

## 9j ] GUWX Y b V UWX Y f! GhY \ `Y . '9]b i bj Y f[ Y gg`] WX Y f ': Ua ]`] Y bi f`Ui V ']a N]``Y fhU`°

9j ]'GUWXYbVUWXYf!GhY\`Y'hY]`h']\fY'5VYbhYi Yf']a 'N]``YfhU` a ]h': Ua ]`]Y'i bX'<i bX': f]YX`"'H]ddg'i bX'9]bXfØW\_Y'Ui g'XYa I f`Ui V"



N]``YfhU`ž'² ghYffY]W\ !! 9j ]'GUW\YbVUW\Yf!GhY\`Yž'X]Y'Y\Ya U`][Y XYi hgW\Y'6]Uh\`Yh]b'i bX'@Ub[`Ài ZYf]bž'[Yb]Y\* h'XYfnY]h'a ]h']\fYf : Ua ]`]Y'Y]bYb'l f`Ui V']a 'a U`Yf]gW\Yb'N]``YfhU`"'8Yf'- "' $\Rightarrow$  b]'&\$&) ]gh'Y]b'VYgcbXYfYf'HU['ZØf'X]Y'Gdcfh`Yf]bž'X]Y'X]YgYb'a ]h']\fYb 5b[Y\Of][Yb']b'XYb'6Yf[Yb'j YfVf]b[h''5i Z']\fYa ' $\Rightarrow$  ghU[fUa!DfcZ]`hY]`h'g]Y'9]bXfØW\_Y'i bX'6]`XYf']\fYg'Ui ZfY[YbXYb'Hf]dgž'ni 'XYa i bhYf'UbXYfYa 'Y]b'6Ygi W\ XYf'VYY]bXfi W\_YbXYb'?f]a a `Yf K UggYfZÀ``Y'[Y\Ofh''9j]'VYgW\fY]Vh'XYb'[YgUa hYb'5i gZi ['U`g A  $\Rightarrow$ G $\Rightarrow$  B' $\Rightarrow$  DC GG $\Rightarrow$  @9  $\Rightarrow$  XU'g]Y'a ]h']\fYb'?]bXYfb'i bX'XYa : Ua ]`]Yb\i bX': f]YX``nU\`fY]W\Y'5VYbhYi Yf'Yf`YVVb''

±b']\fYb'6Y]hfÀ[Yb'[]Vh'X]Y'AihhYf'k Yfhj c``Y'H]ddg'ZØf'6Ygi W\Yf XYg'N]``YfhU`gž'i bX'YadZ]Y\`h']bgVYgcbXYfYž'XYb'U`hYb'HUiYfbk Y[ni 'Yf\_i bXYb"'9j]``YVh'a]h']\fYf': Ua]`]Y']b':]gW\Yb']a'5``[Ài'ibXnY][h'g]W\'UiW`kY]hYf\]b'Yb[U[]Yfh']b'k c\`hÀh][Yb'Dfc'Y\_hYb"

## Gdcfh`]WXY'9fZc`[Y

8]Y'gdcfh']WXY'?Uff]YfY'jcb'9j]'GUWXYbVUWXYf!GhY\`Y']gh VYgcbXYfg'VYY]bXfi W\_YbX"'; YVcfYb'Ua '&+"'Bcj Ya VYf'%-, \$']b HfUi bghY]bž'k Ygh']WXYg'8Yi hgWX`UbXž'ghUfhYhY']\fY'U\_h]j Y @Ui ZVU\b'%--, 'i bX'YbXYhY'bUWX'XYb'C`ma d]gWXYb'Gd]Y`Yb'&\$%( ]b'GchgWX]"'K À\fYbX'X]YgYf'NY]h'a UWXhY'g]Y'b]WXh'bi f']b'XYf @Ub[`Ui Zk Y`hž'gcbXYfb'Ui WX']a '6]Uh\`cb'j cb'g]WX'fYXYb"

 $: \emptyset f'] \ fY' @Y] ghi b [Yb'Yf ]Y'h'9j]'] bg[YgUa h'Z\emptysetbZ'A YXU]``Yb'VY]'XYb C`ma d] gWXYb'K ]bhYfgd]Y`YbZ'XUfi bhYf'; c`Xa YXU]``Yb']a 'HYUa Gdf]bh'&$%$'i bX']b'XYf'('3')'_a 'GhUZZY`'&$$&z'gck]Y'XfY] G]`VYfa YXU]``Yb'''6Y]'XYb': <math>= G'BcfX]gWXYb'G_]kY'ha Y]ghYfgWXUZhYb [Yk Ubb'g]Y'YVYbZU``g'a Y\fYfY'A YXU]``Yb.'Y]bY'; c`Xa YXU]``Y']b XYf'('3')'_a 'GhUZZY`'&$$''i bX'j]Yf'G]`VYfa YXU]``Yb']b j YfgWX]YXYbYb'8]gn]d`]bYb'''=<math> b'XYf'NY]h'nk]gWXYb''%--, 'i bX'&$$'' _cbbhY'g]Y'ni XYa''%(']bX]j]Xi Y``Y'G]Y[Y'VY]'8]ghUbnYb'V]g')''_a ZY]Yfb'''$ 

## 6]Uh\`cb!?Uff]YfY`i bX`<YfUi gZcfXYfi b[Yb

A ch]j Uh]cbgdfcV`Ya Y`]a '@Ub[`Ui Z'\UhhY"'=\f'YfghYg'YfZc`[fY]W\Yg FYbbYb']a '6]Uh\`cb'k Uf'Y]b'DcX]i a gd`Uhn'VY]'Y]bYa '=61 '7i d! FYbbYb']a '\*Jbi Uf'&\$%' ž'i bX'g]Y'YffY]W\hY'Y]bY'VYUW\h`]W\Y 6Ygh`Y]ghi b['j cb'\*"'D`Uhn']a '+ž)'\_a 'Gdf]bh']a 'K Y`hW' d']b'GchgW\] ]a 'A Àfn'&\$%' "'6Y]'XYb'C`ma d]gW\Yb'Gd]Y`Yb'&\$%(']b'GchgW\] VY`Y[hY'g]Y'XYb'j ]YfhYb'D`Uhn']a '%&ž)'\_a 'A UggYbghUfh'

8YhU]`g	
Cfh	N]``YfhU`ž' <sup>2</sup> ghYffY]W\
EiY``Yb	• k k k "a Yf_i f"XY
	<ul><li>Yb"a "k ]_]dYX]U"cf[</li></ul>

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'Y]bY!fY]gY "XY