

FYZ]bUV`Y`@]ghg`Ui Z`5gWbX9L` DfYggYa]hhY]`i b[

DfYggYa]hhY]`i b['DF 9GG9A \pm HH9=@ B; "'5gWbX9Lž'Y]b [`cVU`Yg'8][]hU`5ggYh'HfUX]b['D`UhZcfa ž'ZfYi h'g]WXž'X]Y Bch]Yfib['XYg'FYZ]bUV `Y'Hc_Yb'fl = B9Ł'i bhYf'XYa 'DUUf VY_Ubbh'ni '[YVYb'l G8H# 9₺'Ua '&, "'GYdhYa VYf'i a '%' 'l \f $IH7"FUZZ]b]YfVUf']gh'Y]b']bhYfU_h]jYfž'aY\f_YhhYbZÀ\][Yf$ B: H!A Uf_hd`Uhn'a]h'Y]bYf'CbY!Ghcd!@Ogi b['ni a '9fghY``Ybž 9bhXYW_Ybž'<UbXY`bibX'BihnYbjcbB:Hg'ZØf'AUf_YbibX GWX Od ZY f"'F Y Z]b UV `Y ']qh'X Y f 'Y fqhY 'B: H! A Uf hd `Uhnž'X Y f 'Ui Z 6]bUbWWGa Ufh'VUg]Yfh'7\U]b'X]Y'Yg'Bi hnYfb'i bX'YhUV`]YfhYb A Uf_Yb Yfa O[`]W\hžXi fW\XYb 9]bgUhn'j cb B: Hg a]hY]bUbXYf'ni ']bhYfU[]YfYb"'¸ VYf'X]Y'GhUbXUfX! $A Uf_hd`UhnZi b_h]cbYb``]bUi g`i bhYfqWXY]XYh`g]WX`X]Y$ GhfUhY[]Y'jcb'FYZ]bUV'Y'XYih']W\'jcb'UbXYfYb'B:H! $A\ Uf_hd\ \grave{A}\ hn\ Yb\ "G]\ Y\ gd\ f\ Y\ W\ Yb\ "U_h]j\ \ "a\]h\ B\]W\&\ h!\ ?\ fmd\ hc\ !$ I bhYfbY\a Ybži a 'Y]bn][Ufh][Y'B: H!9b[U[Ya Ybhq /Uad∧Y``]d/

FUZZ]b]YfVUf []ghiY]b []bhYfU_h]j Yfžia Y\f_YhhYbZÀ\][YfiB: H!

A Uf_hd`Uhnia]hiY]bYfiC bY!Ghcd!@Ògi b[ini a [9fghY``Ybži9bhXYW_Ybži
<UbXY`bii bX'Bi hnYbij cbiB: HgiZØfiA Uf_Ybii bX'GW\ÒdZYf"

FYZ]bUV`Yi]ghiXYfiYfghYiB: H!A Uf_hd`UhnžiXYfiUi Zi6]bUbWYiGa Ufh

VUg]Yfhi7\U]biX]YiYgiBi hnYfbii bXiYhUV`]YfhYbiA Uf_YbiYfa Ò[`]W\hži
Xi fW\iXYbi9]bgUhnij cbiB: Hgia]hY]bUbXYfini []bhYfU[]YfYb"

, VYf'X]Y'GhUbXUfX!A Uf_hd`UhnZ b_h]cbYb'\]bUi g'i bhYfgW\Y]XYh g]W\X]Y'GhfUhY[]Y'j cb'FYZ]bUV`Y'XYi h`]W\'j cb'UbXYfYb'B: H!

A Uf_hd`AhnYb"'G]Y'gdfYW\Yb'U_h]j 'a]h'B]W\h!?fmdhc!I bhYfbY\a Ybži a 'Y]bn][Ufh][Y'B: H!9b[U[Ya Ybhg'ni 'Ybhk]W_Y`b"'8]Y'GhAf_Y gY]bYf'7ca a i b]hm'k]fX'XYb'B: H!A Uf_hd`Uhn'Ui Z'FYZ]bUV`Y

X]ZZYfYbn]YfYbži bX'g]Y'[`Ui VYbž'XUgg'X]Y'Yb[U[]YfhYghYb'i bX'\Ub[`YV][ghYb'7ca a i b]hmg'X]Y'j cb'VYghY\YbXYb'i bX'VY`]YVhYb

A Uf_Yb'g]bX"'FYZ]bUV`Y'[`Ui Vh'Ub'X]Y'=XYYŽ'XUgg'YXY'A Uf_Y'Y]bY

[UbnY'7ca a i b]hm'j cb'Bi hnYfb'a]h'g]W\'Vf]b[Yb'k ØfXY"'8 Ug

<Ui dhn]Y`i bX'XUg'`Ub[Zf]gh][Y'K Yfhj YfgdfYW\Yb'j cb'FYZ]bUV`Y\VYghY\h'XUf]bž'A Uf_Yb'i bX']\fY'Yb[U[]YfhYb'7ca a i b]h]Yg

Y]bni V]bXYb"

8 U'X]Y'; UgdfY]gY']b'XYf'9h\YfYi a !?YhhY'k Y]hYf'ghY][Ybž'k]fX'Yg ZØf'GW\ÒdZYf'i bX'<ÀbX`Yf'[`Y]W\Yfa U»Yb'i bYfgW\k]b[`]W\'hYi Yf" 8]YgY'\c\Yb'?cghYb'VfYa gYb'X]Y'?fYUh]j]hÀh'i bX'X]Y'6YfY]hgW\UZh XYf'?Øbgh`Yfž'g]W\'a]h'XYf'HYW\bc`c[]Y'ni 'VYgW\ÀZh][Yb" 5V[YgY\Yb'j cb'XYf'U``[Ya Y]bYb'I bni [Àb[`]W_Y]h'ZY\`h'XYb A Uf_Yb'Ui W\'Y]b'Y]bZUW\Yf'9]bgh]Y[ž'i a 'a]h'B: Hg'ni 'UfVY]hYb"

FYZ]bUV`Y`VUi h'Ui Z'6G7`Ui Zži a `X]YgY`DfcV`Ya Y`ni ``ÒgYbži bX

V]YhYh'6Ybi hnYfb'i bX'A Uf_Yb'_cghYb[Øbgh][YfY'i bX'YZZ]n]YbhYfYG_U`]YfVUf_Y]hgcdh]cbYb"'8UfØVYf'\]bUi g'V]YhYh'6G7']bhY``][YbhY JYfhfÀ[Y'UbžX]Y'FYZ]bUV`Y'ZØf'X]Y'Ni gUa a YbUfVY]h'nk]gWXYb gY]bYb'6Ybi hnYfb'i bX'A Uf_YbdUfhbYfb'bi hnYb'k]fX"'8Yf'5i ZVUi Ui Z'6G7'V]YhYh'Y]bY'i b[Ybi hnhY'7\UbW'ž'X]Y'?i bXYbV]bXi b['ni ZÒfXYfb'i bX'bYi Y'XYa c[fUZ]gWXY'; fi ddYb'ni 'YffY]WXYb"

Dg[YgUa h'gWXUZZh'X]Y'9bhgWXY]Xi b[ž'FYZ]bUV`Y'Ui Z'6G7'ni VYhfY]VYbž'Y]bY'ni [Àb[`]WXY'I a [YVi b['ZØf'A Uf_Yb'i bX 6Ybi hnYfž'i a 'a]h'B: Hg'i bX'[`Y]WX[Yg]bbhYb'7ca a i b]h]Yg']b ?cbhU_h'ni 'hfYhYb"

: ₱9']gh'XUg'bUh]j Y'Hc_Yb'XYf'D`UhhZcfa "'Hc_Yb!₺\UVYf'_ÒbbYbUi Z'A]h[`]YXgWXUZhgghi ZYb'a]h'k Y]hYfYb'D`UhhZcfa j cfhY]`Yb'k]Y Yfa À»][hYb'GYfj]WY[YVØ\fYb'ni[fY]ZYb"'6Ybi hnYf'_ÒbbYb': ₱9!Hc_Yb'Ui g[YVYbž'i a 'c\bY'A]h[`]YXgWXUZhgUbZcfXYfi b[Yb'Ui ZVYgh]a a hY'D`UhhZcfa Zi b_h]cbYb'ni ni [fY]ZYbž'n"'6"'Ui Z'Y]bY Df]cf]hÀhYb`]ghY"'8UfØVYf'\]bUi g'_ÒbbYb'Hc_Yb!₺\UVYf; cj YfbUbWY!Df]j]`Y[]Yb'Yf\U`hYbž'i a 'J cfgWX`À[Y'j cfni gWX`U[Ybi bX'gc[Uf'₺\U`hY'Ui Z'XYf'D`UhhZcfa 'ni 'a cXYf]YfYb"

8]Y 5i Z]ghi b['XYg': \pm 9!Hc_Ybg'j cb'5gWbX9L'i bhYfghfY]Wkh'gY]b 9b[U[Ya Ybhž'XUg'K UWkghi a 'XYg'B: H!2 _cgmghYa g'ni i bhYfghØhnYb": \pm 9'fY]\h'g]Wk']b'Y]bY'`Ub[Y'@]ghY'\cWkkYfh][Yf B: H!VUg]YfhYf'Dfc'Y_hY'Y]bž'X]Y'VY]'5gWYbX9L'[Y`]ghYh'g]bX"'<]Yf Z]bXYb'G]Y'Y]bY'@]ghY'a]h'B: H!VYnc[YbYb'5b[YVchYb'< \Rightarrow F'"

$_{\text{J}}VYf^{\text{T}}5gWbX9L^{\text{T}}$

5gWbX9L ']gh'Y]bY'[`cVU`Y'? fmdhck À\fi b[g!:]bUbnd`UhhZcfa 'a]h Y]bYf'i a ZUggYbXYb 'DfcXi _hgi]hYžY]bgW\`]Y\"`]W\'GhY``YžFUbXi bX: i hi fYg! < UbXY`ž'K U``Yh!8]YbghY'i bX'UVghYW_Yb ''I bhYfghØhni b[ZØf'ØVYf'%) \$ '6`cW_W\U]b!Dfc'Y_hY'k]Y'6]hWc]bž'9h\Yf'i bX'F]dd`Y" 5gWbX9L 'k i fXY'&\$%, '[Y[fØbXYh'i bX'VYhfYi h'k Y`hk Y]h'ØVYf'% A]``]cb'df]j UhY'i bX']bgh]hi h]cbY``Y'?i bXYb'a]h'Y]bYf'\cW\`]ei]XYb < UbXY`gd`UhhZcfa 'i bX'g]W\YfYb'JYfk U\fi b[g`Ògi b[Yb"'5gWYbX9L\Uh'g]W\'j cb'FC=ni 'Y]bYf'ZØ\fYbXYb'D`UhhZcfa 'ZØf'gY]bY 9fghVÒfgYbUb[YVchY 'Ybhk]W_Y`hž']bXYa 'Yg'Y]b][Y'XYf |bbcj Uh]j qhYb'Dfc'Y hY'XYf'6fUbW\Y'Ui q'XYa '8Y:]!2 cgmghYa

k]Y'H\cfW\U]bž'I8U]'GhU_Y'ibX'GYfia'ibhYfghØhnh"'5gWYbX9L!
6YbihnYf'Yf\U`hYb'YI_`ig]jYb'Ni[Ub['ni'Hc_Yb!5]fXfcdg'ibX'X]Y
A Ò[`]W_Y]hž'Hc_Yb'nia'ZfØ\Ygha Ò[`]W\Yb'NY]hdib_h'ni'_UiZYb"
Ia'a Y\f'XUfØVYf'ni'YfZU\fYbž'k]Y'5gWYbX9L'6Ygh'DfUWh]WYg'jcb
XYf'KU``'GhfYYh'ibX'XYa'?fmdhckÀ\fib[g!2_cgmghYa'bihnhž'ia
gY]bYb'BihnYfb'X]Y'VYghYb'5`hWc]bg'ni'V]YhYbž'VYgiW\Yb'G]Y
V]hhY'kkk"5gWYbX9L"Wca"

K YVgY]hY. \hhdg. ##UgWYbXYI "Wca

Hk] hhYf. $^{\ }$ hhd g. ##hk] hhYf" Wca #5 g WY b X 9 L S; $^{\ }$ c V U $^{\ }$

 $HY^Y[fUa\ a\ .\ \ hhd\ g.\#h"a\ Y\#5\ gWYbX9L9b[\]gWX$

A]hhY`.`\hhdg.##aYX]ia"Wca#UgWYbXYI

$_{s}VYf^{*}FYZ]bUV^{*}Y$

FYZ]bUV`Y`]gh`Y]b`]bhYfU_h]j Yfž'a Y\f_YhhYbZÀ\][Yf`B: H!A Uf_hd`Uhnž XYf`Y]bY`C bY!Ghcd!@Ògi b['ni a '9fghY``Ybž'9bhXYW_Ybž'<UbXY`b i bX`Bi hnYb'j cb`B: Hg`ZØf`A Uf_Yb'i bX`GW\ÒdZYf`V]YhYh"`FYZ]bUV`Y]gh`XYf`YfghY`B: H!A Uf_hd`Uhnž`XYf`Ui Z'6]bUbWY`Ga Ufh`VUg]Yfh 7\U]b`X]Y`Yg`Y]bnY`bYb'6Ybi hnYfb'i bX`YhUV`]YfhYb`A Uf_Yb Yfa Ò[`]W\hž`Xi fW\XYb'9]bgUhn'j cb`B: Hg`ni `]bhYfU[]YfYb"

 $K Y]hYfY = 2cfa Uh]cbYb'ibX'5_hiU`]g]Yfib[Yb'Z]bXYb'G]Y'ibhYf.$

K YVgY]hY. k k k "fYZ]bUV`Y"Wca

 $HY`Y[\ fUa\ a\ .\ `\ hhd\ g.\ \ \#h"a\ Y\ \#Y\ Z]b\ UV\ `Y\ b\ Zh$

A]hhY`. \ hhd g. ##fY Z]b UV`Y "a YX]i a "Wc a # 8]Ygʻ]ghʻY]bYʻDfYggYa]hhY]i b["8]Y @YgYfʻgc``hYbʻ]\fY`Y][YbYʻGcf[ZUʻhgdZ]W\hYfZO``Ybž'VYj cfʻg]Y
]f[YbXk Y`W\Y`A U» bU\a Ybʻ]a `Ni gUa a Yb\Ub[`a]hXYa `VYk cfVYbYbʻI bhYfbY\a YbʻcXYf`Y]bYa
gY]bYfʻj YfVi bXYbYbʻI bhYfbY\a YbʻcXYf`8]YbghʻY]ghi b[YbʻYf[fY]ZYb"`6]hWc]b"Wca `]ghik YXYf`X]fY_h
bcW.]bX]fY_hij YfUbhk cfh`]W\ ZOfʻGW\AXYbʻcXYf`J Yfʻi ghYžX]Y Xi fW\ cXYf`Ja `Ni gUa a Yb\Ub[`a]h
XYf`Bi hni b[`cXYf`XYa `J YfhfUi Yb`Ui Zʻ\b\UʻhYžK UfYbʻcXYf`8]Ybgh`Y]ghi b[YbžX]Y`]b`XYf
DfYggYa]hhY]i b[`Yfk A\bh'k YfXYbžj Yfi fgUW\h'cXYf`Ub[YV`]W\ j Yfi fgUW\h'k YfXYb"

6]`XbUWk Y]gY. G\i hhYfghcW_žD]l UVUmžK]_]'7ca a cbg

fZ bWh]cbfXžgž]XŁoj UfʻʻgžZʻgʻ1 `X"[Yh9`Ya Ybhg6mHU[BUa YfgŁO\$Q′]ZfK"[Yh9`Ya Ybh6m=Xf]]XŁŁfYhi fb/ʻgʻ1 `X"WfYUhY9`Ya YbhfgŁ/ʻʻg"]Xʻ1]X/ʻʻg"gfWl ~\hhdg.##WcbbYWh"ZUWYVcc_"bYh#YbSl G#gX_"ʻg, I ZVa `1 %/j Yfg]cb1j' "&~/′Zʻg"dUfYbhBcXY"]bgYfh6YZcfYfl′gžZʻgŁ/ʻqfKcWi a YbhžfgWf]dhfzʻfZUWYVcc_! ʻggX_flŁ/

8 Y hU]`g

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. '_fmd hc!bYk g"Uh