

DfU_h]_i a `]a `\H`7cbgi `h]b[. `8Y]bY 7\UbWY`VY]`NYV`7cbgi `h]b[`]b < Ubbcj Yf°

NYV 7 c b gi `h]b [']b ' < Ubbc j Y f 'gi W h 'Y]b Y 'D f U_h]_Ubh]b ' $\mathbb{Z} \emptyset$ f \Rightarrow 1 c b gi `h]b ["'Gd Ubb Y b X Y '5 i Z[UV Y b ž 'X]f Y_hY 'D f c 'Y_hY 'i b X 9 b h k]W_`i b [ga \mathring{O} [`]W _Y]h Y b 'Y f k Ufh Y b 'X]W "

8 UgʻFi ZYbʻbUWXʻbYi YbʻHUʻYbhYbʻ\Uʻ`h'Xi fWXʻX]YʻGhfU» Ybʻj cb < Ubbcj Yf°ʻNYVʻ7cbgi `h]b[ʻgi WXhʻj Yfnk Y]ZY`hʻY]bYʻDfU_h]_Ubh]bʻZØf XYbʻ6YfY]WXʻ=Hʻ7cbgi `h]b[ʻ"6]ghʻXi ʻVYfY]hʻZØfʻY]bYʻgdUbbYbXY < YfUi gZcfXYfi b[ʻzʻX]YʻXY]bYʻ? Uff]YfYʻ]bʻbYi Yʻ< Ò\Ybʻ_UhUdi `h]YfYb _ÒbbhY3'<]Yfʻ]qhʻXY]bYʻ7\UbWY°

GhY```X]f'j cfž'Xi 'k]fgh'HY]``Y]bYg'XmbUa]gWXYb'HYUa gž'XUg'X]Y'\#!

GhfUhY[]Y'Y]bYf'Ub[YgY\YbYb': ÒfXYfVUb_'bYi '[YghU`hYh''8Y]bY

A]gg]cb3'5bZcfXYfi b[gUbU`mgYb'Xi fWXZØ\fYb'i bX'_fYUh]j Y

@Ògi b[Yb'YfUfVY]hYb°'I bX'XUg']gh'bcWX'b]WXh'U``Yg.'8i 'UfVY]hYgh

X]fY_h'a]h'YfZU\fYbYb'6YfUhYfb'ni gUa a Yb'''<]Yf'[]Vhg'_Y]bY

@Ub[YkY]`Y' '_Y]b'ghi fYg'Ni gWXUi Ybž'gcbXYfb'U_h]j Yg'A]hk]f_Yb

Ub'fYU`Yb'DfcY_hYb°

8Y]bY'5iZ[UVYb']a VYfV`]W

8i k]fghZYggY`bXY`8UhYbUbU`mgYb`Xi fWXZØ\fYbž'dUW_YbXY DfÀgYbhUh]cbYb'j cfVYfY]hYb'i bX'gc[Uf'XUg'Dfc'Y_ha UbU[Ya Ybh i bhYfghØhnYb"'¾XYf'XY]bYf'6Y]hfÀ[Y'nÀ\`h°'GhY``'X]f'XYb BYfj Yb_]hnY`'j cfž'Ub'A YYh]b[g'hY]`ni bY\a Yb'i bX'XY]bY'Y][YbYb ¾YYb'Y]bni Vf]b[Yb' 'XUg']gh'XY]b'FUi a 'ZØf'?fYUh]j]hÀh'i bX A]h[YghU`hi b[°

 $8] YgY`DfU_h]_i \ a \ gghY``Y`V] YhYh`X] f`X] Y`ZUbhUgh] gWXY`; \ Y`Y[Yb\Y]hž h] YZ`]b`X] Y`K Y`h`XYf` \div Zcfa Uh] cbghY WXbc`c[] Y`Y] bni hUi WXYb"`8 i$

k]fgh``YfbYbž'k]Y`k]W\h]['Yg`]ghž'X]Y`6YXØfZb]ggY`XYf`?i bXYb`ni Yf_YbbYb`i bX`XUfUi Z'Y]bni [Y\Yb"'+b`Y]bYa 'ZfYi bX`]W\Yb`i bX i bhYfghØhnYbXYb`l a ZY`X`_Ubbgh'Xi 'gck c\``dYfgÒb`]W\`U`g`Ui W\ VYfi Z`]W\`k UW\qYb"' <]Yf`k]fX`XY]bY`9bhk]W_`i b['[YZÒfXYfh°

K Ufi a 'Xi 'X]WX 'VYk YfVYb 'gc ``hYgh

 $\label{thm:condition} K Ybb `Xi `bUW `Y]b Ya `DfU_h]_i a `gi W ghž `VY]` XYa `Xi `YW hY \\ J YfUbhk cfhi b[`ØVYfbY\a Yb `i bX `[`Y]W nY]h][`Y]b `k Yfhj c ``Yg \\ B Yhnk Yf_ `Ui ZVUi Yb `_Ubbghž `XUbb `]gh `NYV `7 cbgi `h]b[`[YbUi `XYf f]W h][Y `C fh `ZØf `X]W ``@Ugg `X]f `X]YgY `7 \ UbW `b]W h `Ybh[Y\Yb `6Yk]fV `X]W `Yhnh `i b X `ghUfhY `XY]bY `Ui ZfY[YbXY `FY]gY `]b `XYf `K Y`h XYg `\delta T cbgi `h]b[g `$

 $(x \lor h]hY`. DfU_h]_Ubh]b`#'7cbgi`h]b[$

I bhYfbY\a Yb. NYV 7cbgi `h]b[

GhUbXcfh. < Ubbcj YfžB]YXYfgUWxgYb

xCVXUhi a . "A cbž"\$- "GYd"&\$&("\$+." * .%&"; A H

<]Yf 'VYk YfVYb $^{\circ}$ ' †

ł '<]bk Y]g ']b 'i bgYfYf '8 UhYbgW i hnYf_`Àfi b[

8 YhU]`g

6 Ygi WX Yb 'G]Y i bg 'Ui Z. 'X]Y!bUWX f]WX hYb "bYh