



HUMS2000

5 fmg' ðhY fbg\]d

HYfa `Hk c` ##`&\$&\$

GWXcc`cZGcWJU`GWYbWg`#`I BGK ``5 fmg`UbX`GcWJU`GWYbWg

7ci fgY`Cj Yfj JYk

GHJZ7cbHJW`8YHJ`g

7cbj Ybcfg

| B Ua Y | 9a Uj` | 5j Uj`UVj]m | @cWjhcb | D\cbY |
|----------------|------------------------|---------------------------|-----------------------------------------------------------|-------|
| @ci jgY`Gh XXm | gh XXm4 i bgk "YXi "Ui | 9a Uj`Zcf Uddc]oha Ybh | Fcca`%*) !, ž]fghZccfž A cfj Yb`6fck b 6i]X]b[| |

GWcc`7cbHJW`bZcfa Uhjcb

GWcc`cZGcWU`GWYbWg

Fcca`%) -

A cfj Yb`6fck b`7 &\$

Ya Uj`.gcgg4 i bgk "YXi "Ui

d\cbY. '\$&-' ,)`% \$+

7ci fgY'8YHJ]`g

7fYX]hDc]bng`*`

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

Gi V`Y`W`h`5`f`Y`U. 3`d`f`e

H\]g`W`c`i` fgY`W`U`b`U`g`c`V`Y`g`h`X`Y`X`]`b`h`Y`Z`c`k`]`b`[`g`d`Y`W`U`]`g`U`h`c`b`g`:`5`d`_`[`a`a`Y`k`l`?`W`[S`/?`W`[S`B`d`a`V`g`U`f`a`:`f`i`
?`W`[S`/`E`U`d`W`W`S`:`V`E`a`g`:`V`f`i`?`W`[S`/`5`a`_`_`e`~`<`a`g`d`S`f`e`_`f`i`?`W`[S`/`B`g`T`U`D`W`S`f`a`:`e`S`:`V`3`V`h`W`d`f`e`[`Y`f`i`

H\Y`<`I`A`G`&`\$`\$`\$`W`c`i` fgY`]`g`U`b`Y`Y`W`h`j`Y`]`b`h`Y`I`B`G`K`:`5`f`r`g`U`b`X`G`c`W`U`G`W`Y`b`W`g`d`f`c`[`f`U`a`g`U`b`X`h`Y`
7`f`j`a`]`b`c`c`[`m`i`a`U`c`f`]`b`h`Y`6`U`W`X`Y`c`f`c`Z`D`g`m`W`c`c`[`]`W`U`G`W`Y`b`W`g`d`f`c`[`f`U`a`:`:`h`i`a`U`m`V`Y`h`U`_`Y`b`U`h`h`Y`Y`b`X`c`Z`U`
Z`f`g`h`m`Y`U`f`c`Z`g`h`X`m`U`b`X`c`Z`Y`f`g`h`i`X`Y`b`h`g`k`c`f`_`Y`I`d`Y`f`Y`b`W`]`b`U`f`U`b`[`Y`c`Z`c`f`[`U`b`]`g`U`h`c`b`g`i`h`]`g`]`b`[`g`c`W`U`
f`Y`g`Y`U`f`W`X`U`b`X`d`c`]`W`h`U`b`X`i`a`U`b`]`h`Y`g`g`_`]`g`"

H\Y`j`c`W`h`j`c`b`U`d`U`W`a`Y`b`h`z`k`\\`W`X`]`g`k`c`f`_`Y`X`]`b`h`Y`G`m`X`b`Y`m`i`a`Y`f`c`d`c`]`h`U`b`U`f`Y`U`z`d`f`c`j`]`X`Y`g`k`c`f`_`Y`I`d`Y`f`Y`b`W`
U`h`U`\\`c`g`h`c`f`[`U`b`]`g`U`h`c`b`Z`c`f`%`(`Z`~`X`U`m`g`f`%`\$`)`k`c`f`_`b`[`\\`c`i`f`g`k`H\]`g`d`f`U`W`h`W`U`Y`I`d`Y`f`Y`b`W`]`g`U`W`h`c`a`d`U`b`]`Y`X`V`m`
U`f`Y`U`X`]`b`[`d`f`c`[`f`U`a`:`:`H`Y`f`Y`U`X`]`b`[`W`c`a`d`c`b`Y`b`h`Y`I`U`a`]`b`Y`g`X`Z`Y`f`Y`b`h`U`d`d`f`c`U`W`X`Y`g`h`c`h`Y`g`h`X`m`c`Z`c`f`[`U`b`]`g`U`h`c`b`g`z`
h`Y`]`f`g`h`i`W`h`f`Y`g`z`Z`b`W`h`c`b`g`U`b`X`d`c`]`W`Y`g`z`U`g`k`Y`~`U`g`]`b`_`g`h`Y`g`Y`]`g`g`i`Y`g`h`c`h`Y`d`U`W`a`Y`b`h`Y`I`d`Y`f`Y`b`W`"

B`c`h`Y`:`G`h`i`X`Y`b`h`g`a`i`g`h`\\`U`j`Y`U`W`X`Y`j`Y`X`U`W`Y`X`h`Y`j`Y`~`c`f`V`Y`h`Y`f`U`j`Y`f`U`[`Y`U`W`f`c`g`g`h`Y`W`c`i` fgY`g`]`b`h`Y`]`f`X`Y`[`f`Y`Y`
H\Y`]`b`h`f`b`g`\\`d`a`U`m`V`Y`]`b`W`i`X`Y`X`U`g`d`U`f`h`c`Z`U`a`U`c`f`]`b`h`Y`:`U`W`i`m`d`f`c`[`f`U`a`g`k`]`h`h`Y`d`Y`f`a`]`g`g`]`c`b`c`Z`h`Y`
f`Y`Y`j`U`b`h`7`c`b`j`Y`b`c`f`"

:`c`f`X`Y`H`U`]`g`c`b`\\`c`k`h`c`U`d`d`m`d`Y`U`g`Y`W`c`b`h`U`W`h`h`Y`:`U`W`i`m`K`c`f`_`h`Y`[`f`U`h`X`@`Y`U`f`b`]`b`[`i`b`h`:`5`G`G`I`
[K`_`@`4`i`b`g`k`"Y`X`i`"U`i`"](#)

7ci fgY`@YUfb]b[`Ci hWca Yg

%`~`h`j`Y`g`h`[`U`h`Y`h`Y`X`m`b`U`a`]`M`g`c`Z`k`c`f`_`b`[`k`]`h`b`U`b`c`f`[`U`b`]`g`U`h`c`b`k`\\`Y`h`Y`f`d`f`j`U`h`Y`z`d`i`V`]`W`c`f`b`c`h`Z`c`f`d`f`c`Z`h`
f`B`:`D`k`
&`"`D`U`f`h`W`d`U`h`Y`]`b`U`b`U`W`h`j`c`b`f`Y`g`Y`U`f`W`X`d`f`c`Y`W`h`c`f`h`U`_`Y`f`Y`g`d`c`b`g`V`]`]`m`i`Z`c`f`V`i`g`]`b`Y`g`g`f`Y`U`h`X`h`U`g`_`g`
'`" `5`f`h`j`W`U`h`Y`U`b`]`b`X`Y`d`h`i`b`X`Y`f`g`h`U`b`X`]`b`[`c`Z`g`Y`j`Y`f`U`_`Y`m`i`U`g`d`Y`W`h`g`c`Z`c`f`[`U`b`]`g`U`h`c`b`U`h`Y`c`f`m`k`]`h`W`Y`U`f`
]`b`_`g`h`c`h`Y`\\`c`g`h`U`b`X`]`b`h`f`b`g`\\`d`h`U`g`_`g`#`d`f`c`Y`W`h`
(`" `9`I`d`Y`f`Y`b`W`h`Y`d`U`W`a`U`b`X`d`f`c`f`h`Y`g`c`Z`U`d`f`c`Z`g`g`]`c`b`U`k`c`f`_`Y`b`j`]`f`c`b`a`Y`b`h`U`b`X`]`X`Y`b`h`Z`m`U`b`X`X`Y`j`Y`c`d`
g`c`a`Y`c`Z`h`Y`g`_`]`g`U`b`X`_`b`c`k`Y`X`[`Y`b`Y`Y`X`Y`h`c`[`U`]`b`Y`a`d`c`m`a`Y`b`h`

HYUWX]b[`GhfUHy[]Yg`

HYUWX]b[`GhfUHy[]Yg`UbX`F`U`h`c`b`U`Y`.

H\Y`Y`U`f`b`]`b`[`U`b`X`U`g`g`Y`g`g`a`Y`b`h`]`b`h`]`g`W`c`i` fgY`]`g`U`]`a`Y`X`U`h`[`]`j`]`b`[`g`h`X`Y`b`h`g`h`Y`f`Y`U`~`Z`Y`Y`I`d`Y`f`Y`b`W`Z`c`f`
U`d`d`m`j`b`[`U`b`X`Z`f`h`Y`f`Y`b`\\`U`b`W`]`b`[`h`Y`]`f`_`b`c`k`Y`X`[`Y`U`b`X`g`_`]`g`]`b`f`Y`U`h`c`b`h`c`h`Y`]`f`X`Y`[`f`Y`Y`"

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

G`h`i`X`Y`b`h`g`k`]`~`g`d`Y`b`X`%`\$`)`\\`c`i`f`g`k`c`f`_`b`[`U`h`U`\\`c`g`h`c`f`[`U`b`]`g`U`h`c`b`[`Y`b`Y`f`U`~`m`i`c`b`Y`c`f`h`c`X`U`m`g`d`Y`f`k`Y`Y`_`h`c`Z`h`

Ufci bX'hLY'hYb'k YY_'hYfa "'H\Y'ghi XYbh]g'U`cWUHYX'U`cgghgi dYfj]gcf'k \c'k]`dfcj]XY'cf]YbhUhcž
ZYXVUW_c'b'hLY'ghi XYbh]g'k cf_'UbX'gi ddcfH'7 cbgi 'hU]cb'k]h'hLY'\cgghgi dYfj]gcf'WU'b'Ugg]gh]b' [U]b]b [UWW'gg'hc'fY'Yj Ubh]bZcfa Uhc'b'UbX'XcW a Ybhg'Ug'k Y`'Ug'U' [fYUHYf']bg] [\h]bhc'\ck 'hLY'U [YbWmk cf_g"

5g'h.]g'Wci fgY']bWcfdcfUHYg'U'fYUX]b ['dfc [fUa ž'ghi XYbhg'UfY'YI dYWW'X'hc'VY']bXYdYbXYbhUbX'gY'Z
X]fYWW'X'YUfbYfg" H\Y'7 ci fgY'7 cbj Ybcf'a YYhg'ghi XYbhg'Ufci bX'XUm'i'cZ'hY'f']bhYfbg\]d'UbX'h'Yb'cb'Ub
Ug!bYYXg'VUg]g'k \]ghdfcj]X]b ['Ya U]'UbX'#cf'hY'Yd\cbY'UWXYa]Wgi ddcfH'CbW'hLY'ghi XYbh\Ug
W'cgYb'hLY'gdYWZ'WZ'W'g'Zcf'hLY'f'YggUmigi a a Ufmk]h'\Y'd'Zca 'hLY'7 ci fgY'7 cbj Ybcf'ž'hYmUfY
YI dYWW'X'hc'cWUHY']bhYfYgh]b ['Ufh]WYg'UbX'a UHYf]U'hc']bWcfdcfUHY']bhc'hLY'f'gi a a UfmUbX'cf [Ub]gUhc'bU'
YggUm'

Gh XYbhg'UfY'Ybfc'YX']b' < I A G&\$\$\$'UZ'Yf'U`cgghcf [Ub]gUhc'b'\Ug'VYYb'gci fW'X'UbX'hLY'7 ci fgY
5WXYa]W'Ug'YbXc'fgYX'hLY']bhYfbg\]d"

5ggYgga Ybh

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DfYw fgc f'hc h\Y'cf[Ub]gUhc bU`YggUm' +) \$'hc '%\$\$'k cfXg"K f]HYb ZYXVUW`k]h]b`%\$'k cf_]b[`XUmg"

5XX]h]cbU`XYHJ]g.

H\Y'ghi XYbha YYhg`k]h`h\Y`5WUXYa]W7 cbj Ybcf`UZf'&!` `XUmg`cZ h\Y`]bhYfbg\]d`hc`X]gW gg`UfYUg`cZ]bhYfYghZcf`h\Y`hd]WZcf`h\]g`YggUmgi`a`a`Ufmf]UbX`h\]g`hd]W]g`a`U]bh]bYX`Zcf`h\Y`cf[Ub]nUhc bU`YggUm'k H\Y`hd]W]g`U`ghUHa`Ybhcf`ei`Ygh]cb`h\Uh]bW`fdcfUHy`g`U`Zk`_YmUgdYWg`cZ`cf[Ub]nUhc bU`h\Y`cfmY"[`"h\Y`ghf] W`fY`Z`Z`bW]cb`Z`W`h`fY`Z`Y`UXYfg\]d`Z`W`a`a`i`b]W]h]cb`Z`W`U`Yb[Yg`Y`h`W`h`U`h`W`b`VY`W`cgY`m`fY`U`h`X`hc`h\Y`gh`XYb]h]`]bhYfb`hUg`g`"Gh`XYb]h]`W`b`i`gY`Ub`Uddfc`UW`h\Uh]bW`fdcfUHy`g`Y"[`"Ub`cf[Ub]nUhc bU`dYfgdYW] Y`Z`a`UbU[Ya`YbhdyfgdYW] Y`Z`_bck`YX[Y`dYfgdYW] Y`cf`W`b`_`cc`_`Uhgca`Y`cf[Ub]nUhc bU`a`cXY`g`UbX`h`ghci`h]Z`h`Y`m`U`fY`Y`i`d`U]b`_`ck`h\Y]f`_`cg`hcf[Ub]nUhc bU`Z`bW]cbg`"H\Y`ghf] W`fY`c`Z`h\]g`d`UdYf`k`]`VY`W`U`f]Z`YX`Y`gdYW]U`m]Z`gh`XYb]h]`U`j`Y`b`ch`W`a`d`Y`h`X`Ub`Y`ggUmgi`a`a`Ufm`VY`Z`fY`"5`h`ci`[`_`U`gi`a`a`U`f`n`z`]h]g`hc`VY`k`f]HYb`Ug`Ub`_`UWUXYa`]WdUdYf`gc`b`ch`X`chdc]b]h]"Gh`XYb]h]`XYj`Y`cd`Ub`Uf[i`a`Y`b`h`z`UbX`]XYb]h]Z`m`_`ck`h\Y`m`d`Ub`hc`i`gY`fY`j`Ub`h`h`i`h`g`UbX`U`f]h]WYg`f]gY`Y`Y`Ub`hc`Z`f`ci`f`h`i`h`g`UbX`gi`[`[`Y`gh`X`]h]fU`h`fY`k`hc`gi`ddc`f`h`h]g`"Gi`[`[`Y`gh`X`]XYUg`U`fY`g`U`fY`X`V`m`h`Y`7`cbj`Y`bc`f`z`Ug`b`Y`Y`X`X`Z`UbX`gi`ddc`f`h`V`m`Ya`U]`UbX`Z`f`h`Y`f`a`Y`h]b[g`U`fY`d`fcj`]X`Y`X`"H`k`c`_`g`Ya`]b`U`f`g`U`fY`c`Z`Y`f`X`X`i`f]b[`h\Y`h`fa`Z`cf`d`Y`f`g`i`ddc`f`h`UWUXYa`]W[i`]X`Ub`W`_`UbX`g`U`f]b[`cZ]b`h`f`b`g\]d`Y`i`d`Y`f]Y`b`W`"h]g`W`i`W]U`z`Ug`h`Y`fY`U`fY`bc`k`Y`Y`_`m`h`hc`f]U`g`z`h`U`h`g`h`XYb]h]g`h`U`f`h`f`Y`U`X]b[`Ug`Y`U`f`m`Ug`h`Y`m`W`b`z`hc`U`W`e`i`U]b`h`_`h`Ya`g`Y`j`Y`g`k`]h`U`gd`Y`W`g`c`Z`cf[Ub]nUhc bU`h`Y`cf`m`h`U`h]b`h`Y`f`Y`gh`h`Ya`UbX`U`fY`fY`j`Ub`h`hc`h\Y]f`_`cg`h`A`U`_`b[`]`b`_`g`k`]h`h\Y`fY`U`X]b[`hc`cb`Y`f]g`_`cg`h`W`b`VY`Y`i`W]h]b[`UbX`]b]g[\`h`_`"Gh`XYb]h]`a`i`gh`fY`Z`fY`b`W`h\]g`d`UdYf`k`]h`U`h`Y`U`gh`Z]j`Y`f]k`U`f]h]WYg`]b`_`U`X`X]h]cb`hc`h\Y`Y`[`Ub`hc`]g`h`k`_`h`W`a`Y`U`bg`h\Y`m`b`Y`Y`X`hc`g`ci`f`W`Z]j`Y`cf`a`c`fY`fY`j`Ub`h`U`f]h]WYg`c`f`W`U`d`h`f`g`cb`h\Y]f`W`cg`Y`b`hc`d]W`"

Hi fb]h]b`gYH]b[. H\]g`Ugg][ba`Y`bh]g`gi`Va`]h`Y`X`h`f`ci`[`_`h`i`fb]h]b`UbX`gh`XYb]h]`W`b`g`Y`Y`h`i`fb]h]b`g]a`]U`f]h]m`fY`d`c`f`g`"

5ggYgga`Y`bh`&`F`YZY`W]j`Y`>`ci`fbU`

GHUfhiXUH`Gh`XYb]h]`hc`U`X`X`b`c`h`g`k`Y`Y`_`m`c`b`h\Y]f`Y`i`d`Y`f]Y`b`W`hc`U`gg]g]h]b`Z]bU`d`UdYf`"

@Yb[h\`+)\$`!`%(\$`\$`k`cfXg`

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&bX`cZ`&`Z]bU`Y`ggUm]g`+)\$`hc`%(\$`\$`k`cfXg"K`f]HYb`ZYXVUW`k`]h]b`%\$`k`cf_]b[`XUmg"

5XX]h]cbU`XYHJ]g.

:`cf`a`c`g`h`g`h`XYb]h]`h\]g`]g`Ub`Y`b`c`m`U`V`Y`d`UdYf`hc`W`a`d`Y`h`"h]g`a`UXY`Y`Ug]Y`f`V`m`U`X`X]b[`g`ca`Y`b`c`h`g`Y`U`W`k`Y`Y`_`hc`U`_`ci`fbU`_`cb`k`_`U`h`h\Y`gh`XYb]h]`c`V`g`Y`f`Y`g`z`]g`gi`f`d`f]g`Y`X`V`m`z`U`g`k`Y`_`U`g`W`U`_`Y`b[]b[`a`ca`Y`b]h]g`c`f`hUg`_`g`z`UbX`_`h\]g`h\Uh`h\Y`d`g`_`ck`h\Uh`h\Y`]bhYfb`]g`d`fc[`fY`gg]b[`k`]h`g`_`g`UbX`#`cf`_`bck`YX[Y`c`Z`h`Y]f`]b`X`i`g`h`f`m`z`h]g`fY`W`a`a`Y`b`X`Y`X`hc`fY`U`X`Ub`U`f]h]WY`c`f`h`c`c`b`_`]bhYfbg\]d`g`Y`U`f`m`c`b`]b`h\Y`]bhYfbg\]d`f`h`Y`fY`U`fY`a`U`b`m`k`hc`[`U]b`g`ca`Y`]b]g[\]h]b`hc`h\Y`c`m`g`UbX`W`U`_`Y`b[Y`g`h`U`h`W`b`VY`Y`i`d`Y`f]Y`b`W`X`]b`Ub`]bhYfbg\]d`"h`a`Um[]j`Y`gh`XYb]h]`W`b`Z]X`Y`b`W`hc`hUW`_`Y`_`U`W`U`_`Y`b[Y`Y`U`f`m`c`b`f`i`Y`["`VY]b[`]j`Y`b`fY`d`Y`h]h]j`Y`hUg`_`g`z`c`f`b`ch`fY`W]j`]b[`Y`b`c`i`[`_`Z`Y`X`V`U`W`_`c`b`c`b`Y`f]g`k`c`f`_`k`Gh`XYb]h]`U`fY`Y`i`d`Y`W`Y`X`hc`W]h`Z`f`ca`h`k`c`hc`h`f`Y`Y`U`f]h]WYg`cb`]bhYfbg\]d`g`z`Z`f`ca`g`Y`j`Y`f`U`d]Y`W`g`c`Z`cf[Ub]gUhc bU`]h]fU`h`fY`z`g`U`fY`[`cc`X`Y`i`U`a`d`Y`g`Z`f`ca`h\]g`]bhYfbg\]d`hc`gi`ddc`f`h`h\Y]f`W`a`a`Y`b]h]`UbX`hc`]b`W`i`XY`Ub`g`k`Y`f`g`hc`h\Y`_`ei`Y`gh]cbg`d`fcj`]X`Y`X`_`cb`A`cc`X`Y`"5`V]j`c[`f`U`d`_`m]g`hc`VY`]b`W`i`X`Y`k`]h`h\Y`U`f]h]WYg`h`U`h`h\Y`gh`XYb]h]`U`g`W]h`Y`X`Z`f`ca`U`g`k`Y`_`]h`Y`a`g`Z`f`ca`h\Y`Y`[`Ub`hc`]g`h`h`U`h`U`fY`i`g`Y`X`"Gh`XYb]h]`U`fY`Y`b`W`e`i`fU[Y`X`hc`X`f`U`k`_`cb`]h]fU`h`fY`Z`f`ca`h\Y]f`i`b]j`Y`f]g]h`m`g`h`X]Y`g`"H\]g`d`UdYf`W`b`VY`"

ghfi Wñ fYX'Ug'hY'gh XYbhW'ccgYg'Y"["']bhc'ghU[Yg'cZ'hY']bhYfbg\]d'cf'i g]b['hY'gi [[YghYX'\YUX]b[g'cb
A ccX'Y"' #i]g]a dcfUbhñUñhY'gh XYbhW'Ub]bX]WUñ'hY'f' d'fc [fYgg'cb' \ck 'hYm'Uj Y'hYmYb[U[YX'k]h
hY''ñYfUñ fY'UbX']XYbh]Zmk \Uñ'YUfb]b['hYm'Uj Y'UW'Yj YX']b'UfYUg'gi W'Ug'hY'W'U''Yb[Y'cZa'cj]b[
Zca 'hY'I b]j Yfg]hmgYñ]b['hc'hY'k cf_d'UW' fYgdYW'U''m]Z]h]g'hY'f'Zfgh]bhYfbg\]d'Z'hY']a dUW'icZ
X]j Yfg]h'Ufci bX'hYa 'UbX'k \UñYñ]W''UbX'gcW'U''fYgdcbg]V']ñYg'UfY']bj'c'j YX']b'hY'f']bXi ghf'icf'UfYU
cZgdYW'U''m'' @]gh]b['_Ymg_]`g'UbX'bYk '_bck YX[Y [U]bYX'W'Ub'VY'']b_YX'hc'YI Ua d'Yg'Zca 'hY'gh XYbhñ
fc'Y'UbX'hUg_g'i bXYfU_Yb''

Hi fb]ñb'gYñ]b[. H\]g'Ugg][ba Ybh]g'gi Va]ñYX'h'fci [\ Hi fb]ñb'UbX'gh XYbhñ'W'Ub'gY'Y'Hi fb]ñb'g]a]Uf]m
fYdcfñg''

5ggYgga Ybh' . C f[Ub]gUñ]cbU'YggUm

GHUfhXUñY' Bch5dd'WUV'Y

@Yb[h. '&\$\$\$'k cfXg

8Yñ]`g.

%cZ&'I :]bU'YggUmñ'&\$\$\$'k cfXg''K f]ñY'b'ZYXVUW'k]h.]b'%\$'k cf_]b['XUmñ''

5XX]ñ]cbU'XYñ]`g.

H\]g'W]ñW'UbU'ñ]g'Vi]Xg'cb'hY'YggUmgi a a Ufm'U'fYUXmgi Va]ñYX'i g]b['U'g]a]Uf'ghfi Wñ fY'UbX'hY
gUa Y'ei Ygñ]cb'#ghUñYa Ybñ'Gñ XYbhñ'UfY'YI dYW'ñX'hc' \Uj Y'W'cbñ]bi YX'hc' fYUX'h'fci [\ci h'hY
]bhYfbg\]d'hc'Z]bX'UXX]ñ]cbU''ñYfUñ fY'UbX'hc']bW'f'cd'fUñ'gi [[Ygh]cbg]b'hY'ZYXVUW']d'fcj]YX'cb'hY
gi a a Ufm' @Y[Ubhc']d'fcj]XYg'U'ghUñ]b['dc]bhk]h' _Ym'ñYI hg'cb'Vch'B: D'UbX']d'fcZ]h'cf[Ub]ñUñ]cb'Vi h
gh XYbhñ'bYX'hc' 'cWUñ'gdYW'Z]WUñ]WY'g'#]bZ'fa Uñ]cb'h'UñdYfU]b'hc'hY'f'c'gñ]cf[Ub]ñUñ]cb'#fY'Yj Ubh
]bXi ghf'ñ'7'YUf'YI Ua d'Yg'Zca 'hY'gh XYbhñ'\cgh]cf[Ub]ñUñ]cb'UfY'hc']d'fcj]YX'UbX'']b_YX'hc'hY
gY'YW'ñX''cf[Ub]ñUñ]cbU''W'ca dcbYbhñ'hc'XYa'cbgh'Uñ'gc']X'fYUX]b['UbX'fYZYW'ñ]cb'cb'hY'hc'd]W'Ug'k Y''Ug
hY'gh XYbhñ'UV']ñm'hc'h'UgY'ci h'ck'fY'Yj UbñhY''ñYfUñ fY']g'hc'hY'f'gdYW'Z]W'cgh'Gñ XYbhñ'UfY
YbW'ci fU[YX'hc'a Y'Yh'k]h'hY'f'c'gñ]gi dYfj]gcf'fY[i 'Uf'm'f'Z'cf'gi dYfj]g]cb'UbX'hc' [U]b'ZYXVUW'cb'hY'f'
k cf_]Vi h'hc'U'gc']a U_Y'ñ]a Y'hc'X]gW'gg'hY'f'YggUm'hc'd]W'gc'Ug'hc' [U]b' [fYUñ'f']bg][\hg']bhc'hY
cf[Ub]ñUñ]cbñ]Z' bW]cb]b['UbX']d'fcW'ggYgZ'\]g'hc'f'ñ'W'ñ' fY'UbX'hc' 'YUfb'\ck'hc' 'UW'W'gg'Ubm'fY'Yj Ubh
XcW'a Ybhñ'f'a]gg]cb'ghUñYa Ybhñ]Z'Ubbi U'fYdcfñg'YñW''Gñ dYfj]gcf'g']c'i 'X'\Uj Y'VYb']d'fcj]YX'k]h'U
Vf]YZ'ci h]bY'cZ'hY' <I A G&\$\$\$'UggYgga Ybhñ'Vi h'k]''bYX']bdi h'cb'k \UñhY'gh XYbh]g'Z'W'gg]b['cb''5h
bc'h]a Y'XcYg'hY'gh XYbhñUa Y'hY'c'gñ]cf[Ub]ñUñ]cb'Vi h'fYZ'f'g'hc'hY'c'gñ''

Gñ XYbhñ'UfY'hc'XYa'cbgh'Uñ'Ub']b]XYd'h'Yb[U[Ya Ybhk]h'hY'fY'Yj Ubñh'Y'cfYñ]W''_bck YX[Y'UbX'hc'VY
UV'Y'hc'X]gW'gg'h']g'k]h.]b'hY'k]XYf'W'cbñYI hcZ5'i ghfU']Ub'UbX'cf'#cj YfgYUg'k \YfY'dcgg]V'Y''5g'h']g']g'Ub
cf[Ub]ñUñ]cbU''UbU'ñ]gZ'gh XYbhñ'bYX'hc'g'ck']gci bX']g_]`g']b'cWUñ]b[Z'Yj U'i Uñ]b['UbX'i g]b['fY'Yj Ubh
]bZ'fa Uñ]cb'Ug'k Y''Ug'gi g]b['hY'f']b]ñUñ] Y'UbX'W'YUñ]]ñm]b'hY'a UbbYf']b'k \]W'hYm'Udd'fcUW'hY'hc'd]W
UbX'hY'W'cbW']g]cbg'hYm'X'fUk ''7'ca V]b]b['WUfYZ' 'cVgYfj Uñ]cb'k]h'g_]`Z' 'ñUW'ñ' 'ei Ygh]cbg'hc'
gi dYfj]gcf'g'UbX'ch'Yf'h'Ua 'a Ya VYfg'k]''VY'bYX'YX'h'fci [\ci h'hY']bhYfbg\]d''

Gñ XYbhñ'UfY'YbW'ci fU[YX'hc'_Y'Yd'fY[i 'Uf'W'cb'UW'ñk]h'hY'f'5WUXYa]W7'cbj Ybcf'Z'cf[i]XUbW'Z'X]gW'gg]cb
cZk Umñ'hc'XYj Y'cd'h']g'UggYgga Ybh'UbX'Z'f'h]dg'cb'Z' f'hYf'fYUX]b[''

Hi fb]ñb'gYñ]b[. H\]g'Ugg][ba Ybh]g'gi Va]ñYX'h'fci [\ Hi fb]ñb'UbX'gh XYbhñ'W'Ub'gY'Y'Hi fb]ñb'g]a]Uf]m
fYdcfñg''

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

DF 9G7F -698`F 9GCI F 79G`

: cf'ghi XYbtg`]b`BchZcf`DfcZ]hfB: DŁ#Di V`]Wcf[Ub]gUh]cbg.`

5b\Y]Yfz<Y`a i h? "Bcb` `DfcZ]hC f[Ub]gUh]cbg`. H\YcfmžA UbU[Ya YbhUbX`Dc`]Wt`&bX`YX]hcb
<cVc_YbžF ci hYX[Yž&\$%("fl&bX`YX]hcb`]g`cb`]bY`UbX`a cfY`fYW`bhYX]hcbg`UfY`Uj`U]`UV`Y`]b
hY`Vcc_g\cdŁ"

D`i g`W\ccgY`cbY`Zca .

C f[Ub]gUh]cb`H\YcfmUbX`8Yg][b`"7Yb[U[Y`@YUfb]b["F @8UZł`%&`h`YX]hcb`"7]bWbbUh`"&\$%)

`C f`

7`Y[[žG`"A UbU[]b[`UbX`C f[Ub]gUh]cbg. `5b`-bhfCxi W]hcb`hc`H\YcfmUbX`DfUW]W`" "fX`YX`"@5`"GU[Y`
@cbXcb`"&\$%%"

&Ł: cf'ghi XYbtg`]b`df]j UH`YbhYfdf]gY`cf[Ub]gUh]cbg.

7\ccgY`&hYl hg`Zca .

7`Y[[žG`-A UbU[]b[`UbX`C f[Ub]gUh]cbg`-Zcf`XYhU]g`gYY`UVcj`Yž

7Yb[U[Y`fif`"8UZł`!C f[Ub]gUh]cb`H\YcfmUbX`8Yg][b!`gYY`UVcj`Yž

K ccXžYhU`"C f[Ub]gUh]cbU`6Y\Uj`]ci f`. 7cfY`7cbW`drg`UbX`5dd`]W]h]cbg`"(h`9X`"A`]hcb`"E`X`"K`]Ym
UbX`Gcbg`"&\$%*`f\Ug`gc%o` %o`

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

7CI FG9'9J 5@ 5H€B'5B8'89J 9@CDA 9BH'

: YYXVUW_Zfca `ghi XYbht`]g`k Y`Wca YX'UbX`'\][\`m`j U'i YX`VmihY'7 cbj Ybcf`k]h`h`Y`U]a `cZ]a dfcj]b[``h`Y`
XY`j] YfmcZ`h`]g'7 ci fgY""Gh` XYbht`UfY`k Y`Wca Y`tc`g`UfY`ZYXVUW`Xi f]b[`h`Y`h`Yfa ""`Hk`c`g`Ya]bUfg`YUW`
h`Yfa `k`YfY`]b]fcXi`W`X`]b`&\$%-`Ug`ghi XYbht`k`Y`Wca YX`h`Y`c`ddcfh`b]m`h`c`h`c`a`YYh`c`h`Yf`<I`A`G`&\$\$\$`
ghi XYbht`z`X]g`W`gg`h`Y`Ugg`Ygga`Ybht`UbX`h`c`h`Y]f`g`UfY`]b]h`fb`YI`dYf]YbW`""Gh` XYbht`\\Uj`Y`Ya`d`Ug]gYX`h`Uh`
h`Ym`Z`i`bX`h`Y`cbY`cb`cbY`W`cbgi`h`h`cbg`j`Yfm`\\Y`d`Z` ``h`c`Yb[`U[`Y`k`]h`h`Y`UW`XYa`]Wg]XY`c`Z`h`Y`gi`V`Y`W`h`z`
h`Y`Ug`Y`ci`h`U`d`Uf]W`Uf`Z`W`g`z`\\Uj`Y`cf[`Ub]gU]h`cbU`h`Y`cfm`WUf]Z`YX`]b`h`Yfa`g`c`Z`h`Y]f`\\c`gh`UbX`h`c`[`U]b`
[`i`]X`UbW`cb`k`\\]W` ``]h`Y`f`U`h`f`Y`a`Um`V`Y`a`c`gh`i`g`Y`Z` ""`A`cfY`f`Y`g`ci`f`W`g`UfY`XYj`Y`c`d`Y`X`Ug`f`Y`ei`Y`gh`Y`X`UbX`UfY`
g`UfYX`"A`m`YI`d`Yf]YbW`ZYXVUW`]g`i`g`YX`h`c`a`U]b]h]b`Ugd`Y`W`g`h`Uhk`YfY`g`Y`Y`b`h`c`V`Y`\\Y`d`Z` ``UbX`h`c`a`c`X]Z`n`
cf`U`X`X`d`f`c`W`gg`Y`g`c`f`f`Y`g`ci`f`W`g`h`c`Ugg]gh`gh`XYbht`"

Gi Va]gg]cb`cZ5ggYgga YbhiHUg_g

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

≠mci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UH`Ya` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`Y`Ug`Y`
HY`Yd`cb`Y`9I`HY`fb`U`Gi`ddc`fh`cb`-`,`),`"`,`'`,`%`cf`Ya`Uj`h`Ya`i`cb`YI`HY`fb`U`HY`hgi`ddc`fh`4`i`bgk`"YXi`"Ui`"Gi`ddc`fh`
`l`ci`fg`UfY`,`.\$`\$Ua`-`-%`\$`.\$`\$da`i`cb`k`YY`_X`Umg`U`bX`-`.\$`\$Ua`-`-`).`.\$`\$da`i`cb`k`YY`_Y`bX`g`f`l`*)`X`Umg`U`m`Y`U`f`l`"≠mci`
UfY`i`b`UV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Z`Ji`h`k`]h`Hi`fb]h]b`mci`i`a`Um`Udd`m`Z`f`U`b`YI`HY`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`HY`fb`U`Gi`ddc`fh`f`U`cb[`k`]h`U`b`m`c`h`Y`f`f`Y`Yj`U`b`h`X`c`W`a`Y`b`h`g`k`hc`
]b`Wi`XY`U`g`Y`j`]X`Y`b`W`hc`gi`ddc`fh`mci`f`YI`HY`bg]cb`Udd`]W`h]cb`"≠mci`Ya`Uj`9I`HY`fb`U`Gi`ddc`fh`mci`k`]`
Ui`hc`a`U`h]W`U`m`f`Y`W`]j`Y`U`h]W`Y`hbi`a`VY`f`z`Vi`h]Z`mci`HY`Yd`cb`Y`mci`k`]`b`Y`Y`X`hc`gd`Y`W`Z]W`U`m`Ug`_`Z`f`c`b`Y`"
Hi`fb]h]b`U`gc`d`fc`j`]X`Y`g`i`d`X`U`h`Y`g`c`b`h`Y`]f`g`m`g`h`Ya`i`g`h`U`h`g`c`b`H`k`]h`Y`f`"

;`Yb`Y`f`U`m`z`Ugg`Y`gga`Yb`hi`U`g`_`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`c`b]W`U`m`j`]U`Y`]h`Y`f`Hi`fb]h]b`c`f`U`A`cc`X`Y`
Ugg][`ba`Yb`h`i`h`]b`g`h`U`b`W`g`k` \Y`f`Y`h`l`g`]g`b`c`h`d`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`h`X`c`b`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`h`Y`fb`U`h]`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`cf`]b`Z`fa`U`h]cb`c`b`l`ck`hc`gi`Va`]h`Ugg][`ba`Yb`h]g`c`b]b`Y`j`]U`A`cc`X`Y`.\`h`d`g`#`g`h`X`Y`b`h`i`bgk`"YXi`"Ui`#`ck`!
gi`Va`]h`Ugg][`ba`Yb`h`a`cc`X`Y`"

5 WUXYa]W< cbYghmiUbX'D`U[]Uf]ga

D`U[]Uf]ga]g'i]b['hY'k cfXg'cf]XYUg'cZcH.Yfg'UbX'dfYgYbh]b['hYa 'Ug'mci f'ck b" #WUb'fU_Y'a Ubm
Z'ca gZ'Zca 'XY'VYfUHY'WX.YU]b['hc'UW]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['WU] [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'dfYgYbhg'Ubch.Yf'g]XYUg'cf'k cfXg'k]h'ci hWYX]h'

#Uddfcdf]UHY'dUfUd\UfUg]b[.7\Ub[]b['U'Zk'k cfXg'UbX'd\UfUg'k \]Y'a cghmfYU]b]b['hY'cf][]bU'
ghf' W'fY'UbX#f'dfc[fYgg]cb'cZ]XYUg'cZcH.Y'cf][]bU'z'UbX']bZ'ca U]cb'k]h'ci hUW_bck 'YX[Ya Ybh'H\]g'U'gc
Udd'Yg'g]b'dfYgYbhU]cbg'k \YfY'gca YcbY'dUfUd\UfUg'g'Ubch.Yf'g]XYUg'cf'k cfXg'k]h'ci hWYX]h'UbX'hc
d]YW]b['hc[Y'hYf'ei chYg'UbX'dUfUd\UfUg'g]bhc'U'bYk'k \c'Yz'k]h'ci hUddfcdf]UHY'fYZYfYbW]b["

7 c`i]g]cb.k cf_]b['k]h'c'hYfg'Vi hdUgg]b['cZcH.Y'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'Ubch.Yf'g]h'XYbhVYZ'fY'hY'Xi Y'XU]f'Z'cf'Z'f'hY'di fdcgY'cZcH.Ya
d`U[]Uf]g]b['UhUbmi]a Yz'dUm]b['Ubch.Yf'dYfgcb'hc'dYfZ'ca 'Ub'UWXYa]W]Ug_z'gh'U']b['cf'UW'ei]f]b[
Ubch.Yf'dYfgcb'g'UWXYa]Wk cf_'UbX'Wcdm]b[]h'cZ'Z]f]b['hc'W'ca d'YH'Ubch.Yf'dYfgcb'g'k cf_'cf'gYY_]b[
dUma YbhZ'f'W'ca d'Y]b['UWXYa]Wk cf_"

#Uddfcdf]UHY'W]U]cb.7]h]b['gci fW'g'k \]W\Uj Y'bhVYYb'fYUXz'k]h'ci hUW_bck 'YX[]b['hY''gYW'cbXUfm'
gci fW'Z'ca 'k \]W'_bck 'YX[Y'cZcH.Ya '\Ug'VYYb'c'fU]bYX"

8 i d']WU]cb'f'fY'Z'd`U[]Uf]ga 'E'gi Va]h]b['mci f'ck b'k cf_z]b'k \c'Y'cf]b'dUf'z'k \YfY'j'h\Ug'dfYj]ci g'm
VYYb'dfYdUfYX'cf'gi Va]hYX'Z'f'Ubch.Yf'UggYgga Ybhcf'W'ei fgY'Uhi BGK 'cf'Ubch.Yf'i b]j Yfg]h'

7 cffYW'fYZYfYbW]b['dfUW]W]g.

- DUfUd\UfUg]b[žgi a a Uf]g]b[žYggUmk f]h]b['UbX'h]a Y'a UbU[Ya Ybh
- 5ddfcdf]UHY'i gY'cZUbX'U]f]Vi h]cb'Z'f'U'fU]b[Y'cZa U]f]U'g]bWi X]b['hYi hz]a U[YgZ'Z'ca i 'UY'UbX
W'cbW'dhg"

#X]j]Xi U'Ugg]ghU]bW']g'Uj U]UV'Y'cb'fYei YghZ'ca 'H\Y'@YUfb]b['7YbhY'f'f'hd.#k k k "Wi bgk "YXi "Ui #"
Gh XYbhg'UfY'U'gc'fYa]bXYX'hUhW]fYz']h]a Y'a UbU[Ya Ybh]g'Ub]a dcfU]bhdUf]hcZgh'XmUbX'cbY'cZcH.Y
]XYbh]ZYX'W]i gYg'cZd`U[]Uf]ga]g'dccf'h]a Y'a UbU[Ya Ybh'Gh XYbhg'g'lc'i 'X'U'ck'gi Z]W]Ybh]h]a Y'Z'f
fYgYUfW'Z'XfU]Z]b['UbX'dfcdYf'fYZYfYbW]b['cZgci fW'g']b'dfYdUf]b['U''UggYgga Ybh]h]a g"

I BGK '@]VfUfmU'gc'\Ug'hY'9@G9'hc'Uj U]UV'Y'hc'Ugg]ghmci 'k]h'mci f'gh'XmUhi BGK "'9@G9']g
XYg][bYX'hc]bhcXi W'bYk'gh XYbhg'hc'gh X]b['Uhi BGK 'Vi h]hW]b'U'gc'VY'U'[fYUhfYZYg\Yf'Xi f]b['mci f

- 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][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dY'W'X'cZYj Yfmcby`]b'h'Y'I BGK 'W'a a i b]m
- `cW'W'h'gYfj]W'g'UbX'j]bZ'fa U]cb'UVci hl 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 bXYfghUbx]b['cZU`'h'Y fY'UH'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'hd.##ji V'Y'W'i \]X'Yg" \]VfUfm'i bgk "YXi "Ui #' \]gY#\]Vci h' \]gY](#)

