

## A ]W\_'GWX i a UWX Yf. '@Ub[ghfY W\_Yb!K A 'U`g bYi Y'< YfUi gZcfX Yfi b[ °

A ]W\_'GW\i a UW\Yf'Zc\_i gg]Yfh'g]W\'Ui Z'X]Y'@Ub[ ghfYW\_Yb!K A ž k  $\lambda$  fYbX': YfX]bUbX' < UVgVi f[ 'Y]b'bYi Yg': Ub!FYbbhYUa ghUfhYh"

@Y A Ubgž: fUb\_fY]WX !! A ]h 6Y[]bb XYf bYi Yb GU]gcb ]b XYf @Ub[ghfYW\_Yb!K Y`ha Y]ghYfgWX UZh fK 97 k \_cbnYbhf]Yfh g]WX A ]W\_ GWX i a UWX Yf j c``i bX [Ubn Ui Z'gY]bY 5i Z[UVYb VY] 5 `d]bY "BUWX gY]bYf NY]h U`g: cfa Y`! %! 9fgUhna Ubb j cb A YfW XYg i bX 'Y]bYf j cf\Yf][Yb ? Uff]YfY 'U`g GhUa a ZU\fYf ZØf < UUgž k c 'Yf (' '; fUbX! Df]I !GhUfhg UVgc j ]YfhYž \ Uh Yf VYgWX `cggYbž XUgg X]Y K 97 'gY]bY \ ÒWX ghY `Df]cf]hÀh \ Uh" 8]Y : cfa Y``% k Uf ]a a Yf a Y]b 'HfUi a ž UVYf 'Yhnh ]gh a Y]b : c\_i g X]Y K 97 ž gc 'GWX i a UWX Yf "GY]bY bY i Y F]j U`]hÀh a ]h : YfX]bUbX < UVgVi f[ž X]Y 'g]WX `\ i a cfj c`` i a 5i ggY\Yb i bX < UUfgWX b]hh XfY\hž \_ ObbhY XUVY] 'ni gÀhn`]WX 'ZØf 5bfY]n 'gcf[Yb"

8]Y @Ub[ghfYW\_Yb!K A 'ghUfhYh'Ua '9bXY'XYg'A cbUhg']b'? UhUf'i bXk]fX']\fYb'< O\Ydi b\_h'VY]a 'dfYgh][YhfÀWkh][Yb'&(!Ghi bXYb!FYbbYb']b'@Y'A Ubg']a '\$\delta\$b]:Z]bXYb"'< UVgVi f[\delta'Y]b'YfZU\fYbYfFYbbZU\fYf'i bX'@Y!A Ubg!G]Y[Yf'XYf'@A D&!?`UggY'&\$&\delta'\Uh\_\@fn`]Wk'XUg' FYVY`'HYUa ']bg'@YVYb'[Yfi ZYb"'8]YgYg'DfcY\_hn]Y`h'XUfUi Z'UV\delta'XYb': Ubg'Ni [Ub['ni 'Y]bYa 'bcfa U`Yfk Y]gYi bYffY]WkVUfYb'A chcfgdcfh!9f`YVb]g'ni 'V]YhYb"

## 8Ug FYVY`HYUa i bX XYf A Ya VYfg\]d DUgg

 $8 \ Ug^* \ FYVY^*HYUa \quad "j\ cb^* < UVgVi\ f[\ "]gh^*Y]b^*]bbcj\ Uh]j\ Yg^*?cbnYdh^* 8\ ]Y \\ + b]h]Uh]j\ Yz^*X]Y^*Xi\ fW XYb^*J\ Yf_Ui\ Z^*j\ cb^*`]a\ ]h]YfhYb^*\ A\ Ya\ VYfg^ ]d \\ DUgg \quad "i\ bhYfghf]W Yb^*k\ ]fXz^*Yfa\ \grave{O}[\ `]W h^*Yg^*XYb^*? \grave{A}i\ ZYfbz^*fYU^*]gh]gW \\$ 

 $U_h = (a + b) + (b + b)$ 

- 5i gk U\`XYf'@UW\_]Yfi b[Yb'XYf'5i hcg
- 5i gk U\`XYf GhUfhbi a a Yf
- 5i gk U\`XYf'HYUa \_c``Y[Yb'jcb'<UVgVif[
- J]fhi Y``Yg'FYbbYb'[Y[Yb'DfcZ]g
- J Đ!Ni [ Ub[ 'VY]'@]j Y!9j Ybhgž'Y]bgW\`]Y»`]W\'XYf'&(Ghi bXYb'j cb'@Y'A Ubg
- HY]`bU\a Y'Ub'HYUa Yj Ybhg

8]YgYg']bbcj Uh]j Y'?cbnYdh'k]fX'Ui Z'XYb'\*'Ghi bXYb'j cb': i ']
fWdUbŁ'nk]gWXYb'XYa'-"'i bX''%"'GYdhYa VYf'kY]hYf'Yf`Ài hYfh"
<UVgVi f['Ài »YfhYž'XUgg'XUg'Dfc'Y\_h'j ca'; YXUb\_Yb'[YdfÀ[h']ghž
XYb': Ubg'Yhk Ug'ni fØW\_ni [YVYb'i bX']\bYb'Y]b'X]fY\_hYg
A]hgdfUWXYfYWXh']a'FYbbgdcfh'ni 'Yfa Ò[`]WXYb"

## GWXia UWXYfg: cfhgWXf]hhYibX'N]Y`Y']b'XYf K 97

#D'XYf'`YhnhYb'GU]gcb'\_cbbhY'GW\ia UW\Yf'VY]a '\*!Ghi bXYb!

FYbbYb']b': i ']'Y]bYb'fYgdY\_hUV`Yb'Xf]hhYb'D`Uhn'YffY]W\Yb"'Hfchn

XYg'9fZc`[ g'g]Y\h'Yf'YXcW\'XUg'DcX]i a 'b]W\h'U`g'df]a ÀfYg'N]Y`ž

XYbb'gY]b'< Ui dhUb`]Y[ Yb']gh'Ygž'X]Y'Dfc[ fUa a Ybhk ]W\_`i b[ 'VY]

5`d]bY'k Y]hYf'j cfUbni hfY]VYb"'HYUa W\YZ'D\]`]ddY'G]bUi `h'\YVh

GW\ia UW\Yfg'5\_f]V]Y'i bX'gY]bY'6YfY]hgW\UZhž'K ]ggYb'ni 'hY]`Ybž

\Yfj cf"'BUW\'Y]bYa 'A chcfXYZY\_h'VY]'gY]bYa '&\$&(Yf'@Y!A Ubg!

9]bgUhn'n]Y\h'GW\ia UW\Yf'k ]W\h][ Y'@Y\fYbž'X]Y'Yf']b'XYf

\_ca a YbXYb'GU]qcb'i a gYhnYb'a ÒW\hY"

8]Y; YgWX]WXhY:XYg'A chcfgdcfhgž'X]Y:V]g']bg'%-":\*J\f\ibXYfh
ni fØW\_fY]WXhž'gd]Y`h'YVYbZU``g'Y]bY'Fc``Y']a 'U\_hi Y``Yb'; YgWXY\Yb"
A chcfgdcfh'\Uh'g]WX'j cb'Y]bYa 'HYgh`Ui Z'ZØf'X]Y
5i hca cV]`]bXi ghf]Y'ni 'Y]bYf'XYf'VY`]YVhYghYb'GdcfhUfhYb'XYf'K Y`h
Ybhk]W\_Y`hž'X]Y'A]``]cbYb'j cb': Ubg'Ubgdf]WXh"
G]WXYf\Y]hgghUbXUfXg'i bX'HYWXbc`c[]Yb'\UVYb'g]WX'\_cbh]bi ]Yf`]WX
j YfVYggYfh'i bX'V]YhYb'Y]bY'HYghi a [YVi b['ZØf'+bbcj Uh]cbYbž'X]Y
`YhnhYbX`]WX'Ui WX']b'GYf]YbZU\fnYi [Yb'5bk YbXi b['Z]bXYb"

8]Y'bYi Y'?ca a i b]\_Uh]cbg!'i bX'K YhhVYk YfVgXmbUa ]\_']b'XYf K 97ž']bgVYgcbXYfY'nk ]gWXYb'GWXi a UWXYfg'i bX'<UVgVi f[ g Dfc Y\_hYbž'k ]fX'g]WXYf`]WX'gdUbbYbX'ni 'VYcVUWXhYb'gY]b"'6Y]XY: U\fYf'j YfZc`[ Yb']\fY'N]Y`Y'a ]h'@Y]XYbgWXUZh'i bX'9b[ U[ Ya Ybhž k À\fYbX'g]Y'X]Y'pb][ Yb'i bhYfghØhnYbž'X]Y'X]Y': Ugn]bUh]cb'XYg A chcfqdcfhq'hY]`Yb"

8]Y'9bhk]W\_`i b[Yb']b'XYf'@Ub[ghfYW\_Yb!K Y`ha Y]ghYfgW\UZh k YfXYb'gdUbbYbX'gY]bž'XU'gck c\`'<UVgVi f['U`g'Ui W\GW\i a UW\Yf']\fY'5a V]h]cbYb'i bX'=XYYb'i a gYhnYb"'8]Y': Ubg XØfZYb'Ui Z'Y]b'Ui » Yf[Yk O\b`]W\Yg'GU]gcb!<][\`][\h'\cZZYb"

: Øf'k Y]hYfY' +bZcfa Uh]cbYb'`YgYb'G]Y'V]hhY'X]Y'6Yf]W\hY'j cb' GØX\_i f]Yfž'@Uc`U%'i bX'HY\_bck c"

8 YhU]`g	
J c f ZU``	Gcbgh][ Yg
Cfh	@Y`A Ubgž': fUb_fY]W\
EiY``Yb	• k k k "gi YX_i f]Yf"XY
	• k k k "`Uc`U%"Uh
	• k k k "hY_bck c"Wca

6Ygi WXYb G]Y i bg Ui Z b!U[ "XY