## Hfi a d'6ci `Yj UfX.: `cf]XU'8Yg][ bUhYg BYk 'FcUX' < cbcf'Zcf': cfa Yf'DfYg]XYbh

5 'bYk '`Uk 'XYg][ bUhYg'dUfh'cZ'Gci h\Yfb'6ci `Yj UfX']b 'DU`a 6YUW\ 'Ug'/ ei ch/DfYg]XYbh'8cbU`X'>"Hfi a d 6ci `Yj UfXž/ ei ch/'\cbcf]b[ '\_Ym'Z][ i fYg']b': `cf]XU"

: `cf]XU'Dc`]h]Wg'fYdcfhg'h\Uh'DU`a '6YUW\FYdi V`]WUb'ghUhY
FYdfYgYbhUh]j Y'A Y['K Y]bVYf[Yf'YI dfYggYX'h\Uh'h\]g'\cbcf
WUdhi fYg'h\Y'[fUh]hi XY'cZ: `cf]X]Ubg'hck UfXg'Hfi a d g'XYX]WUh]cb"
H\]g'bYk 'XYg][bUh]cb'UXXg'hc'h\Y'dfYj ]ci g'fYbUa ]b['cZ'DU`a
5j Ybi Y']b'<]U`YU\'hc'8cbU`X'>"Hfi a d'5j Ybi Y'`UhY'`Ugh'mYUfž
Zi fh\Yf'Ya VYXX]b['Hfi a d g'`Y[UWm']bhc': `cf]XU g'`UbXgWUdY"

## $@Y[]g`Uh]iY'6UW_[fcibX]$

H\Y'dUggU[Y'cZ'<6'-, +'a Uf\_g'U'ghYd'Zcfk UfX'Zcf'ghUhY
`Uk a U\_Yfg'k \c'Uddfcj YX'U'hchU`'cZ'&\$'\cbcfUfm'XYg][bUh]cbg
UWfcgg'j Uf]ci g'Wci bh]Yg"' + b'UXX]h]cb'hc'h\Y'Hfi a d'6ci `Yj UfXž
ch\Yf'bchUV`Y'bUa Yg']bWi XY'A UghYf'8Ydi hm'6fUX`Ym'@]b\_

A Ya cf]U``< ][\k Um`]b`@U\_Y`7ci bhm`UbX`; YfU`X]bY`H\ca dgcb`K Um ]b`CfUb[Y`7ci bhm''9UW\`bUa Y`fYWc[b]nYg`]bX]j ]Xi U`g`k \c`\Uj Y `YZh`U`a Uf\_`cb`: `cf]XUž`Zfca ``Uk `YbZcfWYa Ybh`\YfcYg`hc`W'`hi fU` ]Wcbg``]\_Y`7Y`]U`7fi n`UbX`Vi g]bYgg``YUXYfg`gi W\`Ug`<Uff]g`FcgYb"

cfih\YiHfi a diXYg][bUh]cbžWcghgiUfYiYgh]a UhYXiUhii &ž(\$\$ihc]bghUiibYk ia Uf\_Yfgžik\]WiighWiiXYgihk cig][bgiUhii %ž&\$\$iYUWX"H\YiV]iifYWW]jiYXiibUb]a ci gigi ddcfhiZfca ighUhYiiUk a U\_YfgiUbX]gigYhihci[ci]bhciYZZYWhicbiiimi%žiUicb[ik]h\ia cfYih\Ubii,\$ibYkiY[]giUh]jiYia YUgi fYgiVY]b[i]bhfcXi WYXiUWfcggih\YighUhY"iH\]gVfcUXiUffUmi\][\i][\hgiUiWca a ]ha YbhihcifYWc[b]n]b[Wcbhf]Viih]cbgiZfca ij Uf]ci gigYWhcfgži]bWiiX]b[idci]h]WgžiiUkYbZcfWYa YbhžiUbXiicWUii\YfcYg"

## @cWU`7cbhYlhUbXFYgdcbgYg

#bhYfYgh]b[`mžh\]gʻfYbUa ]b[ʻWca YgʻUhʻUʻh]a YʻcZʻj Uf]YXʻdi V`]W fYUWh]cb"K\]`Yʻgca YʻfYg]XYbhgʻUdd`Ui Xʻh\Yʻ[Yghi fYž']h gʻk cfh\bch]b[ʻh\UhʻHfi a d gʻfYWYbhʻWcbj ]Wh]cbʻcbʻ' (ʻZY`cbmʻW\Uf[Yg fY`UhYXʻhcʻ\i g\`a cbYm'dUma YbhgʻXi f]b[ʻh\Yʻ&\$%\* `WUa dU][bʻ\Ug gh]ffYXʻXYVUhYʻUVci hʻ\cbcf]b[ʻ\]gʻ`Y[UWm"'#bʻZUWhžʻDU`a '6YUW\7ci bhmj chYfgʻZUj cfYX'8Ya cWfUhʻ?Ua U`U'<Uff]gʻ]bʻh\Yʻ&\$&(Y`YWh]cbžg\ck WUg]b[ʻUʻX]j ]XYXʻgYbh]a Ybh'k ]h\]bʻh\YʻWca a i b]hm hck UfXgʻHfi a d"

5 WWcfX]b[ 'hc'7`]W\_'Cf`UbXcž'Ubch\Yf'UgdYWh'cZ'h\Y'`Y[]g`Uh]cb']g h\Y'i bUb]a ci g'Uddfcj U`'cZ'h\Y'V]``ž'k\]W\']bWi XYX'\cbcfg'Zcf `UhY'XYdi h]Yg'`]\_Y'={ bUW]c' 8 Ub '8]Unž'FU`d\' 6i hW\ 'K U``Yfž'UbX 7 d`"'@i]g'DUYnž'\_]``YX']b'U'hfU[]WWfUg\"'H\Y'`Y[]g`Uh]cb'U]a g'bch 'f gh'hc'fYbUa Y'fcUXg'Vi h'U`gc'hc'Ybgi fY'h\Uh'h\Y]f'Wcbhf]Vi h]cbg UfY'fYa Ya VYfYX']b'h\Y'di V`]Wgd\YfY"

7ca a ]gg]cbYf'GUfU'6UI hYf'fYei YghYX'h\Y'bUa ]b['cZ'h\]g'gYWh]cbcZ'Gci h\Yfb'6ci `Yj UfX'gdYW]Z]WU``mž'gi [[Ygh]b['U'V`YbX'cZ'`cWU`df]XY'UbX'fYWc[b]h]cb'cZ'bUh]cbU``Z][i fYg"'H\Y'dfcdcgU``ZcfbUa]b['a Um'bch']a a YX]UhY`m'UddYUf'cb'a Udd]b['Uddg'i bh]`cZZ]W]U`'g][bU[Y']g'fYd`UWYXž'Ug'\][\`][\hYX']b'I G5'HcXUm''H\Ycb[c]b['X]gW'gg]cbg'Vf]b['Zcfk UfX'WcbWfbg'fY[UfX]b['\ck'UbX

 $k \ Yb \ gi \ WX \ XYg][ \ b \ Uh] \ c \ bg \ UfY \ fY \ Wc [ \ b] \ nYX \ ][ \ ]hU \ b \ Uj \ ][ \ Uh] \ c \ b \ c \ g''$ 

 $\label{thm:complete} H\Y': `cf]XU'8YdUfha Ybh'cZ'HfUbgdcfhUh]cb']g'WXUf[YX'k]h\'h\Y ]bghU``Uh]cb'cZ'h\YgY'bYk'a Uf_Yfgž'k\]WX'k]```gYfj Y'Ug'U'd\mg]WU`fYa]bXYf'cZ'h\Y']bX]j]Xi U`g'UbX'h\Y'ghcf]Yg'VY\]bX'h\Y'bUa Ygh\Uh``]bY'h\Y'fcUXk Umg"'5g'h\YgY'WXUb[Yg'i bZc`Xž'h\Ym'k]``ibXci VhYX`m'dfcj c_Y'cb[c]b['X]gW'gg]cbg'UVci h'h\Y']bhYfgYWh]cbcZ'dc`]h]Wg'UbX'`cWJ``]XYbh]hm']b': `cf]XU"$ 

±b 'WcbWi g]cbž'h\Y'fYbUa ]b['cZ'dUfhg'cZ'Gci h\Yfb'6ci `Yj UfX'UZhYf DfYg]XYbh'Hfi a dž'U`cb[g]XY'j Uf]ci g'ch\Yf'g][b]Z]WUbh'Z][i fYgž UXXg'hc'h\Y'hUdYghfm'cZ': `cf]XU g'di V`]Wa Ya cf]U`g"'K \]`Y cd]b]cbg'cb'Hfi a d'UfY'a ]I YXž'h\]g'`Y[]g`Uh]cb'YI Ya d`]Z]Yg'\ck `cWU``Wca a i b]h]Yg'U]a 'hc'\cbcf'h\Y]f'\]ghcf]Yg'UbX'h\Y']bZi Ybh]U` Z][i fYg'k \c'\Uj Y'g\UdYX'h\Ya "

8 Y hU]`g	
Cfh	Gci h\Yfb~6ci `Yj UfXžDU`a ~6YUW\~7ci bhmž
	: `cf]XUž'l G5
EiY``Yb	<ul><li>Z`cf]XUdc`]h]Wg"Wca</li></ul>
	• k k k "₩]₩_cf`UbXc"₩ca
	• kkk"igUhcXUm"Wca

6Ygi WXYb G]Y i bg Ui Z a Y]b!k ]Yb bYh