj`Y` \U`X`g`c`a`Y`Y`l`d`Y`f]Y`b`W`k`]h` `h`Y`
`Ub[`i`U[`Y`z`Y`h`Y`f`U`g` \`Y`f]h]U[`Y`"Ub[`i`U[`Y`c`f`h`f`ci`[` \`d`f`Y`j`ci`g`]b`g`h`f`i`W`]c`b`z`a`i`gh`Z`"b` `h`Y`d`U`W`a`Y`b`h`
ei`Y`g`h`c`b`b`U]f`Y`Uj`U]U`V`Y`U`h` \`h`d`g`.#`A`U`"U`f`h`g`"i`bgk`"Y`X`i`"U`i`#`g`h`XY`b`h`g`#`W`ci`fgY`g`#`Ub[`i`U[`Y`l`d`U`W`a`Y`b`h`g`"M`ci` `k`j`
b`c`h`V`Y`d`Y`f`a`]h`Y`X`h`c`Y`b`f`c`"b`U`"Ub[`i`U[`Y`W`ci`fgY`h`U`h]g`h`c`c`Y`U`g`m`Z`c`f`mci`" `Z`h`g`c`W`W`fg`z`mci` `k`j`V`Y`
f`Y`ei`Y`g`h`Y`X`h`c`W`X`Ub[`Y`mci`f`Y`b`f`c`a`Y`b`h`

7 ci fgY`@YUfb]b[`C i hW`a Yg

%`I`g`Y`U`j`Y`f`m`V`U`g]W`f`U`b[`Y`c`Z]`c`W`U`V`i` `U`f`m`U`b`X`d` \`f`U`g`Y`g`]b`#`U]Ub`Ub`X`U`d`d`m`U`Z`Y`k` `g`j`a`d`Y`f`i` `Y`g`c`Z`
[`f`U`a`a`U`f`"
&`I`b`X`Y`f`g`h`U`b`X`U`b`X`i`g`Y`h`Y`#`U]Ub`"Ub[`i`U[`Y`]b`g` \`c`f`h]b`h`Y`f`U`W`h`c`b`g`]b`Z`J`a`]U`f`Y`j`Y`f`m`X`U`m`g]h`U`h`c`b`g`
" `X`Y`b`h`Z`m`g`c`a`Y`Z`Y`U`h`f`Y`g`c`Z`#`U]Ub`W` `h`f`Y`U`b`X`g`c`W`Y`h`m`

HYUW\]b[`G`h`f`U`h`Y[]Yg`

H`Y`U`d`d`f`c`U`W` `]g`W`c`a`a`i`b]W`h]j`Y`z`k` \]W` `a`Y`U`b`g`h`Y`W`ci`fgY`Z`c`W`g`Y`g`c`b`h`Y`"Ub[`i`U[`Y`z`W`c`a`a`i`b]W`h]j`Y`
g`h`f`U`h`Y[]Y`g`U`b`X`W` `h`f`U`"Z`U`W`c`f`g`]b`X`U]m`d`Y`f`g`c`b`!`h`c`!`d`Y`f`g`c`b`]b`h`Y`f`U`W`h`c`b`" `@`Ub[`i`U[`Y`W`U`g`Y`g`Z`c`"ck` `Ub`
]b`h`Y`f`U`W`h]j`Y`U`d`d`f`c`U`W` `V`U`g`Y`X`c`b`[`f`c`i`d`k`c`f`_`Ub`X`d`U]f`k`c`f`_`Ub`X`U]a` `U`h`h`Y`X`Y`j`Y`c`d`a`Y`b`h`c`Z`U`W`W`f`U`W`h`U`b`X`
Z`i`Y`b`W`h`H`Y`"Ub[`i`U[`Y`c`Z`W`c`a`a`i`b]W`h]c`b`i`g`Y`X`]b`h`Y`W`U`g`g`f`c`c`a` `]g`#`U]Ub`z`Ub`X`m`ci` `k`j`V`Y`Y`l`d`Y`W`h`Y`X`h`c`
i`g`Y`h`Y`"Ub[`i`U[`Y`]b`U`"W`U`g`g`U`W`h]j`]h`Y`g`"

H`Y`W`ci`fgY`]g`V`U`g`Y`X`c`b`h`Y`d`f]b`W]d`Y`h`U`h`Ub[`i`U[`Y`Ub`X`W` `h`f`Y`U`f`Y`]b`f]b`g]W`"m`"b`_`Y`X`Ub`X`Z`c`f`a` `U`g`c`W]U`
g`m`g`h`Y`a`z`h`Y`f`Y`Z`c`f`Y`"Ub[`i`U[`Y`g`Ub`X`W` `h`f`Y`g`U`f`Y`"Y`U`f`b`h`a`c`f`Y`Z`Z`Y`W]j`Y`m`k` \Y`b`g`h`XY`b`h`g` \Uj`Y`h`Y`c`d`d`c`f`h`b]m`
h`c`i`g`Y`h`Y`"Ub[`i`U[`Y`]b`W`c`b`h`Y`h`H`g`]g`U`W`X`Y`j`Y`X`]b`W`U`g`g`h`f`c`i`[` \`W`c`"U`V`c`f`U`h]j`Y`d`Y`Y`f`]b`h`Y`f`U`W`h]c`b`Ub`X`
]b`W`i`g]j`Y`h`Y`U`W`X`]b[`g`h`f`U`h`Y[]Y`g`z`U`"gi`d`d`c`f`h`Y`V`m`U`j`U`f]Y`h`m`c`Z`U`i`h`Y`b`h]W`X`c`W`a`Y`b`h`g`z`h`c[`Y`h`Y`f`k`]h`c`b`!`]b`Y`
a`U`h`f]U`g`Ub`X`U`W`h]j`h`Y`g`" `#`U`X`X`h]c`b`z`h`Y`h`Y`U`W`X`Y`f`k`]`Y`b`X`Y`U`j`c`i`f`h`c`X`f`U`k` `c`b`m`ci`f`d`Y`f`g`c`b`U`Y`l`d`Y`f]Y`b`W`g`]b`U`
W]a`U`h`c`Z`a`i`h`U`f`Y`g`d`Y`W`h`V`Y`h`k`Y`Y`b`U`"d`U`f`h]W]d`U`b`h`g`z`k`]h`h`Y`U]a` `c`Z`a`U`_`b[`h`Y`"Y`U`f`b]b[`Y`l`d`Y`f]Y`b`W`
a`c`f`Y`f`Y`j`U`b`h`z`U`b`X`Y`b[`U[]b[`"

H`Y`"Y`W`h`f`Y`g`Z`c`W`g`c`b`j`c`W`U`V`i` `U`f`m`U`b`X`[`f`U`a`a`U`f`V`i`h`g`c`a`Y`W` `h`f`U`"h`c`d]W`g`U`f`Y`U`g`c`]b`W`i`X`Y`X`"

H`Y`h`h`c`f]U`g`k`j`[]j`Y`mci` `h`Y`c`d`d`c`f`h`b]m`h`c`X`Y`j`Y`c`d`m`ci`f`W`c`a`a`i`b]W`h]c`b`g`_`g`Ub`X`h`c`i`g`Y`h`Y`#`U]Ub`
`Ub[`i`U[`Y`]b`W`c`b`h`Y`h`h`f`c`i`[` \`g`a`U`" `[`f`c`i`d`#`U]f`k`c`f`_`"7`U`g`g`U`W`h]j`h`Y`g`a`U`m]b`W`i`X`Y`"ghY`b]b[` `hc`U`i`X]c!`j`g`i`U`
a`U`h`f]U`"h`c`X`Y`j`Y`c`d`W`c`a`d`f`Y` \Y`b`g]c`b`g`_`g`z`g`d`Y`U`_`b[`d`f`U`W`h]W` `c`f`k`f]h]b[`g` \c`f`h`Y`l`h`g`z`Y`h`W`

h`c`f`X`Y`f`h`c`U`W`X`Y`j`Y`h`Y`f`Y`ei`]f`Y`X`d`f`c`Z`M]Y`b`W`h`z`m`ci` `k`j`"b`Y`Y`X`h`c`U`d`d`m`m`ci`fgY`Z`]b`U`gi`g`h]b]Y`X`a`U`b`b`Y`f`Ub`X`h`c`

5XX]hcbU`XYHJ]`g.

k YY_'. .`XUH`H65

5ggYgga Ybh&Zcfa Uh'j cWUvi `UfmZ`[fUa a Uf'ei]n'Z`ghYb]b[`hUg_

Hi fb]hb'gYH]b[.`H\]g`]g'bchU`Hi fb]hb`Ugg][ba Ybh

5ggYgga Ybh' .JJ]X&c

GhUfhXUH. .k YY_`%\$

8YHJ]`g. 'J]XYc`Ugg][ba Ybhlc`VY`gi Va]H`X`cb`]bY`1`&`lc`)'`a]bi`h`g`"Gh`XYbfg`k`]"`Z`a`'h`Ya`gY`j`Yg`UbX`fYd`mc`fU`mhc`'U`gd`YW`Z`Wei`Ygh`cb":`YYXVUW`_`k`]"`VY`[`j`Yb`]b`fi`Vf]Vg`Z`dYfgcbU`Wc`a`a`Ybfg`"Gh`XYbfg`WJb`Wc`bgi`'h`h`Y`"Y`W`i`fYf`Zc`f`Z`f`h`Yf`ZYXVUW`_`Z`f`h`Yf`ZYXVUW`_`Z`f`h`
%o

K YY_(: &(' > i bY ! ' & > i bY		@YWi fY#Hi hc f]U. <ul style="list-style-type: none">• 8 YZ]b]hY 'Ufh]WYg'fYj]g]cb• 6 XYZ]b]hY 'Ufh]WYg• : ccX'ci hYhg:]b' #U'mZ' h]dg'UbX'fYW]d]hg fW 'h fYŁ• 5 b' #U]Ub'a Ybi

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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`m`YUfL` Ẓmci
UfY`i bUV`Y`hc`gi Va]hmc i f`Ugg][ba YbhXi Y`hc`U`ZU`i`hik]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`Ubmch`Yf`fY`Yj UbhXcW a YbHgk`hc
]bWi XY`Ug`Yj]XYbW`hc`gi ddcfhmci f`YI H`bg]cb`Udd`]W]h]cb" Ẓmci `Ya U]`9I H`fbU`Gi ddcfhmci `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`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[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 hWYX]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`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 hWYX]hU`bX`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 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'U'g'U'X'U'f'X'g'c'Z'V'Y'\U'j]ci f'Y'I d'Y'W'X'c'Z'Y'j Y'f'm'c'b'Y']b'U'Y'I BGK 'W'c'a'a'i'b]m
- 'c'W'U'h'g'Y'f'j]W'g'U'j'X']b'Z'c'f'a U'h'c'b'U'V'c'i h'l BGK 'U'j'X'I BGK '@]V'f'U'f'm

Gca Y'cZ'U'g'Y'U'f'Y'U'g'k]''V'Y'Z'J'a]]U'f'U'c'mci ž'c'h'Y'f'g'k]''V'Y'b'Y'k "; U]b]b['U'g'c'X'i bXYfghUjX]b['cZU''U'Y
f'Y'U'h'X'U'g'd'Y'W'g'c'Z'9@-G'9'k]''\Y'd'mci 'a U_Y'U'Y'a c'g'h'c'Z'mci f'g'h X]Y'g'U'hl BGK ""

[\h'c'.#g'i V'Y'W'f'i \]X'Y'g'' \]V'f'U'f'm'i b'g'k "Y'X'i "U'i #' \]g'Y'#U'V'c'i h'Y' \]g'Y](#)

