Dck Yf'6fc_Yfg'cZ'HUa dU'6Um 'A YYh'Mci f Dc`]h]WU`'H]hUbg

9| d`cfY`h\Y`d]j chU``fc`Yg`cZ'_Ym`HUa dU`6Um`dc`]h]W]Ubg`J Yfb 6| W\UbUbž`:\angle '6cm\Xž`UbX`\&Y`; fi hYfg`]b`g\Ud]b[``c\W\` [cj YfbUb\W`UbX`dc`]\Mn"



Gci h\ '6Umž': `cf]XUž'I b]hYX'GhUhYg'! \disph\Y'j]VfUbh'dc`]h]WU`
`UbXgWUdY'cZ'A UbUhYY'7ci bhmž'h\fYY']bZi Ybh]U```YUXYfg'ghUbX'Uh
h\Y'\Y`a .'I "G"'FYd"'JYfb'6i W\UbUbž'ghUhY'GYbUhY'A U'cf]hm
@YUXYf'\dia '6cmXž'UbX'ghUhY'GYbUhcf'\xiY'; fi hYfg"'9UW\'\Ug'WUfj YX
ci h'U'g][b]Z]WUbh'UbXž']b'gca Y'WUgYgž'Zcfa]XUV`Y'fc`Y']b'Vch\
`cWU``UbX'ghUhY'[cj YfbUbWYž'Ug'\][\`][\hYX']b'U'fYWYbh'UbU`mg]g'cZ
HUa dU'6Umg'dc`]h]WU``dck Yf\ci gYg'Vm: `cf]XU'Dc`]h]Wg"

JYfb'6i W\UbUbž'k\c'W\U]fg': `cf]XU g'Wcb[fYgg]cbU`'XY`Y[Uh]cbž']gbch'1 gh'U'a Ya VYf'cZ'h\Y'I "G"'<ci gY/\Y'U`gc'gYfj Yg'Ug'J]WY7\U]f'cZ'h\Y'K Umg'UbX'A YUbg'7ca a]hhYY'UbX'`YUXg']hg'<YU`h\Gi VWca a]hhYY"'<]g'UXj cWUWm'Zcf'HUa dU'6Umg'k UhYfg'\UgUa d`]Z]YX'\]g']a dUWh']b'K Ug\]b[hcbž'YgdYW]U``m'k]h\'h\Y'W' ffYbh

$HY @YUXYfg \ d 7cbhYgh$

$$\begin{split} &\text{H}^{\prime} \text{dc}^{\prime} \text{[h]} \text{WU}^{\prime} \text{U} \text{fybU}^{\prime} \text{g}^{\prime} \text{YUh]b}[\text{ id}^{\prime} \text{Ug}^{\prime} \text{Ja} \text{ id}^{\prime} \text{CmX}^{\prime} \text{UbX}^{\prime} \text{x} \text{Y}^{\prime}; \text{ fi hYfg} \\ &\text{dfYdUfY}^{\prime} \text{Zcf}^{\prime} \text{fY!Y}^{\prime} \text{YWh]cb}^{\prime} \text{VUhh}^{\prime} \text{Yg}^{\prime} \text{U}[\text{ U]bgh}^{\prime} \text{8 Ya} \text{ cWfUh]} \text{WW} \text{U}^{\prime} \text{Yb}[\text{ Yfg}^{\prime\prime} \text{6cmX}^{\prime} \text{fYWc}[\text{ b]} \text{nYX}^{\prime} \text{Zcf}^{\prime} \text{N}] \text{g}^{\prime} \text{Yl} \text{dYfh]gY}^{\prime} \text{]b}^{\prime} \text{dfcdYfhm}^{\prime} \text{]bgi} \text{fUbW}^{\prime} \text{UbX} \\ &\text{YU}^{\prime} \text{h}^{\prime} \text{WUfY}^{\prime} \text{]ggi} \text{Yg}^{\prime} \text{Yg}^{\prime} \text{Ug}^{\prime} \text{Ubbc}^{\prime} \text{bW} \text{X}^{\prime} \text{N}] \text{g}^{\prime} \text{WUbX} \text{]XUWh}^{\prime} \text{Zcf}^{\prime} \text{GYbUhY} \\ &\text{DfYg} \text{]XYbh} \text{U}^{\prime} \text{dcg} \text{]h}^{\prime} \text{cb}^{\prime} \text{h}^{\prime} \text{Uh}^{\prime} \text{k} \text{ci}^{\prime} \text{X}^{\prime} \text{g}] \text{g}^{\prime} \text{J} \text{WUbh}^{\prime} \text{m}^{\prime} \text{Vc}^{\prime} \text{ghYf}^{\prime} \text{N}] \text{g} \\ &\text{Ui}^{\prime} \text{h}^{\prime} \text{cf} \text{J}^{\prime} \text{g}^{\prime} \text{Yb} \text{XcfgYa} \text{Ybhg}^{\prime} \text{Zfca}^{\prime} \text{Zcfa} \text{Yf}^{\prime} \text{DfYg} \text{]XYbh}^{\prime} \text{Hfi} \text{a} \text{d}^{\prime} \text{UbX} \\ &\text{ch}^{\prime} \text{Yf}^{\prime} \text{CD}^{\prime} \text{V} \text{[k]} \text{[g}^{\prime} \text{g}^{\prime} \text{g}^{\prime} \text{m} \text{b} \text{[cZcf}^{\prime} \text{h}^{\prime} \text{Y}^{\prime} \text{fc}^{\prime} \text{Y}^{\prime} \text{cZ}^{\prime} \text{:} \text{cf} \text{]XU}^{\prime} \text{7}^{\prime} \text{]YZ}^{\prime} \text{]bUbW} \text{JU}^{\prime} \\ &\text{CZZ} \text{WYf}^{\prime\prime\prime} \end{aligned}$$

H\Y'ghU_Yg'\Uj Y'bYj Yf'VYYb'\][\Yf"; fi hYfg'ZUWYg'?Uh\Yf]bY Bcfa Ubž'U'8Ya cWfUh'k\c'\Ug'hU_Yb'U]a 'Uh'\]g'Ybj]fcba YbhU`fYWcfX'h\fci [\'U'gYf]Yg'cZ'j]XYcgž'di g\]b['Zcf'U'bUffUh]j Y'cZ W\Ub[Y'UbX'UWWci bhUV]`]hm'h\Uh'fYgcbUhYg'k]h\'a Ubm'j chYfg" 6cmX g'8Ya cWfUh]WW\U``Yb[Yfž'Hcbm'9`Xcbž'Vf]b[g'\]g'ck b bUffUh]j Y'cZ'dfc[fYggž'WcbhfUgh]b['k]h\'6cmX g'hfUX]h]cbU`UddfcUW\Yg'[fci bXYX']b'`Uk 'UbX'cfXYf"

8 Ygd]hY 'W\U``Yb[Yg'Zfca 'h\Y]f'cddcbYbhgž'Vch\'6cmX'UbX'; fi hYfg a U]bhU]b'U'gi VghUbh]U```YUX']b'Zi bXfU]g]b[ž'\Uj]b['fU]gYX
''*(ž&&) 'UbX'`' %%ž, \$*'fYgdYWh]j Y`mž'Xk UfZ]b['9`Xcb g'UbX
Bcfa Ub g'a cXYgh'WUa dU][bgž'k\]W\'\Uj Y'Vfci [\hi]b''\ gh'cj Yf
'-ž\$\$\$'YUW\"'H\Y'; CD g'ghfcb[\c`X']b'h\YgY'X]ghf]Whg'Wca d`]WUhYg
Ubm'UhhYa dhg'Uh'Z]dd]b['h\Y'gYUhg'Vm'8Ya cWfUhgž'k]h\
fY[]ghfUh]cb'bi a VYfg'\YUj]`m'ZUj cf]b['h\Y'FYdi V`]WUb'DUfhm'

FYWbh'9`YWh]cb'FYgi `hg

H\Y'dc`]h]WU`W]a UhY'fYa U]bg'hYbgY'Ug'h\Y'HUa dU'6Um'UfYU'[YUfg i d'Zcf'i dWca]b['Y`YWh]cbg"'JchYf'hi fbci h'Xi f]b['fYWYbh'WcbhYghg \Ug'g\ck b'gc`]X'gi ddcfh'Zcf']bW'a VYbhg'UWfcgg'j Uf]ci g'X]ghf]Whg" \D'GhUhY'GYbUhY'fUWYgž'h\Y'fYgi `hg'Zfca'8]ghf]Whg'%%ž'&%ž'UbX'&' ž Ua cb['ch\Yfgž'fYZYWhYX'U'XYW]g]j Y'dfYZYfYbW'Zcf'FYdi V`]WUb WUbX]XUhYgž'fY]bZcfW]b['h\Y'; CDg'[f]d'cb'h\Y'fY[]cb"

- GhUhY GYbUhY FYgi hg.
 - 8]ghf]Wh'%%. '6`U]gY' = (c[`]U'fF 9Dž' = bW'a VYbhŁ'
 * "' &ı
 - 8]ghf]Wh'&%. '9X'<ccdYf'fF9Dž' ≠bW'a VYbhŁ' '* %"++1
 - 8]ghf]Wh'&'.'8Ubbm'6if[Ygg'fF9Dž'+bW'a VYbhŁ'), ", I

#b 'h\]g'k cf'X 'cZ'ghfUhY[]Wa UbYi j Yf]b['UbX'\][\ 'ghU_Ygž'Vch\
6cmX 'UbX'; fi hYfg'UfY 'bUj][Uh]b['h\ Y]f'dc`]h]WU`'Zi hi fYg'k]h\ 'Ub
YmY 'cb 'gi fdUgg]b['h\ Y]f'cddcbYbhgž'k \]'Y 'U`gc 'UXXfYgg]b[
dfYgg]b[']ggi Yg'`]_Y 'Ybj]fcba YbhU`'dc`]Wm'UbX'\YU`h\ WUfY 'UVWYgg"
5g'h\ Y 'Y`YWh]cb 'gYUgcb'i bZc`Xgž'Wcbgh]hi Ybhg'UfY 'k UhW\]b[
WcgY`mž'YU[Yf'Zcf'Ubm'i dXUhYg'cb'\ck 'h\ YgY'dfca]bYbh'Z][i fYg
k]``UXXfYgg'h\ Y]f'WcbWYfbg'UbX'fYg\ UdY'[cj YfbUbWY']b': `cf]XU"

 $\label{thm:local_continuous} $$H\Y`WcbgYbgi\ g`]g`WYUf.`k\]h\'6i\ W\&\UbUbž`6cmXž`UbX`;\ fi\ hYfg`Uh'h\Y ZcfYZfcbhž`A\ UbUhYY`7ci\ bhm`\Ug`U'hf]c`cZ'dck\ YfZi\ ``dc`]h]W]Ubg\ ghYYf]b[\ ``cWU``fYdfYgYbhUh]cb`]b`U`fUd]X`m`Yj\ c`j\]b[\ 'dc`]h]WU` `UbXgWUdY"$

8 Y hU]`g	
Cfh	Gci h\ '6Umž': `cf]XUž'l b]hYX'GhUhYg
EiY``Yb	Z`cf]XUdc`]h]Wg"Wca
	• k k k "\YfU`Xhf]Vi bY"Wca
	• k k k "k i gZ"cf[

6 Y gi W Y b 'G | Y 'i b g 'U i Z 'a Y | b ! k | Y b "b Y h