6Y`cj YX`@cWU``:][i fY`A]W\UY``BYk gca Y DUggYg`5k Um`Uh`* *

9ld`cfY`h\Y``]ZY`cZ`A]W\UY``8Uj]X`BYkgcaYž'U`AUbUhYY 7cibhm`fYg]XYbhž'Zfca`\]g`gW\cc``XUmg`hc`\]g`fYW\bh`dUgg]b[cb`;\`m`+ž'&\$&)"



6fUXYbhcbž: @žI G5 !!A]W\UY`8Uj]X'BYk gca YžVcfb cb A Um &' ž'%-) - ž'\Ug`YZh'U'g][b]Z]WUbh'a Uf_cb'h\Y'`]j Yg`\Y'hci W\YX VYZcfY'\]g'dUgg]b[cb'*; `m'+ž'&\$&) ž'Uh'A UbUhYY'A Ya cf]U` <cgd]hU`"'FYa Ya VYfYX'Zcf'\]g'ghfcb['dYfgcbU`]hm'UbX'U'ZcbXbYgg Zcf'\i bh]b['UbX'Z]g\]b[**\Y'k Ug'h\Y'gcb'cZ'h\Y'`UhY'K]``]Y'6" BYk gca Y**Gf"'UbX'FcgYhhU'BYk gca Y"A]W\UY`'UhhYbXYX'di V`]W gW\cc`g']b'A UbUhYY'7ci bhmž'W'`a]bUh]b['\]g'YXi WUh]cb'k]h\'U [fUXi Uh]cb'Zfca 'Gci h\YUgh'<][\'GW\cc`j']b'%-++"

 $\label{lem:continuous} Cj\ Yf'h\ Y'mYUfgž'A\]W\&UY``XYX]WUhYX'\]g'k\ cf_]b[\ ``]ZY'hc'h\ Y'I\ G5\\ UbX'5ffck\ ':\ YbW'`7ca\ dUb]Ygž'k\ \YfY'\Y'gYfj\ YX'Ug'U'ZYbWY\\ YfYWhcf'UbX']bghU``Yf''<]g'ZU]h\ 'k\ Ug'U'WcfbYfghcbY'cZ'\]g'`]ZY/'\Y k\ Ug'VUdh]nYX'Uh'Gh''GhYj\Ybg'5"A\ "9"`7\i\ fW\'i\ bXYf'h\\Y'`YUXYfg\]d$

cZFYj YfYbX'A "A "A Ufh]b UbX'`UhYf''c]bYX'h\Y'Fc[Yfg'7ca a i b]hm I b]hYX'A Yh\cX]gh'7\i fW\"'<]g'XYX]WUh]cb'hc'\]g'ZUa]`m'UbX Wca a i b]hm']g'Yj]XYbh']b'h\Y'`cj Y'UbX'gi ddcfh'\Y'`YUj Yg'VY\]bXž]bWi X]b['cbY'XUi [\hYfž'GYfYb]hm'6Ufhcb'F]j Yfg'fBYk gca YŁž'UbX bi a Yfci g'ZUa]`m'a Ya VYfg'UbX'Zf]YbXg"

5 @]ZY FYa Ya VYfYX

A]WX UY` gʻZUa]`mʻ]bWi XYgʻg]l 'Vfch\Yfg = UbʻBYk gca YžʻGf"
fl7mbh\]UŁžʻ6YfbUfXʻBYk gca Yžʻ@YcbUfXʻBYk gca YʻfHfUWhŁžʻHcbm
BYk gca Yžʻxc\bbmK Uh_]bgžʻUbXʻ<YbfmʻGUj U[YʻfHUa Y_UŁ UbX
Zci fʻg]ghYfg = JWei Y`]bYʻB "'< ci ghcbʻfi?]f_k UfXʻGf"Łžʻ5b[]Y
BYk gca YžʻH]bmʻA i ffUmžʻUbXʻXfc`]bYʻK]`gcb"'< YʻU`gcʻk Ug
dfYWYXYXʻ]bʻXYUh\ʻVmʻg]l 'Vfch\Yfgžʻhk cʻg]ghYfgžʻb]bYʻi bWYgžʻUbX
gYj YbʻUi bhgžʻXYhU]`gʻh\UhʻdU]bhʻUʻd]Whi fYʻcZʻUʻa UbʻXYYd`mʻfcchYX
]bʻZUa]`mʻUbX`Wca a i b]hm"

CV]hi Uf]Ygž`]_Y`h\UhcZA]W\UY`BYk gca Yž'd`Um'U`Wfi W]U``fc`Y`]b dfYgYfj]b[`\]ghcf]WU``fYWcfXgž'cZZYf]b[`]bg][\hg`]bhc`]bX]j]Xi U`g `]j Yg`UbX`WcbbYWh]cbg"'H\Y`A UbUhYY'; YbYU`c[]WU``GcW]Yhm i bXYfgWcfYg`h\Y`]a dcfhUbWY'cZ'gi W\`XcW'a Ybhgž'fYj YU`]b[]bZcfa Uh]cb`UVci h`k\YfY'dYcd`Y`]j YXž'k\Yb`h\Ym'dUggYXž Zi bYfU``XYhU]`gž'UbX`ZUa]`m`h]Yg"'H\YgY`fYWcfXg`UfY`]bj U`i UV`Y`Zcf XYgWYbXUbhg`UbX`\]ghcf]Ubg`U`]_Yž'UbX`h\Ym'WUb`\Y`d`i bWcj Yf`h\Yf]W\`hUdYghfm`cZ']bX]j]Xi U`g ``]j Yg`]b`h\Y`fY[]cb"

$H\Y = a dcfhUbWY cZ@cWU 5fWX]j Yg$

A UbUhYY '7 ci bhmž'k \YfY 'A]WX UY` g ``Y[UWm`]j Yg 'c b ž V c Ughg 'U j Uf]Yhm'c Z'fYgci fWYg 'Zcf' [YbYU`c []WU` 'fYgYUfWX ž]bWi X]b['h\ Y A UbUhYY '7 ci bhm'7 `Yf_ 'c Z'h\ Y '7]fW]h'7 ci fh'/ '7 ca dhfc ``Yf <]ghcf]WU` 'F YWcfXg '@]VfUfm" 'H\]g ']bgh]hi h]c b `\ Ug 'a Uff]U[Yž X]j cfW ž UbX 'XYUh\ 'fYWcfXg 'XUh]b['VUW_ 'hc '%,) +ž a U_]b[']h'YUg]Yf 'Zcf fYg]XYbhg 'hc 'hfUWY 'h\ Y]f 'fcchg" 'H\ Y 'Wci bhm']g 'bUa YX 'UZhYf'h\ Y : `cf]XU'a UbUhYYž'h\ Y 'c ZZ]W]U` 'a Uf]bY 'a Ua a U` 'c Z'h\ Y 'ghUhYž'UbX']g _bck b 'Zcf']hg 'f]WX '\]ghcfm'h\ Uh'XUhYg 'VUW_ 'WYbhi f]Yg"

5\\chicitation fX]b[\circ\text{"hc": Ua}\text{"mGYUfW\text{z'j Uf]cig"fY\chic\text{fXg}}\]b\(Wi X]b[\circ\text{j}]\text{hU}\text{"}

fYWcfXgž'a]`]hUfm'fYWcfXgž'UbX'dfcVUhY'fYWcfXg UfY'Uj U]`UV`Y'Zcf h\cgY']bhYfYghYX']b'YI d`cf]b['h\Y]f'UbWYghfm"'=b'UXX]h]cbž'`cWU``]VfUf]Yg']b'A UbUhYY'UbX'GUfUgchU'Wci bh]Yg'dfcj]XY'Ugg]ghUbWY']b'cWUh]b['cV]hi Uf]Ygž'fYj YU`]b['a cfY'UVci h'h\Y'Wca a i b]hmgghcf]YX'dUgh"

 $H\Y']a\ dcfhUb\W'cZ'fYa\ Ya\ VYf]b[\ ']bX]j\]Xi\ U\g'']_Y'A\]WX\ UY`BYk\ gca\ Y'WUbbch'VY'cj\ YfghUhYX'''<]g'ghcfmž']bhYfhk\]bYX'k\]h\'h\Y \ \ghcf]WU`bUffUh]j\ Y'cZ'A\ UbUhYY'7ci\ bhmž']``i\ ghfUhYg'h\Y'ZUVf]WcZ'U Wca\ a\ i\ b]hm'h\Uh'j\ U`i\ Yg']hg'\Yf]hU[\Y'''9UWX'cV]hi\ Ufm'gYfj\ Yg'bch 'f\ gh'Ug'U'ZUfYk\ Y```Vi\ h'Ug'U'`]b_'hc'h\Y'dUghž'cZZYf]b['Zi\ hi\ fY [YbYfUh]cbg'U'WX\UbWY'hc'_bck\ h\Y]f'fcchg\ U'hYghUa\ Ybh'hc'h\Y\YbXi\ f]b[\ '`Y[\UWm'cZ'ZUa\]`m'UbX'Zf]YbXg\]d"$

5g·Zf]YbXg·UbX·ZUa]`m·[Uh\Yf·hc·\cbcf·A]W\UY`g``]ZYž``Yh·i g·fYZYWh cb·h\Y·ghcf]Yg·g\UfYXž·h\Y·`Yggcbg``YUfbYXž·UbX·h\Y·dfYW]ci g a Ya cf]Yg·h\Uh·\c`X·i g·hc[Yh\Yf" +bXYYXž·h\YfY g·gca Yh\]b[·hc·VY gU]X·Zcf·h\Y·VcbXg·k Y·Zcf[Y·UbX·h\Y·\]ghcfm·k Y·dUgg·Xck b/i]h g k \Uh·a U_Yg·d`UW/g`]_Y·A UbUhYY·7ci bhm·ZYY```]_Y·\ca Y"

cfih\cgY``cc_]b[`hc`XY`j Y`XYYdYf`]bhc`[YbYU`c[]\W``fY\cfXgžfygci f\Wg`fYa U]b`U\W\gg]V`Y`h\fci [\``c\W```]\f\f\migmghYa g`UbXh\Y`Uf\W\]j Yg`a U]bhU]bYX`\mih\Y`A UbUhYY`; YbYU`c[]\W\``Gc\W]Yhm'' 9\U\\ 'ghcfm`k cj Yb`]bhc`\]ghcf]\\U``fY\\cfXg`\cbhf]\Vi hYg`hc`U`[fY\UhYfibXYfghUbX]b[`cZ`k\c`kY`UfY`UbX`k\YfY`kY`\\cay Y`Zfca ž`a U_]b[Yj Yfm`cV]hi Ufm`U`Vi]`X]b[`V`c\W_`]b`h\Y`cb[c]b[`bUffUh]j Y`cZ`ci f`]j Yg''

8 Y hU]`g	
Cfh	6fUXYbhcbž: @žil G5
EiY``Yb	• h\YVfUXYbhcbh]a Yg"Wca
	• a [gZ`"cf[
	• k k k "ZUa]`mgYUfW\"cf[