

9| d`cfY`h\Y``UhYgh'Zi bX]b['XYj Y`cda Ybhg']b'<UfXYY'7ci bhmž]bWi X]b['Vi X[Yh'U``cWUh]cbg'Zcf'YXi WUh]cb'UbX'`cWU` dfc'YWhg']b'&\$&) "



5a cb['h\Y'bchUV`Y'U``cWUh]cbg'Zcf'Dc`_'7ci bhm'UfY'g][b]Z]WUbh]bj Ygha Ybhg']b'YXi WUh]cb'UbX']bZfUghfi Whi fY"'Dc`_'GhUhY'7c``Y[Y k]```fYWY]j Y'` %\$'a]``]cb'Zcf']hg'<U]bYg'7]hm'8Uj Ybdcfh'WUa di gž U`cb[g]XY'Ub'UXX]h]cbU``` * "%'a]``]cb'Zcf'h\Y'@U_Y`UbX'5WUXYa]W 7YbhYf": `cf]XU'Dc`mhYW\b]WI b]j Yfg]hm'U`gc'ghUbXg'hc'[U]b g][b]Z]WUbh`mž'k]h\'` %&'a]``]cb'Zcf']hg'Ghi XYbh'5W\]Yj Ya Ybh 7YbhYf'UbX'` %\$'a]``]cb'YUfa Uf_YX'Zcf'YI dUbg]cb'hc UWWca a cXUhY'i d'hc'' ž\$\$\$'ghi XYbhg"'H\Y'Zi bX]b[']gb h``]a]hYX'hc YXi WUh]cb/j Uf]ci g'W]j]WdfcYWhgž']bWi X]b['`' a]``]cb'Zcf'h\Y Dck Yf'@]bY'FcUX'YI hYbg]cb'UbX'` &'a]``]cb'Zcf'DYUWY'F]j Yf Z'ccXd`U]b'fYghcfUh]cbž'g][b]Zm'U'VfcUX'UddfcUW\'hc'fY[]cbU`Yb\UbWa Ybh"

:ibX]b['6fYU_Xckb

 $\label{lem:continuous} $$Dc`_'7cibhm'k]```U`gc'gYY'U``cWUh]cbg'Zcf'U'j Uf]Yhm'cZ'ch\Yf'_Ym]b]h]Uh]j Yg.$

- * &") 'a]``]cb'Zcf': `cf]XU'Gci h\Yfb'7c``Y[Y'Zcf'U\cfh]W' `hi fU``gW]YbWYg'`UV"
- `) \$\$ž\$\$\$ 'Zcf'd`UbYhUf]i a 'Yei]da Ybh'Uh': `cf]XU'Gci h\Yfb 7c``Y[Y"
- *\ \times \tim
- `+\$\$\$\$\$\$.\frac{TC}{Y}Y\hf]\hf\\\'id[fUXYg'Uh'h\\Y'Dc\'_'7cibhm\\\7cifh\\cigY"
- BYUf`m` %"* a]``]cb'Zcf'Dc`_'FY[]cbU`'K UhYf'7ccdYfUh]j Y g
 YUfh`UbX'<YUXk UhYfg'dfc YWh"

Cb'hY'W]hm'YjY'ž'g][b]Z]WUbh'U'`cWUh]cbg']bWiXY.

- `) 'a]``]cb'Zcf'6Ufhck g'gYkYf'`]bY'fYg]`]YbWn]a dfcj Ya Ybhg"
- ``a]``]cb'Zcf'<U]bYg'7]hmg'YaYf[YbWh'cdYfUh]cbg'WYbhYfUbX'Z]fY'ZUW]`]hm"
- `%'a]``]cb'Zcf'@U_Y`UbX g'gdYW]U`'bYYXg'g\Y`hYf'WUdUW]hm Yb\UbWYa Ybh"
- `+) \$ž\$\$\$ 'Zcf'i d[fUXYg'hc'@U_Y'5f]UbU'DUf_']b

9Xi WUh]cbU``=bgh]hi h]cbg'UbX'7ca a i b]hm Giddcfh

H\Y'Vi X[Yh'fYZYWhg'U'Wca a]ha Ybh'hc'Yb\UbW]b['YXi WUh]cbU`]bgh]hi h]cbg'UbX'Wca a i b]hm'gYfj]WYg'': i bX]b['Zcf'Dc`_ g
YXi WUh]cbU```UbXgWUdY'XcYg'bch'ghcd'k]h\'ghUhY'Wc``Y[Yg''H\Y
Vi X[Yh'U`gc'UXj UbW'g']b]h]Uh]j Yg'gi W\'Ug'` *\$\$ž\$\$\$'Zcf'`YUX
gYfj]WY'`]bY'fYd`UWYa Ybhg']b'A i `VYffm'UbX'` %'a]``]cb'Zcf'DYUWY
F]j Yf'7YbhYf g'ci hdUh]Ybh'dfc[fUa 'YI dUbg]cb'''H\]g']bj Ygha Ybh']b
ci f'`cWU``Wca a i b]hm'gi ddcfhg'Wfi W]U``gYfj]WYg'`]_Y'Ubh]!gYI
hfUZZ]W_]b['dfc[fUa gž'ZcghYf'WUfY'fYdU]fgž'UbX'YXi WUh]cbU`
gi ddcfh'Zcf'gdYW]U``bYYXg''

GhUhYk]XY 7cbhYlh

Wcbg]XYfUV`Y`]bj Ygha YbhgʻZcfʻDc`_'7ci bhmžʻk]h\`h\Y`dchYbh]U``hcgYh`h\Y`ghU[Y`Zcf`VYhhYf`YXi WUh]cbU``fYgci fWygž']a dfcj YX]bZfUghfi Whi fYžʻUbX`j]hU``Wca a i b]hmʻgYfj]WYg"`K\]`Y`h\YfY`UfY WYfhU]b`m`W\U``Yb[Ygž'h\YfY gʻgca Yh\]b[`hc`VY`gU]X`Zcf`\ck`h\YgY]bj Ygha YbhgʻWUb`\Y`d``Um`U`Zci bXUh]cb`Zcf`U`Vf][\hYf`Zi hi fY`]b ci f`fY[]cb"`5g`k Y`a cj Y`Zcfk UfXž`W]h]nYbg`k]```i bXci VhYX`m'_YYd U`WcgY`YmY`cb`\ck 'YZZYWh]j Y`m`h\YgY`Zi bXg`UfY`i h]`]nYX`]b`h\Y mYUfg`U\YUX"`@5``HcXUm`fYa]bXg`i g`h\Uh`k\]`Y`gca Y`dfc`YWhg ZUWYX`W' hgž'h\Y`cj YfU```Wca a]ha Ybh`hc`dfc[fYgg`fYa U]bg`ghfcb["

8YhU]`g	
Cfh	Dc`_'7cibhmž': `cf]XU
EiY``Yb	• k k k "h\ Y`Y X [Y f "Wca
	Z`cf]XUdc`]h]Wg"Wca
	• `U`hcXUm"*Ua W]hm"Wca

6Ygi WXYb G]Y i bg Ui Z a Y]b!k]Yb bYh