

## : ØWX gY '6Yf`]b '\_fÒbYb 'g]WX 'ni a 'A Y]ghYf. 9]b ': Ygh'ZØf'X]Y ': Ubg°



6Yf`]bž'8Yi hgWX`UbX`!'8]Y': ØWXgY'6Yf`]b'ZY]Yfb'Ua'-"'\$|b]'&\$&)
]\fYb'YfghYb'A Y]ghYfh]hY`']b'XYf'< UbXVU``!6i bXYg`][ U"'8]Y
: Ygh`]WX\_Y]hYb'ZUbXYb']b'6Yf`]b'ghUhhi bX'k i fXYb'j cb'Yhk U'&"\$\$\$
: Ubg'VY[ `Y]hYhž'X]Y'`Ui hghUf\_'a ]h'6]Yf'i bX'6U``Yfa Ubb!Gcb[ g
]\fYb'bYi Yb'7\Ua d]cb'ZY]YfhYb"'9]b'VYY]bXfi W\_YbXYg': Yi Yfk Yf\_
gcf[ hY'ZØf'X]Y'bOh][ Y': YghhU[ ggh]a a i b[ 'k À\fYbX'XYf': Y]Yf']a
< YfnYb'XYf'< Ui dhghUXh"

6YgcbXYfg'Ui ZZÀ``][ 'k Uf'FØW\_fUi a gd]Y`Yf'A Uhh\Yg'@Ub[\cZZž'XYfk À\fYbX'XYf': Y]Yf'ni 'VYUhVcl Yb'VY[Ubbž'k Ug'X]Y'Gh]a a i b[ni gÀhn`]W\'Ub\Y]nhY"'?fY]g`Ài ZYf'A]'U^c'A UfgYb]Whfi [ 'a ]h\i a cfj c``Yb'?ca a YbhUfYb'ni f'I bhYf\U`hi b[ 'XYf': Ubg'VY]" HfU]bYf'\*JJfcb'G]Yk Yfhž'XYf'X]Y'A UbbqW\UZh'ni a 'Hf]i a d\'ZØ\fhYž

 $[UV'XYb'Gd]Y`Yfb'[fc*n\varnothing[]['ZfY]Y'HU[Y']b'5i gg]WAhz'i a 'XYb'9fZc`[YV\varnothing A'ni'ZY]Yfb''$ 

## GYbgUh]cbY``Yg GU]gcbZ]bU`Y

 $= a \cdot GU]gcbZ]bU`Y`gYhnhYb`g]WX`X]Y`: \varnothing WX gY`a ]h``, .````[Y[Yb`X]Y F \Y]b!BYW_Uf`@Òk Yb`Xi fWX"`8]YgYf`G]Y[`g]WXYfhY`]\bYb`XYb A Y]ghYfh]hY`ž'bi f`Y]bYb`Di b_h'j cf`XYa `ghUf_Yb`G7`A U[XYVi f[`]b XYf`9bXhUVY``Y''; YgWXÀZhgZ\Ø\fYf`6cV`<Ubb]b[`j Yf[`]WX`X]Y bYfj YbUi ZfY]VYbXYb``YhnhYb`A]bi hYb`XYg`Gd]Y`g`a ]h`Y]bYf gWXa Yfn\UZhYb`NU\bUfnhVY\UbX`i b[ž'k Ug`X]Y`<math>+$ bhYbg]hÀh`i bX`XYb GhfYgg`XYg`K Yhh\_Ua dZg`j YfXYi h`]WXhY"`8YbbcWX`k Uf`X]Y`: fYi XY \ØVYf`XYb`H]hY``\ØVYfk]Y[YbX"

 $K Y `h ` Ub X V U `` Y f `A Uh ` ] Ug `; ] Xg Y `ž `X Y f `U `g `G W ` Øgg Y `gd ] Y `Y f `X Y g \\ HY Ua g `[ ] `hž ``c V hY `X] Y `E i U `] hÀ hY b `g Y] b Y f `A ] hgd ] Y `Y f `i b X `X Y f Y b \\ 9b hk ] W_`i b [ `k À \ f Y b X `X Y f `G U] g c b " ; ] Xg Y ``_Ua `&$ & b U W `6 Y f `] b i b X 'j Y f `A b [ Y f hY `_Ø f n `] W `g Y] b Y b `J Y f h f U [ `V ] g `&$ & - ž `k Ug `X] Y `Ub [ Zf] g h] [ Y b `5 a V] h] c b Y b `X Y f `: Ø W g Y `i b h Y f g h f Y] W h "$ 

## 6`]W\_`]b`X]Y`Ni \_i bZh`i bX`7\Ua d]cbg!@YU[i Y! < YfUi gZcfXYfi b[

6cV~Ubb]b['g]Y\hY]bY'j]Y`jYfgdfYW\YbXY'Ni\_ibZh'ZØf'X]Y
: ØW\gY'ibX'VYhcbhž'XUgg'X]Y'9bhk]W\_`ib['1\b[Yf'HU`YbhY']a
HYUa 'a U»[YV`]W\'ZØf'XYb'9fZc`[']b'XYb'\_ca a YbXYb'\\J\fYb'gY]b
k]fX"'8Yf'AY]ghYfh]hY`']gh'XYf'YfghY'GW\f]hh'UiZ'X]YgYa
j]Y`jYfgdfYW\YbXYb'KY["

 $: \emptyset f'k Y]hYfY' = DZcfa Uh]cbYb' \emptyset VYf'X]Y' < UbXVU``!6i bXYg`][U'i bX'X]YU_hi Y``Yb'Gd]Y`hU[Y'VYgi WXYb'G]Y'?] W_Yf''$ 

8YhU]`g	
J c f ZU``	Gcbgh][ Yg
Cfh	6Yf`]bž'8YihgWX`UbX
EiY``Yb	• k k k "hn"XY
	• k k k "_]W_Yf"XY

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