

Gc'_ca a h'a Ub'ni a 'FcW_'Dcc`'Ui Z'A U\Y fFcg'GcXmYfŁ' 'GYmW\Y``Yb

9]b'j c``ghÀbX][Yf'FY]gYZØ\fYf'ZØf'XYb'6Ygi W.'XYg
i b[`Ui V`]WXYb'; YnY]hYbVYW_Ybg'bUa Ybg'Fcg'GcXmYfž'XUg
Ui Z'XYb'GYmWXY``Yb'Ui W.'U`g'A U\Y'FcW_'Dcc``VYnY]WXbYh
k]fX"'Gi WXYb'G]Y'Y]b'5VYbhYi Yf'Ui Z'XYf'i b[`Ui V`]WXYb'\DgY`
A U\A'XYf'GYmWXY``Yb3'G]Y'\UVYb'X]Y'f]WXh][Y'GY]hY
[YZi bXYb''\\D'X]YgYf'?i fnUb`Y]hi b['[YVY']WX'\D\D'Y]bYb
j c``ghÀbX][Yb', VYfV`]W_'ØVYf'Fcg'GcXmYf']b'XYf'BA\Y'j cb
5bgY'HU_Ua U_Už'Ui WX'VY_Ubbh'U`g'A U\Y'FcW_'Dcc`''\\W\
[YVY'\D'bYb'nkY]'A O[`]WX_Y]hYbž'k]Y'G]Y'\]Yf\Yf'_ca a Ybž
gck]Y'Y]b][Y': chcg'j cb'a Y]bYf'FY]gYž'j cb'XYbYb']WX'\cZZYž
XUgg'g]Y'G]Y'XUni ']bgd]f]YfYbž'X]YgY'bUhØf`]WXY'5hhfU_h]cb
Ui Z'A U\Y'ni 'VYgi WXYb'', &\$']b'&*'VYghYb'5_h]j]hÀhYb
/ Ua d\Y``]d/

9]b'j c``ghÀbX][Yf'FY]gYZØ\fYf'ZØf'XYb'6Ygi W\'XYg'i b[`Ui V`]W\Yb; YnY]hYbVYW_Ybg'bUa Ybg'Fcg'GcXmYfž'XUg'Ui Z'XYb'GYmW\Y``YbUi W\'U`q'AU\Y'FcW_'Dcc``VYnY]W\bYh'k]fX"

Gi WX Yb 'G]Y 'Y]b '5 VYb hYi Yf 'Ui Z'XYf'i b[`Ui V`]WX Yb ' \oplus gY ``A U\Å 'XYf GYmWX Y ``Yb 3 'G]Y '\ UVYb 'X]Y 'f]WX h][Y 'GY]hY '[YZ b XYb " \oplus 'X]YgYf ?i fnUb `Y]hi b['[YVY ']WX ' \Rightarrow bYb 'Y]bYb 'j c ``ghÀbX][Yb ', VYfV`]W_ 'ØVYf F c g 'Gc X mYf']b 'XYf'B À\Y'j c b '5 bgY 'HU_Ua U_Už'Ui WX 'VY_Ubbh'U`g A U\Y'F c W_ 'Dc c `"

⇒W. [YVY : ⇒bYb 'nk Y] 'A Ò[`]W_Y]hYbž'k]Y 'G]Y '\]Yf\Yf'_ca a Ybž gck]Y 'Y]b][Y : chcg'j cb a Y]bYf'FY]gYž'j cb 'XYbYb']W\ '\cZZYž'XUgg g]Y 'G]Y 'XUni ']bgd]f]YfYbž'X]YgY 'bUhØf`]W\Y '5hhfU_h]cb 'Ui Z'A U\Y 'ni VYgi W\Yb"

. &\$`]b`&*`VYghYb`5_h]j]hÀhYb`]b`A U\Å

'U`h1 Gdf]b[Yb']b'XYb'AU\Y'FcW_'Dcc` 2
U`h1 BUhi f`Y\fdZUXk UbXYfi b['j cb'5bgY'HU_Ua U_U 2
U`h1 AU\Å'FcW'Dcc` 2

, VYf'XYb'A U\Y'FcW_'Dcc`

8]YgY'i b[`Ui V`]WXY'[Yc`c[]gWXY': cfa Uh]cb'VYZ]bXYh'g]WX'Ub'XYf
ZY`g][Yb'?ØghY'XYf'\dgY`'A U\Å"'9g']gh'Y]b'GU`nk UggYf!
; YnY]hYbdcc`ž'XYf'g]WX'a]h'XYf'ghY][YbXYb': `i h'ZØ``h"'6Y]'9VVY
_ÒbbYb'G]Y']a 'Dcc`'gWXk]a a Yb'cXYf'gc[Uf'j cb'XYb': Y`gYb
XUfØVYf'qdf]b[Yb"

8 Yf'c ZZ]n]Y``Y'B Ua Y']gh'F cg'Gc XmYfž'i bX'Yg']gh'Y]b'bUhØf`]W\Yg D\Àbca Ybž'XUg'\Y]» h'b]W\h'j cb'A YbgW\Yb\UbX'[YgW\UZZYb"'G]Y _\ObbYb'X]Y'Dcc`g'ØVYf'Y]bY'_i fnY'B Uhi fd ZUXk UbXYfi b['j cb'5bgY HU_Ua U_U'Ui g'YffY]W\Yb'fa Y\f'i bhYbŁ"

BUWXXYa]W 'a]h'a Y]bYa 'Y]b\Y]a]gWXYb': fYi bX'FcXXYm
[YgdfcWXYb'\UVYžXYf'Ui Z'A U\Å'Ui Z[Yk UWXgYb']ghž'\UVY']WX'bi b
YfZU\fYbž'XUgg'X]Y'9]b\Y]a]gWXYb'Fcg'GcXmYf'b]WXh'[YfbY'XYb
A U\Y'FcW_'Dcc` 'bYbbYb"'8Ug'`]Y[h'XUfUbž'XUgg'g]WX'XYf
cZZ]n]Y``Y': Y`gYbdcc`]a 'BcfXYb'XYf' =bgY``VYZ]bXYhž'XYf'U`g
A UWXUVYY'FcW_'Dcc` 'VYnY]WXbYh'k]fX"

±b`X]YgYa '@Y]hZUXYb'j Yfk YbXY']W\'YXcW\'VY]XY'BUa Ybž'XU'X]Ya Y]ghYb'@Yi hYž'X]Y'bUW\'XYa 'FcW_'Dcc``Ui Z'A U\Y'gi W\Ybž'j]Y`a Y\f'Ub'XYf'gW\ÒbYb'Fcg'GcXmYf']bhYfYgg]Yfh'gY]b'k YfXYb'i bXb]W\h'Ub'XYf'cZZ]n]Y``Yb'A UW\UVYY"

H]dd. '6Ygi WX 'VY] '9VVY 'ZØf'XUg'VYghY '9f`YVb]g"
U`h1 FcW_'Dcc`'A U\Yž'Fcg'GcXmYf']b'XYf'BÀ\Y'j cb'5bgY
HU_Ua U_Už'GYmWXY``Yb 2

8]Yi`h]a Uh]jYFY]gYfYggcifWYZØfX]YGYmWXY``Yb

5 i Z'XYf'Gi W\Y'bUW\'a Y\f'GYmW\Y``Yb!FY]gYZØ\fYfb'i bX =bgd]fUh]cb3'BUW\Zc`[YbX'Z]bXYb'G]Y'a Y]bY'i a ZUggYbXghYb FY]gYZØ\fYfž'X]Y'=\bYb'U`g'[fc>Ufh][Y'FYggci fW'ZØf'=\fY'FY]gY

') \$ '5_h]j]hÀhYb'Ui Z'XYb'GYmW\Y``Yb' 'GYmW\Y``Yb!

I bhYf_i bZhgZØ\fYf' '%, 'VYghY'GhfÀbXY'Ui Z'XYb'GYmW\Y``Yb' '%\$

VYghY' ≠ gY`b'Ui Z'XYb'GYmW\Y``Yb' '%) 'VYghY'K UbXYfi b[Yb'Ui Z

XYb'GYmW\Y``Yb

K]Y _ca a h a Ub ni a FcW_ Dcc `Ui Z A U\ Å 3

9g'[]Vh'nk Y]'A $O[`]WX_Y]hYbž'i a 'ni a 'A U\Y'FcW_'Dcc``ni [Y`Ub[Yb"]$

8]Y 'YfghY'i bX'Y]bZUW\ghY'A O[`]W_Y]h'VYghY\h'XUf]bž'X]YgY VYfØ\a hY'K UbXYfhci f'Ui Z'J]Uhcfini a 'FcW_'Dcc`'fHf]dUXj]gcf! 5i gnY]W\bi b['ZØf'9I nY``YbnŁ'ni 'Vi W\Yb"'8]YgY'FY]gY'VY]b\U`hYh X]Y'5V\c`i b['j ca '<chY`'i bX'Y]bY'[YZØ\fhY'BUhi f`Y\fdZUXhci f ni a 'FcW_'Dcc`"'8Ug']gh'[fc»Ufh][ž'XU'G]Y'j cb'Y]bYa ei U`]Z]n]YfhYbž'`c_U`Yb': Ø\fYf'Ui W\'j]Y`'ØVYf'YbXYa]gW\Y'5fhYb

8]YgY'Hcif'\Uh'j]Y`Y'6Yk Yfhi b[Yb'i bX']bg[YgUa h') #) 'GhYfbYž k Ug'g]Y'ni 'Y]bYf'XYf'Ua 'VYghYb'VYk YfhYhYb'HcifYb'Ui Z'XYf'\DgY` a UW\h"

'U`h1 FcW_'Dcc`'A U\Yž'Fcg'GcXmYf']b'XYf'BÀ\Y'j cb'5bgY HU_Ua U_Už'GYmW\Y``Yb 2

5bgY`HU_Ua U_U`]gh`Y]bYf`XYf`gW\ÒbghYb`GhfÀbXY`Ui Z`A U\Åž`U`gc ghY``Yb`G]Y`g]W\Yfž`XUgg`G]Y`⇒fYb`6Ygi W\`nY]h`]W\`d`UbYbž`i a `]\b Ui W\`ni`[Yb]Y»Yb° H]dd. K Ybb G]Y ``]YVYf Y]b 5 i hc 'Ui Z'A U\ Å 'a]YhYb 'a ÒW hYbž j Yf[`Y]W Yb 'G]Y 'ni Yfgh X]Y 'DfY]gY 'Ui Z'8]gWcj Yf '7 Ufg" K Ybb 'G]Y ']a J cfUi g 'Vi W Ybž _ Òbb Yb 'G]Y 'c Zh 'hc ``Y 'DfY]gY 'Z]b XYb "U`h1 F c W_ 'Dc c ``GW]`X 'Ua 'Ghf Ub X 'j c b 'HU_Ua U_Už 'A U\ Å 2

K c]gh XYf A U\Y F c W Dcc `fF cg Gc X mYfŁ

K Ybb'G]Y'X]Y'i bUV\Àb[][Y'Cdh]cb'k À\`Ybž'Z]bXYb'G]Y'i bhYb'X]Y
[YbUi Y'@U[Y'j cb'Fcg'GcXmYf'cXYf'XYa 'VYfØ\a hYb'A U\Y'FcW_
Dcc`"

GcVU`X'G]Y']b'5bgY'HU_Ua U_U'Ub[Y_ca a Yb'g]bXž'Z]bXYb'G]Y'Ua gØX`]WXYb'9bXY'XYg'GhfUbXYg'GWX]`XYfž'X]Y'XYb'5i g[Ub[gdi b_h XYg'K UbXYfk Y[g'UbnY][Yb"'9g'[]Vh'\]Yf'Ui WX'Y]bYb'[fc»Yb DUf_d`Uhn'nk]gWXYb'hfcd]gWXYb'6Ài a Yb'i bX'DU`a Yb"

G]Y\Y'Ui W\. K]Y'a Ub'ni a '5bgY'A U'cf'6YUW\'_ca a h

8]YK UbXYfib[ni a FcgGcXmYfFcW_Dcc`

K UbXYfghfYW_Y. & 2& _a `\]b i bX ni fØW_ fl%z) 'a]Ł' 8 Ui Yf. ()!* \$ A]bi hYb \\]b i bX ni fØW_ < O\Y. K Y``][fl%\$\$ A ; YgUa h[Yk]bbŁ GWk]Yf][_Y]h '9]bZUW

8 Yf B Uhi fY\fd ZUX ni a 'A U\Y F c W_ 'Dcc `'VY[]bbh'Ua 'gØX`]W Yb 9bXY 'XYg '5 bgY 'HU_Ua U_U '6YUW "Ni '6Y[]bb 'a ØggYb 'G]Y 'Xi fW Y]b 'Df]j Uh[fi b XghØW_ '[Y\Ybž'k Ug 'ZUgh'gc 'Ui gg]Y\hž'U`g'k ØfXYb 'G]Y [Y]W 'Xi fW 'XYb'; UfhYb'j cb 'Ya UbXYa '[Y\Yb" 'HfYhYb'G]Y 'Y]bž V]Y[Yb'G]Y '`]b_g'UVž'[Y\Yb'G]Y 'Xi fW 'XUg'Hcfž'i bX'G]Y 'k YfXYb XYb 'K Y[']b 'XYb '8 gW i b[Y 'XYi h]W 'gY\Yb" Uh1 5 bgY 'HU_Ua U_U'B Uhi fY 'HfU] 'ni a 'F c W_ 'Dcc '2 Uh1 Hcf'j cf'XYa '5 bgY 'HU_Ua U_U'B Uhi fY 'HfU] 'ni a 'F c W_ 'Dcc '2 8]Y 'K UbXYfi b['gY 'Vgh']gh'fYW h'Y]bZUW ž'gc 'Ub[Y 'G]Y 'ØVYf'Y]bY U``[Ya Y]bY':]hbYgg'j YfZØ[Yb" '9g'[]Vh'Yxc W 'Y]b][Y '\Ø[Y`][Y 5 VgW b]hhY i bX'Y]b][Y 'UbXYfYž'k c 'G]Y 'Y]bY 'GhU\``Y]hYf'Yf_`]a a Yb a ØggYbži a 'ni a 'bÀW ghYb 'GhØW_'ni '[Y `Ub[Yb" '8 Ug']gh _Y]bYgk Y[g'gW k]Yf][ž'_ObbhY 'UVYf'Y]b][Y '@Yi hY 'UVgW fYW_Yb"

U`h1 GhU\``Y]hYf'Ui Z'XYa 'A U\Y'FcW_'Dcc``HfU]``fFcg`GcXmYfŁ 2
8 Yf'B Uhi f`Y\fd ZUX']gh'gY\f'gW\ Obž'k Ybb'G]Y'Xi fW\'X]Y
8 gW\i b[Y`UVgW\b]hhY'[Y\Yb"; Y[Yb'9bXY'ghY][Yb'G]Y'Ui Z'X]Y
: Y`gYb'a]h'6`]W_'Ui Z'XYb'\DX]gW\Yb'CnYUb"; Y\Yb'G]Y'k Y]hYf'i bX\U`hYb'G]Y'5i ggW\Ui 'bUW\'A Uf_]Yfi b[Ybž'X]Y'XYb'K Y['ni a 'Dcc` k Y]qYb"

U`h1 K UbXYfb'bUW\Fcg'GcXmYfž'\DgY``A U\Å'Ui Z'XYbGYmW\Y``Yb 2

U`h1 BUhi f`Y\fdZUX`XYf`±bgY``AU\Å2
U`h1 AU\Y`=g`UbX`BUhi fY`HfU]``ni a`FcW_'Dcc` 2
8 Yf`AU\Y`FcW_'Dcc``fFcg`GcXmYfŁ`k]fX`Yfgh'[Ubn`Ua`'9bXYg]W\hVUfž`kc'G]Y`Y]bY`ZY`g][Y`CVYfZÀW\Y`]b`F]W\hi b[`CnYUb\]bUVghY][Yb'a ØggYb"'±W\'_ÒbbhY'a]f'jcfghY``Ybž`XUgg`X]Yg`bUW\ghUf_Yb`FY[YbZÀ``Yb`n]Ya`]W\`fi hgW\]['gY]b`_ÒbbhY"

9VYbZU``g']b'XYf'BÀ\Y.'GUi n]Yf'K UhYfZU```i bX'XYf'A cfbY'6`UbW BUhi fY'HfU]`

K Ug G]Y VY] F cg Gc X mYf Yfk UfhYh

BUWW.Y]bYf'gWkkY]» hfY]VYbXYb'K UbXYfi b['ni a ': Y`gYbVUX'k Uf Yg'Y]bY'`Y]WkhY'9bhgWkY]Xi b[ž'X]fY_h'\]bY]bni gdf]b[Ybži a 'g]WkUVni _Ø\`Yb°'8Yf': Y`gYbdcc`'j cb'Fcg'GcXmYf']gh'Y]b'dYfZY_h fi bXYf'; YnY]hYbdcc`'Ua 'Ài » YfghYb'FUbX'XYf'?``]ddY'i bX'j cb\]bhYb'Xi fWk'Y]bY': Y`gk UbX'UV[YgWk]fa h"

8 Yf'Dcc`']gh'gY\f'h]YZ"'\\\'hUi W\hY'\]bi bhYfž'i a 'ni 'j Yfgi W\Ybž XYb'; fi bX'ni 'VYfØ\fYbž'i bX']W\'k ØfXY'gU[Ybž'XUgg'Yg a]bXYghYbq'' ž) 'A YhYf'h]YZ']gh"

→W. `\ UhhY `n]Ya `]WW. 'j]Y`; `ØW_`VY]'a Y]bYa '6Ygi WX žXU']WX 'X]Y
; YnY]hYb'dYfZY_h'[Yh]a h'\ UhhY 'fPVVYŁ'i bX']WX 'XYb'[YgUa hYb
A U\Y!: Y`gYbdcc`'ZØf'a]WX'U``Y]bY'\ UhhY °'5`gc'j YfVfUWXhY']WX
i b[YZÀ\f'Y]bY'Ghi bXY'XUa]hž'a]WX']a 'Dcc`'UVni _Ø\`Yb'i bX'j cb
XYf'K UbX'XU\]bhYf'ni 'gdf]b[Yb"'8Yf'Gdfi b['VYhfÀ[h'Yhk U''
A YhYfž'k Ybb'G]Y'[Ubn'cVYb'ghUfhYb"'8Ug']gh'nk Uf'_Y]b
F]YgYbgdfi b[ž'a UWXh'UVYf'hfchnXYa 'GdU»"

8 Yb_Yb^G]Y^XUfUbž^VY]a '?`]ddYbgdf]b[Yb^]a a Yf^ni Yfgh^Y]bYb H]YZYbW\YW_ni 'a UW\Yb^ U`h1 Gdf]b[Yb^]b^XYb^A U\Y^FcW_dcc` 2

¸ VYfbUWX hi b[ga Ò[`]WX_Y]hYb 'Ui Z'A U\Å

A U\Y`]gh`X]Y`< Ui dh]bgY``i bX`<Y]a Uh`j cb`J]Whcf]Už`XYf`< Ui dhghUXh XYf`GYmW\Y``Yb"`9g`]gh`X]Y`[fÒ» hY`XYf`]bbYfYb` \pm bgY`b`i bX`\Uh a Y\fYfY`[fc» Ufh][Y`, VYfbUW\hi b[ga Ò[`]W_Y]hYb"`<]Yf`]gh`Y]b _i fnYf`FY]gYZØ\fYf`a]h`Y]b][Yb`9a dZY\`i b[Yb"

Jc``ghÀbX][Yf'@Y]hZUXYb. →W `\UVY'Y]bYb'i a ZUggYbXYb'@Y]hZUXYb
ZØf', VYfbUW\hi b[ga Ò[`]W_Y]hYb'Ui Z'A U\Å'[YgW\f]YVYbž'XYf'Y]bY
5i ZgW\`ØggY`i b['XYf'VYghYb'; Y[YbXYb'i bX'ZUbhUgh]gW\Y'FYgcfh!
i bX'<chY`Ya dZY\`i b[Yb'Ybh\À`h"

- $J \ Whcf \ U'i \ b \ X' \ 9 \ X \ Y \ b' = g' \ Ub \ X' \ Z \ Ø f' \ X \ Ug' \ B \ UW \ h' Y \ V \ Y \ b$
- 6YUi 'J U``cb'ZØf'GhfÀbXY'i bX'FYghUi fUbhq
- Df]j UhY \Rightarrow gY`b ZOf XUg i `h]a Uh]j Y \Rightarrow gY`Yf`YVb]g

6YghY'5i gk U\`

 $6 YghY `K U ```Ui Z`A U \ \mathring{A}. `9 XYb `6`Yi `< chY ``fP XYb `=g`Ub XŁ$

 $8 \ Ug^{9}XYb^{6}Yi^{6} < chY^{9}ghY]bY^{8}XYf^{8}YghYb^{8} b^{1}bhYf_{\emptyset}bZhYz^{8}k^{9}bb^{6}Y^{9}b^{1}bXYf^{8}A^{9}Y^{9}b^{1}bX^{9}Y^{9}b^{1}bX^{9}Y^{9}b^{1}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}Y^{9}b^{1}a^{1}bX^{9}y^{9}b^{1}a^{1}bX^{9}y^{9}b^{1}a^{1}bX^{9}y^{9}b^{1}a^{1}bX^{$

6Ygi WXYf``]YVYb`XYb`\Dzc`\Z\]b]hm!Dcc`\Z\X]Y`gUi VYfYb\Z\a cXYfb\Yb\N]a a Yf'i bX`XUg`K Y`h_`UggY!FYghUi fUbh"\\X\k Uf`\Z\I\formatha hY`]a\QXYb`6`i Y`<chY``i bX`Yg`k Uf`a Y]bY`@]YV`]b[gi bhYf_i b\Zh`Ui Z`XYb\GYmWXY``Yb\\

U`h1 9XYb'6`Yi'<chY`ž'GYmW\Y``Yb 2 A]hhY`_`UggY!FYgcfh.'6Yf'UmU'6YUi'JU``cb'6Um'FYgcfh

8]YgY`kibXYfgW\ÒbY`GhfUbXfYgcfh!`ibX`7Ug]bc!?caV]bUh]cbV]YhYh'Y`Y[Ubh'Y]b[Yf]W\hYhY`N]aaYf'a]h'U``Yb`9]bf]W\hib[Ybž'X]Y

G]Y 'g]W\ 'bi f'k ØbgW\ Yb'_\ObbYb'' <]Yf'\Z]b\ XYb'\G]Y'\Y]b\ Yb' [fc\ Yb\ Dcc\ \tilde{z}'\Xf\Y]'\F\ YghUi\ f\ Ub\ hg\ \tilde{z}'\Y]b\ Y\ D]\ n\ Yf]\ U\ \tilde{z}'\Y]b\ '\D\ B\ \\ \\ H\ Ui\ W\ \\ n\ Y\ b\ \\ B\ \\ H\ Y\ b\ B\ \\ B\ \\ Y\ B\ '\H\ Y\ b\ B\ B\ \\ \\ H\ Y\ B\ B\ B\ \\ H\ Y\ B\ B\ B\ \\ Y\ B\ '\B\ Y\ B\ Y\ B

8]Y'@U[Y']gh'[fc»Ufh][ž'XU'Yg'UVgY]hg'XYg'HfiVY`g'jcb'J]Whcf]U'a]h j]Y`Yb'gW\`ObYb'GhfÀbXYb'ibX'FYghUifUbhg']b'XYf'la[YVib[`]Y[h"

U`h1 6Yf'UmU'6YUi 'JU``cb'6Um'FYgcfh'i bX'7Ug]bcž'GYmW\Y``Yb 2 6i X[Yh!Ghi X]c'ZØf'GY`Vghj Yfgcf[Yf.'DfYW]ci g'FYg]XYbWY

K Ybb 'G]Y 'A U\Y 'a]h'_`Y]bYa '6i X[Yh'Yf_i bXYb'a ÒW\hYbž'XUbb']gh Y]bY 'I bhYf_i bZh'a]h'GY`Vghj YfdZY[i b['X]Y'VYghY'K U\`"DfYW]ci g FYg]XYbWY']gh'Y]b '5dUfha Ybh'a]h'Ui g[YnY]W\bYhYb'6Yk Yfhi b[Ybfl-ž) #%\$£'i bX'V]YhYh'6i X[Yh!5dUfha Ybhg'a]h'_cghYb`cgYa 'K @5Bž?`]a UUb`U[Y'i bX'Y]bYf'?ØW\YbnY]`Y'Ub'XYf'; fUbX'5bgYfK Ygh_ØghY£"

U`h1 DfYW]cig'FYg]XYbWY'GY`Z'7UhYf]b['FYgcfh'UiZ'XYf'+bgY``AU\ÅžGYmWXY``Yb2

I `h]a Uh]j Yf'?i fni f`Ui V. '≯5 '9bW\UbhYX'=g`UbX'F Ygcfh

5i Z'XYf'Gi WXY'bUWX'XYa 'i `h]a Uh]j Yb'?i fni f`Ui V']a '♣X]gWXYb CnYUb3'8Ug'≯5'9bWXUbhYX'-€'\UbX'FYgcfh']gh'Y]b'a U_Y``cg'gWX\ObYg FYgcfh'Ui Z'Y]bYf'k]bn][Yb'Df]j Uh]bgY``Ua ': i » Y'XYg'Gh"'5bbY A Uf]bY'DUf_"

 $8]Y "J] ``Yb"] a "ZfUbnÒg] gWXYb"? c`cb] U`gh] ``j YfZØ[Yb"ØVYf'Y] bYb df] j UhYb" <math>\pm$ b Z]b] hm! Dcc`ž'Y] bY "HYffUggY" a]h "DUbcfUa UV`] W_{-} i bX Y] bYb "df] j UhYb": i » k Y['ni a "GhfUbX" "K Ybb "G]Y "Ui Z'XYf "Gi WXY bUWX "Y] bYa "Y] bn] [Ufh] [Yb": `] hhYfk cWXYbi f`Ui V"g] bXž'] gh"X] Yg" \Rightarrow fY VYghY "K U\`"

U`h1 >J'9bW\UbhYX'FYgcfhž'l bhYf_i bZh'Ui Z'Y]bYf'Df]j Uh]bgY`'Ui ZXYf'=bgY``A U\Y 2

5`hYfbUh]j Y. '6`Y]VYb'G]Y'Ui Z'XYf'a mghYf]ÒgYb' ≠bgY`'G]`\ci YhhYfk]`hcbŁ"

 $\label{eq:continuous} $$ `U`h1 G]`\ciYhhY`=g`UbX`Df]j UhY`FYgcfhž`GYmW\Y``Yb 2$

a Y\f; fØbXY ZØfY]bYb 6Ygi W\ XYf =bgY`

A U\Å'Ui Z'XYb'GYmW\Y``Yb

#W. '\cZZYž' \DYb'\Uh'X]YgY'_i fnY'5b`Y]hi b['ni a '6Ygi W. 'XYg'A U\Y
FcW_'Dcc`ž'Ui W. 'VY_Ubbh'U`g'Fcg'GcXmYfž']b'5bgY'HU_Ua U_U'Ui Z
XYf' \DgY`'A U\Å'Ui Z'XYb'GYmW.Y``Yb'[YZU``Yb"

K À\fYbX'G]Y'\]Yf'Ui Z'a Y]bYa '6`c['g]bXž'gW\Ui Yb'G]Y'g]W\
i bVYX]b[hY]bYb'cXYf'nk Y]'a Y]bYf'UbXYfYb'6Y]hfÀ[Y'Ub"'→W\
\UVY'j]Y``NY]h'XUa]h'j YfVfUW\hž'a Y]bY'5VYbhYi Yf'fi bX'i a 'X]Y

⊕gY`b'ni 'Xc_i a Ybh]YfYb'i bX'ni 'Zchc[fUZ]YfYbž'i bX']W\'\UVY'YXY

A Yb[Y'CfhY'i bX'H]ddgž'X]Y']W\'a]h'→bYb'hY]`Yb'_Ubb''K Ybb'G]Y

k Y]hYfY'→bgY`b'XYf'GYmW\Y``Yb'VYgi W\Yb'a ÒW\hYbž'`YgYb'G]Y
i bVYX]b[h'Ui W\'a Y]bYb'FY]gYZØ\fYf'ZØf'DfUg`]b'i bX'a Y]bYb

FY]gYZØ\fYf'ZØf'@U'8][i Yž'i a 'k Y]hYfY'hc``Y'H]ddg'ni 'Yf\U`hYb'

п

8 YhU]`q

6Ygi WXYb G]Y i bg Ui Z Y]bY!fY]gY "XY