: `cf]XU'Hck bg'; YUf'I d'Zcf'<]ghcf]W&\$&) 7Y`YVfUh]cbg°



7\]d`Ymž: `cf]XUž'I G5'!:5g'k Y'ghYd']bhc'&\$&) ž: `cf]XU g
d]Whi fYgei Y'hck bg'UfY'dfYdUf]b['Zcf'U'mYUf'cj YfZck]b['k]h\
WY`YVfUh]cbg"'H\]g'j]VfUbh'mYUf'a Uf_g'bi a Yfci g'g][b]Z]WUbh
Ubb]j YfgUf]Ygž'Ya d\Ug]n]b['h\Y'Gi bg\]bY'GhUhY g'Ya Yf[YbW'Ug
U'W\Yf]g\YX'hci f]gh'XYgh]bUh]cb'UbX'Wca a i b]hm'\i V"'9j Ybhg
h\fci [\ci h'h\Y'mYUf'k]``bch'cb`m'YbhYfhU]b'Vi h'U`gc'YXi WUhYž
i `h]a UhY`m'gYfj]b['Ug'U'k Ufa !i d'Zcf'h\Y'I b]hYX'GhUhYg
GYa]ei]bWbhYbb]U`']b'&\$&* ž'k \]W\'WY`YVfUhYg'&) \$'mYUfg'cZ
]bXYdYbXYbW"

5a cb['h\Y'\][\`][\hg`cZ'h\]g`W\`YVfUhcfm`WU`YbXUf`]g`h\Y W\bhYbb]U``ZYgh]j]h]Yg`]b`8YYfZ]Y`X`6YUW\ž`k\]W\`\Ug`gcaYh\]b[gdYW]U``VfYk]b["'=bWcfdcfUhYX`]b`; bY`%-&) ž'h\]g`hckb`]g`\cgh]b[a cbh\`m'WcbWYfhg'Uh'D]cbYYf'DUf_ž'U'hfUj Y`]b['\]ghcfm'YI\]V]h'Uh h\Y'6i h'Yf'<ci gY'a i gYi a ž'UbX'k]``'W'`a]bUhY']hg'mYUf'k]h\'U; fUbX'; U`U'cb'\$\dangle bY'&, 'Uh'h\Y'8ci V`YhfYY'<chY`"'5W_bck `YX[]b[]hg'5Zf]WUb'5a Yf]WUb'\Yf]hU[Yž'8YYfZ]Y`X'6YUW\'k]``
Wca a Ya cfUhY'\$\dangle bYhYYbh\'k]h\'U'gdYW]U`'WY`YVfUh]cb'cb'\$\dangle bY'%(Uh'h\Y'Cj YhU'A W?Y]h\Yb'FYWfYUh]cbU`'7ca d`YI"'8YYfZ]Y`X
6YUW\'cZZYfg'U'[`]a dgY'cZ'Vch\']hg'ghcf]YX'dUgh'UbX'U'j]VfUbh dfYqYbhz'Ya d\Ug]n]b['Wca a i b]hm'gd]f]h'UbX']bWi q]j]hm"

$<]ghcf]W <][\ \][\ \ hg'5Wfcgg': \ cf]XU$

8 YYfZ]Y`X`6YUW\`]gb h`h\Y`cb`m`hck b`dc]gYX`Zcf`U`gdYWhUW``Uf Ubb]j YfgUfm"`K cf`X`5h`Ug`fYdcfhg`h\Uh`Gh"`5i [i gh]bY`k]``
WY`YVfUhY`]hg`(*\$h\::ci bXYfg `8 Um`cb`GYdhYa VYf`*ž`&\$&) "`?bck b
Ug`h\Y`c`XYgh`Wcbh]bi ci g`m`]b\UV]hYX`9i fcdYUb`gYhh`Ya Ybh`]b`h\Y
I "G"ž`Gh"`5i [i gh]bY`k]```ZYUhi fY`Wcghi a YX`fY!YbUWhcfgž`Ufh]``Yfm
Xf]``g`Uh`h\Y`7Ugh]``c`XY`GUb`A UfWcgž`UbX`Yj Yb`U`fY!YbUWha Ybh`cZ
h\Y`Z]fgh`H\Ub_g[]j]b[`a YU`"`H\YgY`Yj Ybhg`YbWUdgi`UhY`h\Y

K]bXYfa YfYž']b'h\Y'Cf`UbXc'UfYUž']g'[YUf]b['id'Zcf']hg'%\$\$h\Ubb]j YfgUfm'Ug'k Y``"'H\Y'hck b'd`Ubg'hc'g\ck WUgY']hg'\]ghcfm'k]h\U'7YbhYbb]U`'@cVVm'WfYUhYX'Uh'Hck b'<U``'U`cb[g]XY'dcd!id YI\]V]hg'h\Uh'Wca dUfY'\]ghcf]WU`'a Udg'k]h\'a cXYfb'cbYg"'H\Ym``U`gc'\cgh'h\Y'Fib'5a cb['h\Y'@U_Yg')_'UbX'%\$_'cb'CWhcVYf'%%žU``ck]b['Vch\'fYg]XYbhg'UbX'j]g]hcfg'hc'Yb[U[Y'k]h\'h\]g a]`YghcbY"

Hck b	5bb]j YfgUfm	BchUV`Y [.] 9jYbhg
8YYfZ]Y`X`6YUW	%\$\$h\	7YbhYbb]U`; U`U'cb
		⅓ bY °&, ž°⅓ bYhYYbh\
		7Y`YVfUh]cb'cb'≯bY
		%(
Gh":5i[igh]bY	(* \$h\	: ci bXYfg '8Um'cb
		GYdhYa VYf [*] *
K]bXYfaYfY	%\$\$h\	Fib'5acb['h\Y
		@U_Yg^) _^UbX^%\$_^cb
		CWhcVYf'%%

5`gc`cb`h\Y`a Ud`Zcf`U`a U^cf`WW`YVfUh]cb`]g`7\]d`Ymž'k\]W\`a Uf_g
]hg`&\$\$h\`Ubb]j YfgUfm`]b`&\$&) "`5g`U`hck b`bUa YX`UZhYf`DfYg]XYbh
; Ycf[Y`K Ug\]b[hcbž'7\]d`Ym`k]```i bj Y]``h\Y`; Ycf[Y`K Ug\]b[hcb
7c``YWh]cb`Uh`h\Y`7\]d`Ym`<]ghcf]WU``7YbhYf`cb`DfYg]XYbh g`8 Umž
UbX`h\YfY`k]```VY`ZYgh]j]h]Yg``]_Y`h\Y`7Ufmj]``Y`K cfa ::]XX`]b
: Ygh]j U``cb`\$ bY`%("

@Ugh`mž'@U_Y`K cfh\`6YUW\`]g`gYh`hc`fY^c]W\`Ug`]h`W\`YVfUhYg`h\Y %\$\$h\`Ubb]j YfgUfm`cZ`h\Y`; i `ZghfYUa '<chY`"'D`Ubg`Zcf`fYghcfUh]cbUbX`U`[fUbX`fY!cdYb]b[``UhY`]b`&\$&) `g\ck``U`Wca a]ha Ybh`hcdfYgYfj]b[`UbX`Yb\UbW]b[`:`cf]XU g`i b]ei Y`\Yf]hU[Y`UbX`W\Ufa "

7i `hi fU``9b[U[Ya Ybh'UbX'<]ghcf]WU` 5ddfYW]Uh]cb

H\fci [\ci h'h\Y'ghUhYž'Yj Ybhg'k]``bch'cb`m'a Uf_'h\YgY Ubb]j YfgUf]Yg'Vi h'U`gc'Yb[U[Y'`cWU`g'UbX'j]g]hcfg']b': `cf]XU g X]j YfgY'\]ghcfm'': `cf]XU'Ga Ufh'\][\`][\hg'\ck'h\YgY'ZYgh]j U`g dfcj]XY'Ub'cddcfhi b]hm'Zcf'fYg]XYbhg'hc'`YUfb'UVci h'h\Y]f'fcchg k\]`Y'\Uj]b['Zi b''': fca 'h\Y': `cf]XU'GhUhY': U]f']b'HUa dU'hc'h\YYYUVcfUhY'fYYbUWha Ybhg']b'Gh''5i [i gh]bYž'h\YgY'ZYgh]j]h]Yg Ya VcXm': `cf]XU g'gd]f]h'cZ'Wca a i b]hm'UbX'WY`YVfUh]cb''

 $\label{eq:continuous} 5g^*k Y^*UddfcUWk^*U^*mYUf^*Z]^*YX^*k]hk^*f]Wk^*k]ghcfmž^*WfYUh]j]hmž^*UbX WUa UfUXYf]Yž^hkYfY g^*WfhU]b^*m^*gca Yhk]b[^hc^*VY^*gU]X^*Zcf^*; ^cf]XU g hfUX]h]cbg^*Gcž^*k \YhkYf^*mci fY^*]b^*8YYfZ]Y^*X^*6YUWk^*cf^*7 \]d^*Ymž^*VY dfYdUfYX^*hc^*c]b^*]b^*hkY^*WfYhJcbg^*UbX^*Ya VfUWY^hkY^j]VfUbh W^*hi fY^hkUh^*XYZ]bYg^*hk]g^*k cbXYfZ]^*qhUhY^*$

8 YhU]`g	
Cfh	7\]d`Ymž: `cf]XUž'l G5
EiY``Yb	• k k k "k cf`XUh`Ug"Wca
	XYYfZ]Y`X!VYUWX "Wca
	• k k k "Z`cf]XUga Ufh"Wca

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'a Y]b!k]Yb "bYh