

SOCF5110

DfcZYgg]cbU`DfUWfJWY'F YgYUfVX'DfcYWh

HYfa 'Hk c''#'&\$&%

7ci fgY 8YHJ] g

7 fYX]hDc]bhg**

Gi a a UfmcZh\Y 7ci fgY

H\]g`]g`U'&`I C 7 `DfcZygg]cbU``DfUWf)W'F YgYUfW. DfcYWiWci fgY'''Mci `k]``Ybfc``]b`U'*`i cWWci fgY']b YUW. cZhk c gi WWgg]j Y hYfa g`k]h\ `U`fYgi `hfYdcfhYX`VmU`g]b[`Y`[fUXY`Uhih\Y`YbX`cZh\Y`gYWcbX`*`i cW Wci fgY'''±o`h\]g`Wci fgYž`GC 7:) \$\%\$`DfcZygg]cbU``DfUWf)W'F YgYUfW. DfcYWfzmci `k]```Wca a YbW'`UbX`k cf_ hck UfXg`Ub`]bXYdYbXYbhifYgYUfW. dfcYWfik]h\ `U`hcd]WX]fYWfimfY`UhYX`hc`mci f`dfcZygg]cbU``dfUWf)W' _bck `YX[Y`]b` 7 ci bgY``]b[`GcW]U``K cf_ž`7 ci d`Y`UbX`: Ua]`mH\YfUdmz`cf`GcW]U``8 Yj Y`cda Ybh'`Hcd]W Uddfcj U``]g`fYei]fYX`Vmh\Y`fY`Yj Ubh'A UghYfg`7 ci fgYk cf_`Dfc[fUa `7 ccfX]bUhcf''`DfcYWffYdcfhik cfX `Yb[h\ `]g`%&z\$\$\$!\%(z\$\$\$`k cfXgz`UbX`j Uf]Uh]cb`k]h\]b`h\]g`fUb[Y`]g`hc`VY`bY[ch]UhYX`k]h\ `h\Y`Gi dYfj]gcf UWWcfX]b[`hc`h\Y`gdYW[Z]WfYei]fYa Ybhg`cZh\Y`fYgYUfW. dfcYWfUbX`]hg`a Yh\cXc`c[m'

7ci fgY @YUfb]b[Ci hWca Yg

 $% 8 Yg][bz"XYj Y`cdz"UbX"fYdcfhicb"U"fYgYUfW\"dfc YWhfY`UhYX"hc"gcWJU"k cf_"UbX#cf"Wci bgY``]b[h\Ycfmicf"dfUWf]W\" \\$

&

5ggYgga Ybh

 $DfYgYbHJh]cb^{\cdot}[i]XY^{\cdot}]bYg^{\cdot}$

 $\label{thm:linear_continuity} H\Y'Zc``ck] b[\ 'UfY'h\Y'dfYgYbhUh]cb'fYei] fYa Ybhg'Zcf'h\Y'dfc'YWhifh\Yg]gL$

7cj Yf du[Y

- H\Y'h]hY'cZh\Y'h\Yg]g
- Mci fibUa Y
- •

FYgci fWyg

DfYgWf]VYX F Ygci fWYg

Gh XYbhg k] "'VY U cwuh X U gi dYfj]gcf

FYWca a YbXYX FYgci fW/g

FYWca a YbXYX FYgci fWfg.

%"6fma Ubž'5"f&\$%&L"GcWJU`fYgYUfWX a Yh\cXg`f(h\ YX"L"Cl ZcfXž'9b[`UbX. Cl ZcfX`l b]j Yfg]lm"

&"`GdfYb_`Yž'8"<"'/ `D]YfWfrž': "D"`ffYXgŁ'f&\$\$) Ł"`F YgYUfW\``A Yt\cXg`]b`: Ua]`mH\YfUdmž'; i]`ZcfX`DfYgg.

 $B Yk `Mcf_"`H\g'di V`]WUh]cb`WUb`VY'di fVX UgYX'cb!`]bY`Vm`UWWgg]b[`h\Y'Zc``ck]b[`I F@ \\ \hd.#k k k "eVX"Wca "Ui #dfcXi W# +, %) +&' $-*$- `F YgYUfWXSA Yh\cXgS+bS: Ua]`mSH\YfUdmSVmSGdf Yb_`YS8 ci [`UgS< $98 HSD]YfWhS: fYXSD$98 HS"\ha$

5XX]h]cbU`fYUX]b[g.

%"'6UVV]Yž'9"'f&\$\$+Ł"'H\Y'dfUWf)WY'cZgcW]U`fYgYUfWX'fW%th\'YX"Ł"'6Y`acbh'KUXgkcfh\"

&"`BYi a UbžK "@"f&\$\$' Ł"`GcWJU``fYgYUfW\`a Yh\cXg.`E i U`]hUh]j Y`UbX`ei Ubh]hUh]j Y`UddfcUW\Yg`ff'h\YX"Ł" 6cghcb.`5``mb'/ '6UWcb"

' "'FiV]bž5"ž/ '6UVV]Yž9"'F"'f&\$\$, Ł"'FYgYUfW\'a Yh\cXg'Zcf'gcW]U`'k cf_'ff'h\'YX"Ł"'6Y`a cbhž'75.H\ca gcb <][\Yf'9Xi WUh]cb"

("'<c`cg_cž'A"'>"'f&\$\$*\L''Df]a Yf'Zcf'Wf]h]ei]b['gcW]U``fYgYUfW..'5'ghi XYbh'[i]XY"'6Y`a cbhž'75.H\ca gcb<|[\Yf'9Xi WUh]cb"

Gh XYbhg UfY Yb Wci fu[YX hc UWWYgg ch\ Yf a UhYf]U`h\ fci [\ 'UWUXYa]W ci fb U`g 'Ub X h\ Y ']bhYfb Yh' I gYZ ``ci fb U`g ']b Wi XY.

GcWU`K cf_FYgYUfW

EiU`]hUh]jY' ⇒bei]fm

6f]h]g\'>cifbU\'cZGcW]U\'K cf_

>ci fbU`cZGcWJU`K cf_'9Xi WUhJcb

>cifbU`cZGcWJU`GYfj]WYFYgYUfWX

FYgYUfW.cb.GcWJU.K cf_DfUWJWY

GcWU`K cf

±bhYfbUhcbU``>cifbU``cZGcWJU``KY`ZJfY

9j U`i Uhjcb'FYj]Yk '>ci fbU``cZ5dd`]YX'FYgYUfW\` ⇒hYfbUhjcbU``>ci fbU``cZGcWjU``FYgYUfW\`A Yh\cXc`c[m: Ua]`mDfcWygg

6f]h]g\`>cifbU``cZ: Ua]`m'H\YfUdm

5i glfU`]Ub`UbX'BYk 'NYU`UbX'>ci fbU`cZ: Ua]`mH\YfUdm

D`YUgY`bchYžU`FYj]Yk`cZZJa]`mžWcid`Yg`UbX`gmghYa]Wh\YfUdmicihWcaY`fYgYUfW\`&\$\$\$!&\$\$-`VmDYhYfGhfUhrcbž'9aaU`G]`jYfžBUhUg\U`BUgW]aYbhcž; kYb`DckY``ž@]n`AW8cbbY``/`9kU`Bcjchbm`]g`UjU]`UV`Y`Uh\hhd.#kkk"UZh'cf["i=#fU]b]b[#YgYUfW\"Uqd

FYWca a YbXYX FYgci fWg Zcf gdYWZWUfYUg]bWi XY.

FYgYUfWX '9h\]Wq

5bhYž'6"`>"/ FY[Y\fž'7"'f&\$\$' Ł"'6YmcbX']bX]j]Xi U``f][\hg'UbX'ZfYYXca g. 'a YhU!Yh\]Wg']b'gcW]U``k cf_fYgYUfW\"'GcW]U``K cf_ž'(, ž'%)!%(("

6i hYfž="f&\$\$&\z6f]n]g\`>ci fbU``cZGcW]U``k cf_`UbX`gcW]U``WUfY`fYgYUfW\ž6f]n]g\`>ci fbU``cZGcW]U``K cf_" ' ž&' -!&(, "

F Ua W. UfUbžD"/ '7 i hW]ZYž>"F"'f&\$\$\\">i X[]b['h\Y'Yh\]Wg'cZei U`]hUhj Y'fYgYUfW. 'Wcbg]XYf]b['h\Y'Yh\]Wg'dfcW'gg'a cXY`"'<YU'h\/ 'GcW]U`'7 UfY']b'h\Y'7 ca a i b]hm-ž') \% **"

 $A \ Uf[\ c`]b\check{z}; \ "`7\]Yb\check{z}8"\check{z}8i \ a \ Ub\check{z}G": \ Ui \ W\&]Yf\check{z}'5"; \ cfX]g\check{z}'9"C`]j \ Yf\check{z}D"`F \ Ua \ cg\check{z}A "`UbX`J]W_Yfa \ Ub\check{z}'?" f\&\$\$) \&"``9h\&]WU``=ggi \ Yg`]b`7ci d`Y`UbX': \ Ua]`mF \ YgYUfW&'\check{z}'>ci \ fbU``cZ: \ Ua]`mDgmW\&c`c[m\check{z}Jc`"`% \check{z}'Bc"`% dd"`%) +-%* +$

9j]XYbWY!VUqYX`dfUWhJWY/ fYZYWhJj Y`fYqYUfWX

7 f]gdž'6"'f&\$\$(\text{L"'9j}]XYbWY!VUgYX'dfUWJWY'UbX'h\Y'VcfXYfg'cZXUhU']b'h\Y'[`cVU``]bZcfa UhJcb'YfU"'>ci fbU`cZGcWJU`K cf_'9Xi WUhJcbz'(\\$z'+'!, *"

 $: cc_\check{z} > "fPX" + fW--* + "HV'fYZYWN Yf. GcW]U`k cf_Yfg' + kYcf]Yg`cZdfUWN WfYgYUfWX" Gh @YcbUfXg. 5``Yb'/ T bk]b"$

;] $VVg\check{z}@''/'$; Ua Vf]`` $\check{z}'9''$ 'f&\$\$&&"'9j]XYbWY!VUgYX'dfUW]WY. `Wci bHYfUf[i a Ybhg'hc'cVYW]cbg''`F YgYUfWX'cbGcW\U``K cf 'DfUW\W\\check{z}'\&\z'() &!(+*"

A W8cbU`Xž7"'f&\$\$' E": cfk UfX'j]U'h\Y'dUgh8'9j]XYbW!VUgYX'dfUWfW'Ug'ghfUhY[m]b'gcW]U`k cf_"'H\Y 8fUk]b['6cUfX.'5b'5i ghfU']Ub'F Yj]Yk 'cZDi V`]W5ZZJ]fqž' ž'%k' !%(&"

D`Uh\ž'8"`f&\$\$*\L"'9j]XYbWY!VUgYX`dfUWI)WY.`W ffYbh]ggi Yg`UbX`Z h fY`X]fYWI)cbg"'5i ghfU`]Ub`GcW]U``K cf_ž)-\ž')*!+&"

FcgYbž'5"'f&\$\$' \text{2"'9j}XYbWY!VUgYX'gcWJU``kcf_'dfUWJWY.'W\U``Yb[Yg'UbX'dfca]gY"'GcWJU``Kcf_'FYgYUfW\ž\&+ž'%+!&\$,"

K YVVžG":5":f&\$\$%L":Gca Y:Wcbg]XYfUh]cbg:cb:h\Y:j U`]X]hmcZYj]XYbWY!VUgYX:dfUWf]WY:]b:gcW]U`:k cf_"

6f]h]g\ `>ci fbU``cZGcW]U``K cf_ž' '%ž') +!+-"

A W8cbbY``z`@''GlfUlhcbz`D"'6i h`Yfz`G"'UbX'7UdYz`B"'f&\$%&\"''8YjY`cd]b['fYgYUfW\!]b\zcfa YX'dfUWf]r]cbYfg`—Ub'cf[Ub]gUh]cbU``dYfgdYWf]jY'z`7ci bgY``]b['UbX'Dgm\Xch\YfUdmFYgYUfW\.'@]b_]b['fYgYUfW\'k]h\dfUWf\Wfz'\&.' z`dd"'\%*+!\%++

GlfUltcbžD`f&\$%\$L"``H\Y`9j]XYbW\`6UgY`cZGmghYa]W: Ua]`m'UbX`7 ci d`Yg`H\YfUdmž`5ggcW]Uh]cb`Zcf : Ua]`m'H\YfUdmž`I ? "`H\Y`fYdcfh`]g`Uj U]`UV`Y`Vch\`cb`6`UW_VcUfX`UbX`Uhk k k "UZh'cf["i _`Dfc[fUa Yj U`i Uh]cb

 $8YDcm\check{z}9"7";] \hat{z}cb\check{z}G": "'f\&\$\$' \&"9j U'i Uhjcb'dfUWjWY.'H\]b_]b['UbX'UWhjcb'Zcf'gcWjU'k cf_'dfUWhjWY" DUWjZW; fcj Y. 'H\ca dgcb#6fcc_g'7c`Y"$

9j Yf]hhž:5"/ '< UfX]_Yfž:D"'f% - *Ł"'9j U`i Uh]b['Zcf'[ccX'dfUWf]WY"'6Ug]b[ghc_Y. `A UWa]``Ub"'9j Yf]hhž:5"z < UfX]_Yfž:D"z'@|hhYk ccXz'>"/ 'A i ``YbXYfz'5"'f% - &Ł"'5dd`]YX'fYgYUfW\`Zcf'VYhHYf'dfUWf]WY"'6Ug]b[ghc_Y. A UWa]``Ub"

F cmgYž'8 "ž'H\mYfž'6":5 "ž'DUX[Yhhž'8":? "ž/ '@c[Ubž'H":? "'f&\$\$) Ł"'Dfc[fUa 'Yj U'i Uh]cb. '5b']bhfcXi Wh]cb'fh'h\YX"Ł"'6Y'a cbhž'7 5. '6fcc_g#7 c'Y"

K UXgk cfh\ziM"f% - +Ł"'9j YfmXUmYj U`i Uhjcb cb h\Y`fi b f&bX YX"Ł" Gh@YcbUfXg. '5``Yb / 'I bk]b"

DUfh Wd Uh cb] b f Yg Y U f W / U Wh cb f Yg Y U f W .

 $< YU`m\check{z}?"`f\&\$\$\&"`DUffi]W]dUhcfm`UWf]cb``fYgYUfW\``UbX`gcV]U``k~cf_.``U``Wf]f]WU```UddfU]gU``'`±bfYfbUfi]cbU```GcV]U``K~cf__\check{z}'((\check{z}-'!\%)"$

? Ubi \UžJ "'? "'f&\$\$\$\!"'6Y]b[''bUh]j Y'j Yfgi g''[c]b['bUh]j Y'. 'WcbXi Whb['gcW]U``k cf_'fYgYUfW\'Ug'Ub']bg]XYf" GcW]U``K cf_ž() ž(' -!((+"

 $A i b Z c f X \check{z} F "/ G U b X Y f g \check{z} > "f \& \$\$' \& "`A U _] b [``U `X] Z Z Y f Y b W Y `] b ``Z J a] `] Y g . ``F Y g Y U f W ``h `U h `W Y U h Y g ``W `U b [Y "` 7 f c k g B Y g h `5 ``Y b // `I b k] b "$

 $\label{eq:hamiltonian} H\ca\ Ug\check{z}B\ "/\ "C\ '?\ UbY\check{z}7\ "`f&$$$L"8\]gWcj\ Yf]b[\ 'k\ \UhW]`XfYb\ 'h\]b_. `WcbbYWf]cbg`VYfk\ YYb\ fYgYUfW.`UbXdfUWf]Wf\"`6f]h]g\ '>ci\ fbU``cZGcWJU``K\ cf_ž'\ $ž', %-!, '\) "$

9a UbWJdUhcfmfYgYUfW

6UfbYgž7"'f%-*L"'8]gUV]`]miUbX'h\Y'a mt\`cZh\Y`]bXYdYbXYbhfYgYUfW\Yf"'8]gUV]`]miUbX'GcWJYmž'%%Z %\$+!%%\$"

6YfYgZcfXžD"/ '9j Ubgž'7"'f%--- Ł"'F YgYUfW\'bch\'. 'fYgYUfW\''UbX'Ya dck Yfa Ybh''6f]hjg\ '>ci fbU`'cZGcWjU` K cf_ž'&- ž'*+%|*++"

K U`a g`Ymž`>"`f&\$\$%£"`Bcfa U`]gUh]cbž'Ya UbW]dUhcfmifYgYUfW\`'UbX`]bWi g]j Y`fYgYUfW\`']b``YUfb]b[`X]gUV]`]hm' 8]gUV]`]hm'UbX`GcW]Yhmž'%* ž'% +!&\$) "

; YbYfU`gcWjU`k cf_fYgYUfW\ hYl hg fei UbhjhUhjj Y/ ei U`]hUhjj YŁ

7 cfVmž·6"'f&\$\$*±":5dd`m]b['fYgYUfW\']b'gcW]U``k cf_'dfUW]W\"`A U]XYb\YUX. `C dYb'I b]j Yfg]m''; f]bbY``ž`F " A "'f9X"±'f%-, , ±"'GcW]U``k cf_'fYgYUfW\'UbX'Yj U`i Uh]cb"' ≢UgWU.': 9 'DYUWċW_"

A Ufick žī7 "F "f&\$\$) Ł"F YgYUfW. a Yh\cXg`Zcf`[YbYfU`]ghigcWJU``k cf_"'6Y`a cbh'6fcc_g#7 c`Y"'B Yi a Ubž'K " @'/ '? fYi [Yfž'@'`K "'f&\$\$' Ł"'GcWJU``k cf_'fYgYUfW. a Yh\cXg. 'E i U`]hUhjj Y`UbX'ei UbhjhUhjj Y`Udd`]WUhjcbg" 6cghcb. 'DYUfgcb'9Xi WUhjcb"

F cmgYž'8 "`f&\$\$(Ł"`F YgYUfWX 'a Yh\cXg`]b`gcWJU``k cf_`f(h\`YX"Ł"`DUWJZJW; fcj Y. '6fcc_g#7 c`Y"`GUfUbHJ_cgž G"`f&\$\$) Ł"`GcWJU``fYgYUfWX 'fl fX`YX"Ł" @cbXcb. 'A UWa]``Ub"

K U`hYfž'A "`fPX"Ł'f&\$\$*Ł"`GcWJU``fYgYUfW\`a Yh\cXg.`Ub`5i ghfU`]Ub`dYfgdYWfjj Y"`Gci h\`A Y`Vci fbY.`C I ZcfX

FYWca a YbXYX cb`]bY a UhYf]U`g UbX ch\Yfi gYZi `gci fWYg

- %" GcWYmrZcf'GcWJU`K cf_'UbX'F YgYUfWX'! \hd.#k k k "ggk f"cf[#
- &" 9j]XYbWY`6UqYX`DfUWf\WY`]b`< YU`h\`7UfY`!`\htd.#k k k "V]ca YX"`]V"i a b"YXi #YUfb#YVd#
- ' " H\Y : Ua]mH\YfUdmUbX'GmgHYa]WF YgYUfWk 7 YbHY \hhd.#k k k "i Y`! ZngfWcf[#
- ("GcWU`FYgYUfW\5ggcWJUhJcbkkk"h\Y!gfU"cf["i_
-) "Ei Ubhhuhj Y'F YgYUfW.'8Yg][b'\hd.#k k k "Yl dYf]a YbhfYgci fWrg"Wca #ei Ubhhuhj Y!fYgYUfW.! XYa][b"\ha`'
- *" 9j]XYbWY 6UgYX DfUWfWY]b < YUTh\ 7 UfY !! \hd.#k k k "V]ca YX"]V"i a b"YXi #YUfb#YVd
- +" Dfc[fUa '9j U`i Uh]cb'UbX'8Yg][b'!'\hd.#a UbU[Ya Ybh\Y`d"cf[#j U`i Uhb#b`SYj U`"\ha

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

Hi fb]h]b Gi Va]gg]cb

Image: Ybwci bhYf'U'dfcV'Ya k \Yb'UhYa dhJb['hc'gi Va]hmci f'Ugg][ba Ybht\fci [\'Hi fb]hJbž'd'YUgY

HY'Yd\cbY'9| hYfbU'`Gi ddcfhcb'-',) '' ' ' %cf'Ya U]`'h\Ya 'cb'Y! hYfbU'hY'hgi ddcfh4 i bgk "YXi "Ui '"'Gi ddcfh
\ci fg'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY_XUmg'UbX'-.\$\$Ua '-').\$\$da 'cb'k YY_YbXg'fl *) 'XUmg'U'mYUfŁ"'=Imci
UfY'i bUV'Y'hc'gi Va]hmci f'Ugg][ba YbhXi Y'hc'U'ZJi 'hk]h\'Hi fb]hJb'mci 'a UmUdd'mZcf'Ub'Y! hYbg]cbž'Vi hmci
a i ghfYhJ]b'mci f'hJW_Yhbi a VYf'Zfca '9! hYfbU'`Gi ddcfhfU'cb['k]h\'Ubmch\Yf'fY'Yj UbhXcW a YbhgŁ'hc
]bWi XY'Ug'Yj]XYbW'hc'gi ddcfhmci f'Y! hYbg]cb'Udd']WUhJcb"'=Imci 'Ya U]`'9! hYfbU'`Gi ddcfhmci 'k]``
Ui hca UhJWJ'`mfYWY]j Y'U'hJW_Yhbi a VYfž'Vi h]Zmci 'hY'Yd\cbY'mci 'k]``bYYX'hc'gdYWJZJWJ'`mUg_'Zcf'cbY"
Hi fb]hJb'U'gc'dfcj]XYg'i dXUhYg'cb'h\Y]f'gmghYa 'ghUh' g'cb'Hk]hYf"

; YbYfU`mž'UggYgga YbhiHug_g'a i ghVY'gi Va]hhYX'Y`YVWfcb]\WJ``mij]U'Y]h\Yf'Hi fb]h]b'cf'U'A ccX`Y Ugg][ba Ybh''=b']bgHJb\W'g'k \YfY'h\]g']g'bchdcgg]V`Yž']hk]```VY'gHJhYX'cb'mci f'\\circ i fgY'g'A ccX`Y'g]hY'k]h\U`hYfbUh]j Y'gi Va]gg]cb'XYHJ]`g"

: cf']b \mathbb{Z} cfa Uh]cb'cb'\ck 'hc'gi Va]h'Ugg][ba Ybhg'cb`]bY'j]U'A ccX`Y. `\hhdg.##gh XYbh'i bgk "YXi "Ui \mathbb{A} ck! qi Va]h'Ugq][ba Ybha ccX`Y

5 WUXYa]W<cbYglmUbX D`U[]Uf]ga

D`U[]Uf]ga i]gii g]b[ih\Yik cfXgicfi]XYUgicZch\YfgiUbXidfYgYbh]b[ih\Ya iUgimci fick b"i±i\WbihU_Yia Ubm Zcfa gžZfca iXYi]VYfUhYiW\YUh]b[ihciU\W]XYbhU`m\Wcdm]b[iZfca iUigci f\Wik]h\ci hiU\w_bck iYX[Ya Ybh'

IBGK [fcidg'd'U[]Uf]ga]bhc'h\Y'Zc``ck]b['WUhY[cf]Yg.

7 cdm]b[.'i g]b['h\Y'gUa Y'cf'j Yfmg]a]`Uf'k cfXg'hc'h\Y'cf][]bU`h\I hcf']XYU'k]h\ci hUW_bck `YX[]b['h\Y gci fW'cf'i g]b['ei chUh]cb'a Uf_g"'H\]g'U'gc'Udd`]Yg'hc']a U[Ygž'Ufh'UbX'XYg][b'dfc YWhgž'Ug'k Y``'Ug dfYgYbhUh]cbg'k \YfY'gca YcbY'dfYgYbhg'Ubch\Yf'g']XYUg'cf'k cfXg'k]h\ci h'WfYX]h'

- i bXYfgfUbX mci f'f][\hg'UbX'fYgdcbg]V]`]hJYg'Ug'U'gh XYbhUhl BGK
- VY`Uk UfY`cZd`U[]Uf]ga ž`Wcdmf][\hz'l BGK `Gh XYbh7cXY`cZ7cbXi WhUbX`5VWWdhUV`Y`l gY`cZ I BGK `=\forall H`F Ygci f\W\g`Dc`]\m\m
- VY 'Uk UfY 'cZh\Y 'ghUbXUfXg 'cZVY\Uj]ci f'Yl dYWYX 'cZYj YfmcbY ']b 'h\Y 'l BGK 'Wca a i b]hm
- `cWUHY 'gYfj]WYg'UbX ']bZcfa UH]cb'UVci hI BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZh\YgY'UfYUg'k]``VY'ZJa]`]Uf'hc'mci ž'ch\Yfg'k]``VY'bYk"'; U]b]b['U'gc`]X'i bXYfgHJbX]b['cZU``h\YfY`UhYX'UgdYWng'cZ9@+69'k]``\Y`d'mci 'a U_Y'h\Y'a cghicZmci f'ghi X]Yg'UhI BGK "'\\hd.##qi VYWfi |XYg"`]VfUfm'i bqk "YXi "Ui #\`]qY#JVci hY`]qY

5 WUXYa] W + b Zcfa Uhjcb

: cf'YggYbhJU`ghi XYbh]bZcfa UhJcb'fY`UhJb['lc.