

;][Ubh]gWX Y '9bh`Uggi b[Yb°'%"' \$\$'>cVg VY]'=bXYYX'i bX'; `UggXccf'[Yghf]WX Yb

?Øbgh`]WXY' ⇒bhY``][Ybn'j YfÀbXYfh'XYb'5fVY]hga Uf_h.'HYWX! F]YgYb'fYXi n]YfYb'GhY``Ybž'i a 'g]WX'Ui Z'5i hca Uh]g]Yfi b['ni_cbnYbhf]YfYb"



9]b Dui _YbgW\`U[žXYf'b]W\h'bi f'X]Y VYhfcZZYbYb A]hUfVY]hYfž gcbXYfb Ui W\`X]Y [YgUa hY 6fUbW\Y'Ui Z\cfW\Yb'`Aggh" 8]YgY 9bh`Uggi b[Yb`VYhfYZZYb`j cf`U``Ya `X]Y`l G5`i bX`_cbnYbhf]YfYb`g]W\
Ui Z`6YfY]W\Y`k]Y`6Yhf]YVž: cfgW\i b[`i bX`BUW\\U`h][_Y]h"`79C
<]gUmi _]` 8Y_c **XY_cVU`XfØW_h`Yg`XYi h`]W\`Ui g.` ? =
hfUbgZcfa]Yfh`X]Y`K Y`hž`i bX`l bhYfbY\a Yb`a ØggYb`g]W\
UbdUggYbži a `k YhhVYk YfVgZÀ\][`ni `V`Y]VYb" `8]Yg`_ÒbbhY
k Y]hfY]W\YbXY`: c`[Yb`ZØf`XYb`5fVY]hga Uf_h`\UVYb"

8Yf'K UbXY`XYf'5fVY]hgk Y`h

8]Y'l a ghfi _hi f]Yfi b[Yb'g]bX'HY]`Y]bYg'[`cVU`Yb'HfYbXgžXYf
VYfY]hg'Ui W\"]b'UbXYfYb'HYW\bc`c[]Yi bhYfbY\a Yb'k]Y'A]WfcgcZhž
; cc[`Y'i bX' = 6A 'ni 'VYcVUW\hYb']gh"'8]YgY':]fa Yb'\UVYb']\fY
I bhYfbY\a Ybgghfi _hi fYb'YVYbZU``g'Ub[YdUgghži a 'X]Y'9ZZ]n]Ybn
Xi fW\"5i hca Uh]g]Yfi b['ni 'ghY][Yfb"'@Ui h'Y]bYf'I bhYfgi W\i b['XYg
A W?]bgYm'; `cVU` = bgh]hi hY'k]fX'V]g'&\$' \$ 'Yfk UfhYhž'XUgg'V]g'ni ''\$
I 'XYf'U_hi Y``Yb'5fVY]hgghi bXYb'Xi fW\"hYW\bc`c[]gW\Y
= bcj Uh]cbYb'Ui hca Uh]g]Yfh'k YfXYb"'8]Yg'k]fX'gck c\`'JcfhY]`Y']b
: cfa 'j cb'DfcXi _h]j]hAhgghY][Yfi b[Ybž'U`g'Ui W\"JYf`i ghY'j cb
nU\``cgYb'5fVY]hgd`AhnYb'a]h'g]W\"Vf]b[Yb"

 $6 YgcbXYfg`VYhfcZZYb`g]bX`UXa]b]ghfUh]j Y`6ØfcUfVY]hYbž`X]Y`a Y\fU`g`X]Y`< A`ZhY`XYf`[Yghf]WXYbYb`GhY``Yb`Ui ga UWXYb"`$\pi ?ca V]bUh]cb`a]h`XYb`9bhk]W_`i b[Yb`]b`XYf`? \(\frac{2}{2}\)k YfXYb`Ui WX DZY[YVYfi ZY`i bX`hYWXb]gWXY`6Yfi ZY`]a `A \(\frac{2}{2}\)H!6YfY]WX`Ub 6YXYi hi b[`[Yk]bbYb"`8Yf`6YXUfZ`Ub`: UWX_fAZhYb`]b`X]YgYb 6YfY]WXYb`gc```V]g`&$' $`i a `V]g`ni `&)`i `ghY][Ybž`k A\fYbX [`Y]WXnY]h][`ghUbXUfX]g]YfhY`HAh][_Y]hYb`]a a Yf`a Y\f`Xi fWX A UgWX [bYb`Ui g[YZØ\fh`k YfXYb"$

G]WXYfY]hYbiibXiIbg]WXYfY]hYb

8 c W. 'k]Y 'g]Y \ h'X]Y 'Ni _i b Zh'_cb_fYh'Ui g3'9]bY '`Ub[gUa Y 9]b ZØ\ fi b['j cb'? =_ObbhY 'XUg'DfcXi _h]j]hÀhgk UWkghi a 'Ui Z [YfUXY 'Y]ba U``\$ž&`i '`]a]h]YfYbž'k À\fYbX'Y]b'fUgWkYf'9]bgUhn'X]Y 9 ZZ]n]Ybn'Yl dcbYbh]Y```ghY][Yfb'_ObbhY"'8]YgY'8 mbUa]_'Vf]b[hb]Wkh'bi f'7\UbWbž'gcbXYfb'Ui Wk'j]Y``l bg]WkYf\Y]h'a]h'g]Wk'' K À\fYbX': cfhgWkf]hhY']b'XYf'? = bYhnk Yf_VUg]YfhY'?ccdYfUh]cbYb i bX'bYi Y'6Yfi ZgZY`XYf'YfgWk`]Y» Yb'_ObbYbž'V`Y]VYb'Ÿb[ghY'i a

6YgcbXYfg'XU'Dfc[bcgYb'XUfUiZ'\]bkY]gYbž'XUgg'V]g'ni 'nkY]
8f]hhY`'XYf'5fVY]hgd`AhnY'dchYbn]Y``'jcb'?='VYhfcZZYb'gY]b'_ObbhYb"
HÀh][_Y]hYbž'X]Y'nk]gWXYbaYbgWX`]WXY'=bhYfU_h]cbYb'YfZcfXYfbž
XØfZhYb'YXcWX'kYb][Yf'XifWX'5ihcaUh]g]Yfib['[YZÀ\fXYh'gY]b"
8]Y'X][]hU`Y'HfUbgZcfaUh]cb'_ObbhY'U`gc'Y]bYfgY]hg'XYb
: UWX_fÀZhYaUb[Y`'jYff]b[Yfbž'UbXYfYfgY]hg'YXcWX'UiWX'ni'Y]bYf
Yf\O\hYb'5fVY]hgVY`Ughib['ZØ\fYbž'gcXUgg'FY[i`]Yfib['ibX_cbghfi_h]jY'5bgÀhnY'[YZfU[h'g]bX"

 $8 \ Yf' 6 Y X U f Z' U b'' b Y i Y b'' : \grave{A} \][\ _Y] h Y b'' k \]f X `X U V Y]''] a \ a \ Yf' X Y i \ h'] W X Y f'' N i \ _Ø b Z h][\ 'g] b X `X][\] h U `Y' ; \ fi \ b X _Y b b h b] g g Y z'' g c n] U `Y' ? c a \ d Y h Y b n Y b i b X : Ø \ fi \ b [\ g _ c a \ d Y h Y b n Y b'' [\ Y Z f U [\ h'' I \ a \ 'X] Y g Y < Y f U i g Z c f X Y f i b [n i 'a Y] g h Y f b z'' k \] f X `Y g' b c h k Y b X] [\ 'g Y] b z'' V Y g h Y \ Y b X Y `A \] h U f V Y] h Y f i a n i g W X i `Y b 'i b X 'b Y i Y b H U `Y b h Y `U i g n i V]` X Y b '' 8 U a] h I b h Y f b Y \ a Y b '] b `X Y f `b Y i Y b 'Y f U `X Y f `5 f V Y] h `Y f Z c `[f Y] W `U [\] Y f Y b _ D b Y b z''] g h Y] b `[i h Y g' < \hat{A} b X W X Y b '] b `X Y f `D Y f g c b U `d c `] h] _ `[Y Z f U [\ h''] h Y f U Y$

5VgWX`]Y» YbX`V`Y]Vh`ni `gU[Ybž`XUgg`X]Y`9bhk]W_`i b[Yb`]b`XYf
5fVY]hgk Y`h`gdUbbYbX`V`Y]VYb`k YfXYb"`7fcggcj Yf!9ZZY_hY
nk]gWXYb`hYWXb]gWXYf`\Dcj Uh]cb`i bX`a YbgWX`]WXYa
9b[U[Ya Ybh`k YfXYb`X]Y`Ni _i bZh`dfÀ[Yb` 'j cfUi g[YgYhnhž
I bhYfbY\a Yb`[Y\Yb`X]YgYb`K UbXY``[Yn]Y`h`Ub"`8]Y`FY[i`]Yfi b[j cb`?\Z`X]Y`j ca '9I!DUf`Ua Ybh`_Øfn`]WX`]b]h]]Yfh`k i fXYZ`gd]Y`h
XUVY]`Y]bY`YbhgWXY]XYbXY`Fc``Y"`K]Y`Yg`]b`XYf
HYWXbc`c[]YVfUbWXY`k Y]hYf[Y\hz`V`Y]Vh`UVni k UfhYb` `Y]bYg`]gh
YXcWX`g]WXYf.`8]Y`JYfÀbXYfi b[`]gh`VYfY]hg`]b`j c``Ya '; Ub[Y"

: Øf'k Y]hYfY' +b Zcfa Uh]cbYb' ØVYf'X]Y'5i gk]f_i b[Yb'j cb'? ='Ui Z'XYb
5fVY]hga Uf_h'i bX'X]Y'XUa]h'j YfVi bXYbYb' < YfUi gZcfXYfi b[Yb
`YgYb'G]Y'a Y\f'VY]'K WWZhYW\ž'BYk 'K cf_'i bX']b'XYf'
6i bXYgnYbhfU`Y'ZØf'dc`]h]gW\Y'6]`Xi b["</pre>

8 Y hU]`g	
Cfh	I G5

8 Y hU]`g	
EiY``Yb	• k WWZhY WX "Wca
	bk I "bYk !k cf_"gY
	• k k k "VdV"XY

6Ygi WXYb'G]Y'i bg'Ui Z'k ca, +"XY