

@]j Y!H]W_Yf. : i » VU`UWh]cb]b < Ua a '!`5`Y
Gd]Y`Y`]a `6`]W_°

⇒ a `?fY]g`][U!Hcdgd]Y`hf]Zh`XYf`HG7`<Ua a `Ui Z`XYb`J Z@A Uf_"
J YfZc`[Yb`G]Y`X]Y`gdUbbYbXYb`<][\`][\hg`]a `@]j Y!H]W_Yf°

⇒ a `: i » VU`_fY]g`i bbU#<Ua a `k]fX`Yi hY`Y]b`gdUbbYbXYg`8i Y`
Yfk UfhYhž`XUg`g]W`U`g`YW`hYf`Gd]hnYb_Ua`dZ]b`XYf`?fY]g`][U
Ybhd`ddh`"8Yf`HG7`<Ua a`ž`XYf`a`]h`Y]b`Ya`ghUf`_Yb`GhUfh`j`cb`XfY]
G]Y[Yb`]b`X]Y`GU]gcb`[]b[ž`hf]Zh`Ui Z`XYb`J Z@A Uf_"`8]Yg`_ÖbbhY`Y]b
YbhgW`X]Y`b`XYg`; Yg]W`h`g`Y]b`ž`XUg`X]Y`HUVY`Y`Y`bhgW`X]Y`b`X
VYY]b`Zi`ggYb`_ÖbbhY`"i`b`X`Yg`]gh`b]W`h`bi`f`]f[Yb`XY]b`Gd]Y`Y`Yg
[]Vh]]Y`Ui Z`XYa`Gd]Y`ž`gck`c`Z`f`X]Y`HYUa`g`U`g`Ui`W`Z`f`X]Y
: Ubg"

NU`fY]W`X]Y`X]Y`bgW`UZh]W`X]Y`5b`Åb[Yf`g]b`X`VYfY]hg`Ui Z`XYa`K`Y[
ni`XYb`D`ÄhnYb`ž`i`a`]`fY`A`UbbgW`UZhYb`ni`i`bhYfgh`ØhnYb`"8Yf`
K`Yhh`_Ua`dZ[Y]gh`]gh`gd`ØfVUf`ž`i`b`X`VY]X]Y`GY]hYb`g]b`X`ZYgh
YbhgW`c`ggYb`ž`X]Y`XfY]`Di`b`_hY`ni`Yf[UhYfb`"8]Y`6YXYi`hi`b[
X]YgYg`Gd]Y`g`]gh`b]W`h`ni`i`bhYfgW`ÄhnYb`/a`]h`Y]b`Yf`_cb`ghUbbhYb
@Y]ghi`b[]_ÖbbhY`XYf`HG7`<Ua a`g]W`ZYgh]b`XYb`c`VYfYb
HUVY`Y`b`fY[]cb`Yb`Y`hUV`Y`fYb"

5_hi Y`Y`9f[YVb]ggY`XYf`F`Y[]cb

8]Y`Y`i`h][Y`6Y[Y[bi`b[]gh`Y]b[YVYhhYh]b`Y]b`Y`[Ub`n`Y`F`Y]\`Y
Ui`ZfY[Yb`XYf`A`Uh`W`Y`g`]a` : i » VU`_fY]g`"K`Å`fYb`X`X]Y`?fY]g`][U`5`%
VYgcb`XYfg`]a` : c`_i`g`ghY`hž`g]b`X`Ui`W`Ubb`XYfY`@[Yb`U`_h]j`"b`X`Yf`
C`VYf`][U`K`YghZU`Yb`Äi`Zh`Y`i`hY`X]Y`DUfh]Y`nk`]gW`Yb`K`YghZU`]U
F`mb`Yfb`i`b`X`G7`DfYi`» Yb`A`ØbghYf`⇒X]Y`Ui`W`j`cb`Y]b`Ya`c`Y`b
Ni`gW`Ui`Yf]bhYfY`ggY`VY[`Y]hYh`k`]fX`"5i`W`]b`XYf`K`YghZU`Yb`][U`%
ghY`Y`b`Gd]Y`Y`Ub`ž`X]Y`Z`f`Y]b][Y`X`Yf`VY`hY][]hYb`A`UbbgW`UZhYb

YI]ghYbn]Y``k]Wkh['gY]b _ÖbbhYb"

I a %) .\$\$'i \f'VY[]bbhi bhYf'UbXYfYa 'XUg'A UhWk'nk]gWYb'XYa
G7'5'hYbf\Y]bY'i bX'<Ua a Yf'GdJ [žk Å\fybX']b'XYf'K YghZU`Yb`][U
%:X]Y'G; '6cW_i a !<Öj Y`XYb'%"': 7`B]Y\Y]a '\YfUi gZcfXYfh"8]YgYg
'YhhYfY'8i Y``\Uh'Y]bY'ni gÄhn`]WY'6f]gUbnžXU'Yg'g]Wk'i a 'Y]b
?Y`YfXi Y``\UbXY'h' 'XYf'J cf'YhhY'hf]Zh'Ui Z'XUg'GWk'i gg`]Wkh"

@[U	A UhWk i d	5 bghc »
C VYf'][U'K YghZU`Yb	K YghZU`]U'F \mbYfb' G7'DfYi » Yb'A ØbghYf =	%) .\$\$'i \f
K YghZU`Yb`][U:%	G; '6cW_i a !<Öj Y` %"': 7`B]Y\Y]a	%) .' \$'i \f
@UbXYg`][U'(?	G7'5'hYbf\Y]bY' <Ua a Yf'GdJ [HG7'<Ua a ' 'J Z@ A Uf_	%) .\$\$'i \f

I a '%(.(, 'i \f'k Uf'X]Y'5i ZghY``i b['XYf'K YghZU`]U'F \mbYfb
j YfZØ[VUf" ðf'HfU]bYf'\Uh'Y]b][Y'VYa Yf_Ybgk YfhY
9bhgWkY]Xi b[Yb' [YhfcZZYbž'a]h'GUbXYf'ja 'Hcf'i bX'Y]bYf'ghUV`Yb
5Vk Y\ffY]\Y"8]Y'<][\`][\hg'XYf'5i ZghY``i b[``UggYb'Ui ZY]b
gdUbbYbXYg'Gd]Y``cZZYbž'k Å\fybX'X]Y': Ub'g'X]Y'9fk Ufhi b[Yb']b
X]Y'<Ö\Y'hfY]VYb"

8]Y'\Yi h][Y': i » VU`VYf]WkhYfghUhi b['V]YhYh'gdUbbYbXY'9]bV`]W_Y
]b'X]Y'8mbUa]_X]YgYf'Gd]Y'Y'i bX'k Y`WkY'F c``Y'XYf': Ub'gd]Y'h"
6YgcbXYfg'X]Y'DUfh]Yb']b'XYf'?fY]g`][U'i bX'6Yn]f_g`][U'n]Y\Yb
[fc»Y'Ni gWkUi Yfa Yb[Yb'Ub"9g]gh'XYf'BYfj Yb_]hnY``i bX'X]Y
I b[Yk]gg\Y]h'XYg': i » VU`gž'X]Y'X]Y'Ni gWkUi Yf'ghYhg'bYi
VY[Y]ghYfh'i bX'ni f'HY]'bU\ a Y'UbYfY[h"

æ '@j Y!H]W_Yf'k]fX'b]Wkh'bi f'ØVYf'XYb'J Yf'Ui Z'XYf'Gd]Y'Y
VYf]WkhYž'gcbXYfb'Ui Wk'ØVYf'fY'Yj UbhY'GhUh]gh]_Yb'i bX
VYgcbXYfY'A ca YbhY"GWkcb'Yhh']gh'X]Y'GdUbbi b['bU\Yni
[fY]ZVUfž'i bX'a Ub'XUfZ'[YgdUbbh'gY]bž'k Y`WkY'; YgWk]WkhYb'g]Wk
Ui Z'XYb'D'ÄhnYb'YbhZU'hYb'k YfXYb"8Yf'HG7'<Ua a 'i bX'XYf'J Z@

A Uf_`ghY\Yb`g]W`i]b`Y]bYa`5i ZY]bUbXYfhfYZZYb`[Y[YbØVYfž`XUg
j cb`HU_h]_`i bX`i bYfa ØX`]W`Ya`?Ua dZ[Y]gh`[YdfÀ[higY]b`k]fX`
Y]bY`]bhYfYggUbhY`9bhk]W`i b[`]a`?fY]gZ » VU``°

8YhU]`g

6Ygi W`Yb`G]Y`i bg`Ui Z.`b!U["XY