

JYf_Y\fgi bZU```]b K Y]» YbVcfb. Nk Y] JYf`YhnhY VY]: fcbhU`_c``]g]cb

 $\label{lem:conditional} $JYf_Y\figi bZU``]b`KY]^ybVcfb.`NkY]^JYf`YhnhY`ibX`\c\YfGUWkgWkUXYb`bUWk`: fcbhU`nigUaaYbghc\"'Dc`]nY]`Yfa]hhY`h"$

5a '' \$"'5i [i gh'&\$&(ž[Y[Yb'%, .\$\$'I \fž_Ua 'Yg'Ui Z'XYf @UbXghfU» Y'&\$* \$ž'X]Y'nk]gWXYb'Nk]b[Y'i bX'K Y]» YbVcfb'j Yf`Ài Zhž ni 'Y]bYa 'VYXUi Yf`]WXYb'J Yf_Y\fgi bZU``" =b'X]YgYa 'J cfZU`` k i fXYb'nk Y]'DYfgcbYbž'X]Y']b'XYb'VYhY]`][hYb': U\fnYi [Yb'gU» Ybž j Yf`Yhnh'i bX'a i gghYb']bg'?fUb_Yb\Ui g'[YVfUWXh'k YfXYb"

9]b'&%! 'À\f][Yf'A Ubb'k Uf'Ua 'GhYi Yf'Y]bYg'<cbXU'7]j]W i bhYfk Y[g'i bX'k c``hY'Ub'Y]bYf'GhY``Y'ØVYf\c`Ybž'X]Y'U`g i bØVYfg]W\h`]W\[]`h"'8]YgYg'A UbÒj Yf'[YgW\U\'YXcW\'ni 'Y]bYa i b[`ØW_`]W\Yb'NY]hdi b_hž'XYbb'Yf'ØVYfgU\'XYb'g]W\']\a Ybh[Y[Yb_ca a YbXYb'CdY`'7cfgUž'XYf'j cb'Y]bYf'' \$!'À\f][Yb : fUi '[Y`Yb_h'k i fXY"'8]Y'VY]XYb': U\fnYi [Y'gh]Y» Yb'ZfcbhU`ni gUa a Ybž'k Ug'ni 'Y]bYf'\YZh][Yb'?c``]g]cb'ZØ\fhY"

$8YhU]^gXYg^IbZU^g$

6Y]XY:: U\fnYi []bgUggYb'k i fXYb'Xi fW\'XYb'5i ZdfU``'j Yf`Yhnh''

FYhhi b[g_fÀZhY'k UfYb'gW\bY``'j cf'Cfh'i bX'`Y]hYhYb'i a [Y\YbX'X]Y

bchk YbX][Y'a YX]n]b]gW\Y'JYfgcf[i b['Y]b"'8]Y'VY]XYb'j Yf`YhnhYb

: U\fYf'k i fXYb']b'Y]b'?fUb_Yb\Ui g'[YVfUW\hž'i a 'Y]bY

i a ZUggYbXY'6Y\UbX`i b['ni 'Yf\U`hYb"'8]Y'GW\k YfY'XYf

JYf`Yhni b[Yb'k i fXY'b]W\h'bÀ\Yf'gdYn]Z]n]Yfhž'YXcW\']gh'YXY

JYf`Yhni b[']a 'GhfU» Ybj Yf_Y\f'Yfbgh'ni 'bY\a Yb"

8 Y f ' I b ZU```ZØ\ fhY 'ni 'Y]b Y a 'Y f \ Y V`]W\ Y b 'G U W\ g W\ U X Y b ž' X Y f 'U i Z Y hk U '%) "\$\$\$ '9 i fc ' [Y g W\ À hn h ' k] f X " '6 Y] X Y ': U \ fn Y i [Y ' k U f Y b ' b U W\

XYa `I bZU```b]W\ha Y\f`ZU\fVYfY]hi bX`YfZcfXYfhYb

5VgW\`YddX]YbghYži a `X]Y`GhfU» Y`k]YXYf`ZfY]`ni `a UW\Yb"`8]Y

Dc`]nY]`\Uh`X]Y`9fa]hhi b[Yb`ni `XYb`[YbUi Yb`I a ghÀbXYb`XYg

J cfZU``g`Ui Z[Ybca a Yb"

8 Yf'&%!/À\f][Y': U\fYf'XYg'<cbXU'7]j]Wg]Y\h'g]W\'bi b'a]h
fYW\h']W\Yb'?cbgYei YbnYb'_cbZfcbh]Yfh"'8]Y'Dc`]nY]'Yfa]hhY`h
[Y[Yb']\b'k Y[Yb'XYg'J YfXUW\hg'Ui Z'ZU\f`Agg][Y
?ÒfdYfj Yf`Yhni b['i bX'; YZÀ\fXi b['XYg'GhfU» Ybj Yf_Y\fg"'8 UVY]
k]fX'[YdfØZhž'cV'gY]b', VYf\c`a UbÒj Yf'XYb'I bZU``'j Yfi fgUW\h'\Uh
i bX'cV'Yf'X]Y'[Y`hYbXYb'JYf_Y\fgfY[Y`b'Ui gfY]W\YbX'VYUW\hYh
\Uh"

 $8\ Yf\ J\ cfZU```VY`Yi\ WX\ hY\ h'X]Y'\ dchY\ bn]Y``Y';\ YZU\ fž'X]Y'\ a\]h'f]g_Ub\ hY\ a :\ U\ fj\ Yf\ U`hY\ bž'k\]Y'Yhk\ U'XYa ',\ VYf\ c`Yb'Ub'i\ bØVYfg]WX\ h`]WXYb GhY``Ybž'j\ YfVi\ bXYb']gh''J\ Yf_Y\ fgg]WX\ Yf\ Y]h'gc``hY'ZØf'U``Y':\ U\ fYf\ Y]bY'Df]cf]hAh'XUfghY``Ybž'i\ a\ 'gc``WX\ Y'VYXUi\ Yf`]WX\ b'I\ bZA``Y'ni\ j\ Yfa\ Y]XYb'''8\]Y'Dc`]nY]'UddY``]Yfh'Ub'U``Y'J\ Yf_Y\ fghY]`bY\ a\ Yfž\ ghY\ hg'k\ UWX\ gUa\ i\ bX'fØ\W_g]\WX\ hgj\ c```ni\ 'ZU\ fYb''$

8]YgYfJYf_Y\fgi bZU```]gh'Y]b'k Y]hYfYg'hfUi f][Yg'6Y]gd]Y`ž'XUg
nY][hž'k]Y'gW\bY```g]W\'Ui hcVYk Y]gYbXY'G]hi Uh]cbYb'Ybhk]W_Y`b
_\ObbYb''\=\bgVYgcbXYfY'X]Y'\Øb[YfYb': U\fYf'g]bX'cZh'i b[YXi `X][
i bX'j Yfgi W\Ybž']b'f]g_UbhYb'@U[Yb'NY]h'ni 'gdUfYbž'k Ug'ZUhU`Y
: c`[Yb'\UVYb'_Ubb'''9g']gh'k]W\h][ž'Ui Z'X]Y'Y][YbY': U\fk Y]gY'ni
UW\hYb'i bX'ghYhg'X]Y'G]W\Yf\Y]h'U``Yf'JYf_Y\fghY]`bY\a Yf']a
5i [Y'ni 'VY\U`hYb''

8 YhU]`g

6 Ygi WX Yb 'G]Y i bg Ui Z 'b!U["XY