

Gh" ' ð [ VYfh'fÀi a h'Ui Z. ' ' \* \$ '@]hYf'A Ø` `ZØf  
Y]bY '[ fØbYfY '6]cgd \ÀfY °

5a ' &' "\$) "&\$&) 'gUa a Y`hYb' 7`YUbi d'GUUf`UbX 'i bX  
?'`a UZ]h'Gh" ' ð [ VYfh ' ' \* \$ '@]hYf'A Ø` `]b`XYf'6]cgd \ÀfYbghUXh  
Gh" ' ð [ VYfh"



Gh" ' ð [ VYfhž'8Yi hgW\ `UbX '!5a ' &' "'A U] &\$&) 'ZUbX' ]b' Gh"  
ð [ VYfhž'Y]bYf'GhUXhž'X]Y'j c`ghÀbX][ ' ]a ' 6]cgd \ÀfYbYgYfj Uh  
6`Yg[ Ui ' `]Y[ hž'Y]b`VYa Yf\_Ybgk YfhYg' l a k Y`hdfc`Y`\_highUhh" '8 ]Y  
; fi ddYb' 7`YUbi d'GUUf`UbX 'i bX' ?`a UZ]h'Gh" ' ð [ VYfh  
cf[ Ub]g]YfhYb`Y]bY '[ Ya Y]bgUa Y`K UbXYfi b[ `Xi fW\ `X]Y`GhUXh'a ]h  
XYa `N]Y`ž`XUg`6Yk i gghgY]b`ZØf`XYb` l a k Y`hgW\ i hn'ni `gW\ ÀfZYb  
i bX`X]Y` l a [ YVi b[ `ni `fY]b][ Yb" '8 ]YgY' ð]h]Uh]j Y`]gh`HY]`Y]bYf  
i a ZUggYbXYfYb`GhfUHy[ ]Yž`Gh" ' ð [ VYfh`U`g`bUW\ `U`h][ Y  
Hci f]ga i gfY[ ]cb`ni `dcg]h]cb]YfYbž`k Ug`j cb`gUUfVfi YW\_Yf!  
nY]hi b [ "XY`VYf]W\ hYh'k ]fX"

⇒ a `FU\ a Yb`XYf'5\_h]cb`k i fXYb` ]bg[ YgUa h' ' \* \$ '@]hYf'A Ø` `  
[ YgUa a Y`hž`k Ug`Y]bYa `Jc`i a Yb`j cb`XfY]`\_`Y]bYb

F Ygha Ø`hcbbYb`Ybhgdf]W\h"Ni`XYb`[ YgUa a Y`hYb`A UHYf]U`Yb  
[ Y\ØfhYb`Ui W\`YYfY`:`UgWYb`i bX`Y]b`j c`Yf`6c`Yfk U[ Ybž`k Ug  
X]Y`@Y]XYbgW\UZh`i bX`XYb`9]bgUhn`XYf`HY]`bY\ a Yf`i bhYfghfY]W\h"  
8]YgY`VYY]bXfi W\_YbXY`A Yb[ Y`Ub`A Ø`nY][ h`X]Y`B c`hk YbX][ \_Y]h  
j cb`5\_h]cbYb`ni f`A Ø`VYgY]h][ i b[ `i bX`gYbg]V`]g]Yfh`X]Y  
6Yj Ø`\_Yfi b[ `ZØf`X]Y`<YfUi gZcfXYfi b[ Ybž`XYbYb`X]Y`I a k Y`h  
[ Y[ YbØVYfghY`h"

## B UW\ U`h][ \_Y]h`]b`Gh" `b [ VYfh

8]Y`GhUXh`Gh" `b [ VYfhž`X]Y`g]W\`]a `GØXcghYb`XYg`GUUf`UbXYg`Ub  
XYf`; fYbnY`ni `: fUb\_fY]W\`i bX`F`Y]b`UbX!DZU`n`YfghfYW`hž`]gh`b]W\h  
bi f`ZØf`]\fY`6Ya Ø`i b[ Yb`i a `I a k Y`hgW\i m`VY`Ub`bhž`gc`bXYfb  
Ui W\`ZØf`]\fY`B UW\ U`h][ \_Y]hgghfUHY[ ]Yb" `8 Ug`6]c`gd\`ÅfYb`fYgYfj`Uh  
6`]Yg[ Ui ž`]b`XYa `Gh" `b [ VYfh`Y[ hž`]gh`X]Y`k Y`hk Y]h`YfghY`i fVUb!  
]bXi`ghf]Y``[ Ydf`Å[ hY`A cXY`fY[ ]cb`i bhYf`XYb`XYi hgW\Yb  
6]c`gd\`ÅfYb`fYgYfj`UhYb" `8]Y`Y]bn][ Ufh][ Y`@UbXgW\UZh`i a ZUggh  
bUhi`fbU`Y`6i W\Yb`k`Å`XYfž`GhfYi cVghk`]YgYb`i bX  
5i Yb`UbXgW\UZhYbž`X]Y`Yg`j YfX]YbYbž`Yf`U`hYb`ni `k YfX`Ybž`k`]Y`gh!  
]b [ VYfh`XY`Yfj`cf`YVh"

8]Y`bUW\ U`h][ Y`GhUXhYb`hk`]W`i b[ `]b`Gh" `b [ VYfh`a`Ub]ZYgh]Yfh`g]W\  
]b`j YfgW\]YXYbYb`Dfc`Y`\_hYb" `6Y]gd]Y`Y`XUZØf`g]bX`X]Y`GUb]Yfi b[  
XYg`\]ghcf]gW\Yb`9]gYb`k`Yf`\_Yg`5`hY`GW\`a`Y`nž`X]Y`BYi bi hni b[ `XYf  
Y\Ya`U`][ Yb`6Ui a k c`gd]bbYfY]`gck`]Y`X]Y`GW\UZI`b[ `Y]bYg  
a cXYfbYb`6i ggmghYa`gž`XUg`X]Y`GhUXh`a`]h<sup>2</sup>`\_cgfhca`j`Yfgcf[`h"  
8]YgY`9bhk`]W`i b[ Yb`g]bX`b]W\h`bi`f`j`cb`c`\_U`Yfž`gc`bXYfb`Ui`W\  
j`cb`fY[ ]cb`U`Yf`6YXYi`hi`b[ ž`k`Ug`Gh" `b [ VYfhg`F`c`Y`]a  
6]c`gd\`ÅfYb`fYgYfj`Uh`Ua`i`&\*"`A`Åfn`&\$\$`-`j`cb`XYf`I`B9G7C  
UbYf`\_Ubb`h`k`i`fXY"

## 5i gV`]W`\_Ui`Z`ni`\_ØbZh][ Y`5\_h]cbYb

8]Y`b`h]Uh]j`Yb`k`]Y`X]Y`A`Ø`gUa`a`Y`U`\_h]cb`nY][ Ybž`XUgg`X]Y`6Øf[ Yf  
j`cb`Gh" `b [ VYfh`U`\_h]j`\_Ub`XYf`;`YghU`hi`b[ `Y]bYf`bUW\ U`h][ Yb  
Ni`\_i`bZh`a`]hk`]f`\_Yb`a`ØW\hYb" `Gc`W\Y`5\_h]cbYb`ZØfXYfb`b]W\h`bi`f`  
XUg`;`Ya`Y]bgW\UZhg[ YZØ`\`ž`gc`bXYfb`gh`Åf`\_Yb`Ui`W\`XUg  
6Yk`i`gghgY]b`ZØf`X]Y`Xf]b[ YbXYb`<YfUi gZcfXYfi b[ Yb`]a`6YfY]W\

l a k Y`h`i bX`BUhi fgW`i m`"A ]h`Y]bYf`ØVYf`XYa  
 6i bXYgXi fW`gW`b]h`"Y[ YbXYb`6Yj Ò`\_Yfi b[ gX]W`hY`i bX`XYf  
 Yb[ Yb`J YfV]bXi b[ `nk ]gW`Yb`GhUXhi bX`@UbX`d`Ubh`Gh" `ϕ[ VYfhž  
 k Y]hYf\]b`U`g`J cfV]`X`]b`XYf`bUW` \U`h][ Yb`GhUXhYbhk ]W`\_i b[ `ni  
 Ž b[ ]YfYb"

ϕg[ YgUa h`nY][ h`X]Y`K UbXYfi b[ `j cb` 7`YUbi d`GUUf`UbX `i bX  
 ?`]a Uz]h`Gh" `ϕ[ VYfh žk ]Y`k ]W`h][ `[ Ya Y]bgW`UZh`]W`Y  
 5bgfhYb[ i b[ Yb`g]bXž i a `Y]bY`gUi VYfY`i bX`bUW` \U`h][ Y`l a k Y`h  
 ni `ZØfXYfb" `8 Ug`9b[ U[ Ya Ybh`XYf`HY]`bY`a Yf`i bX`X]Y  
 l bhYfghØhni b[ `Xi fW` `c`\_U`Y`C f[ Ub]gUh]cbYb`g]bX`YbhgW`Y]XYbXž  
 i a `Gh" `ϕ[ VYfh`U`g`J cffY]hYf`]a `6YfY]W` `bUW` \U`h][ Yf`Hci f]ga i g  
 i bX`l a k Y`hgW`i m`ni `YhUV`]YfYb"

8 YhU]`g	
C fh	Gh" `ϕ[ VYfhž`8 Yi hgW` `UbX
E i Y`Yb	<ul style="list-style-type: none"> <li>• k k k "gUUfVfi YW`_Yf!nY]hi b[ "XY</li> <li>• k k k "gh!]b[ VYfh"XY</li> </ul>

6Ygi W`X Yb`G]Y`i bg`Ui Z.`a Y]b!k ]Yb"bYh