

EDST5107

 $HYUWX]b[\ ^{\cdot}A\ Yf\lambda cXg^{\cdot}Zcf^{\cdot}<][\ ^{\cdot}DWXYbWY^{\cdot}8]gUV]^{\cdot}]fYg$

GYa YghYf'C bY''##'&\$%

7ci fgY 8YHJ] g

7 fYX]hDc]bhg * *

Gi a a UfmcZh\Y 7ci fgY

5 hh Y WcbWi g]cb cZh]g Wci fgY h Y gh XYbhk]``VY UV Y hc

- %" 8Ya cbghfUhY`Wf]h]WU``UddfYW]Uh]cb`UbX`dUfh]W]dUhY`]b`X]gWigg]cb`cZgYa]bU``]ggi Yg`]b`YXi WUh]cb`Zcf ghi XYbhg`k]h\`gdYW]U``bYYXg
- &" 8Yj Y`cd`i bXYfgHJbX]b['cZ`Uk gž'dc`]M]Ygž'UbX`Yh\]WJ``df]bW]d`Yg`fY[UfX]b['YXi WJh]cb`cZghi XYbhg k]h\ 'gdYW]U``bYYXg
- ' "8Ya cbghfUhY`Ub`i bXYfghUbX]b[`cZfYgYUfW\!VUgYX`ghfUhY[]Yg`Zcf`]bX]j]Xi U``W ff]W`i a !VUgYX UggYgga Ybhžd`Ubb]b[žUbX`]bghfi Whcb
- ("7cbXi WhilbXYdYbXYbhfYgYUfW\indows)bhc U W ffYbhhcd Wagai Y fY Yj Ubhhc "YUfbYfg k hin "YUfb]b[

 $\\ \text{H} \\ \text{YgY} \\ \text{UW} \\ \text{j} \text{ [h]} \\ \text{Yg} \\ \text{k} \text{ []} \\ \text{```cWW} \\ \text{f']} \\ \text{b} \\ \text{U} \\ \text{W} \\ \text{]} \\ \text{a} \text{ UhY} \\ \text{'h} \\ \text{Uh'} \\ \text{[h]} \\ \text{g'gi ddcfh]} \\ \text{y} \\ \text{UbX'} \\ \text{[bWi g]} \\ \text{j} \\ \text{Y'cZU} \\ \text{```YUfbYfg''} \\ \text{where } \\ \text{k} \\ \text{k$

5i ghfu`]Ub DfcZYgg]cbU`; fUXi UhY HYUWX]b[GhUbXUfXg

f]df j&bb Xj 9fXgh] &	d in the Carlot of the Carlo
%") "(@YUX:Wc``YU[i Yg'hc`Yj U`i UhY'h\Y'YZZYWhj YbYgg'cZ`YUfb]b['UbX'hYUW\]b['dfc[fUa g X]ZZYfd'bfjfUerkeznfiniyagderdjZjnvorunfdj5p33380ee98820000000000000g and Good Coord Good Coo
ر ا ا	fforostiotodf
u i	fferentiated f

5ggYgga Ybh

5ggYgga Ybh'HUg_g

5ggYgga Ybh'hUg_	K Y][\h	Ghi XYbh'@YUfb]b[Ci hWca Yg 5ggYggYX	5 + HG@*DfcZYgg]cbU``; fUXi UHY HYUWX]b['GHJbXUfXg'5ggYggYX	8iY 8UhY

DUfh'% '#gffi Whobu' '#ggi Yg. '7 \ccgY'hk c'f&ŁcZh\Y'X]gUV]']h]Yg'X]gW ggYX'Xi f]b['h\Y'Wci fgY'f58 < 8 ž Ya ch]cbU'`X]ghi fVUbW'ž']bhY'`YWfi U'`X]gUV]']hmž'gdYW]Z]W'YUfb]b['X]gUV]']h]YgŁ": cf'Vch\'cZh\Y'X]gUV]']hm WhY[cf]Yg'mci '\Uj Y'WcgYb. XYgWf]VY'cf']XYbh]ZmcbY']a dcfhUbh]bghfi Wh]cbU'`]ggi Y'h\Uha UmVY'bYWfggUfm hc'UXXfYgg']b'cfXYf'Zcf'mci 'hc'gi WWggZ ``mhYUW\'Ughi XYbhk]h\'h\UhX]gUV]']hm]b'h\Y'[YbYfU''YXi WUh]cb gYhh]b["'H\Y']a dcfhUbh]bghfi Wh]cbU'`]ggi Yg'g\ci 'X'bchVY']XYbh]WU'`Zcf'h\Y'hk c'X]gUV]']h]Yg'h\Uhmci '\Uj Y W\cgYb"

DUfh&: +bglfi Whcbu` +ggi Yg'8]gW gg]cb.: cf'YUW.']bglfi Whcbu``]a d`]WUh]cb'mci 'X]gW gg']b'DUfh'%'UVcj Yž `]ghcf'X]gW gg'DchYbhJU`F Ygci fWgftl`UWrgžYl dYf]YbWrgžWci fgYk cf_ždYfgcbgžYhW'Łh\Uha][\hivY i h]`gyX'hc'cVhU]b'h\Y']bZcfa Uh]cb'cf'gi ddcfhibYYXYX'hc'XYU``k]h\'h\cgY']bglfi Wh]cbU``]ggi Ygž'UbX'DchYbhJU` GhfUhY[]Yg'f]bglfi Wh]cbz'a cX]Z]WUh]cbgž'UXUdhUh]cbgž'YhW'Łh\Uhmci 'a][\hiva d`cmhc'UXXfYgg'h\Y'W\U``Yb[Yg dfYqYbhYX'Vmh\Uhi]bglfi Wh]cbU``]ggi Y"

DUfh' . '5ggYgga Ybh '8]gW gg 'gca Y 'UWWca a cXUh]cbg 'UbX 'a cX]Z]WUh]cbg 'h\ UhiWUb 'VY 'a UXY 'k \Yb UggYgg]b['h\ Y ``YUfb]b['cZgh XYbhg 'k]h\ 'h\ YgY 'dUfh]W `Uf 'X]gUV]`]h]Yg"

 $\label{thm:continuous} $$HY'YggUmg\ci`X'VY'k f]hh'b']b'5D5'*h'YX]h]cb'ghmYž'VY'UddfcI]a UhY`m'&z$$$k cfXg']b''Yb[h'\z'UbX'WcbHJ]b'Uh'YUgh'\%'W ffYbh'fk]h\Jb'h\Y''Ugh'\%'m'YUfgž'VYhk YYb'\&$$-'UbX'\&$\ E'dYYf!fYj]Yk YX''ci fbU'Ufh\WYg''$

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

 $Gh\ XYbhg\ UfY\ YI\ dYWMYX\ hc\ di\ hih\ Y]f\ bUa\ Yg\ UbX\ gh\ XYbhbi\ a\ VYfg\ cb\ Yj\ YfmdU[\ Y\ cZh\ Y]f\ Ugg][\ ba\ Ybhg\ bug\ Ybhg\ bug\ Yhhg\ Yhhg\ bug\ Yhhg\ Yhhg\ bug\ Yhhg\ bug\ Yhhg\ bug\ Yhhg\ bug\ Yhhg\ bug\ Yhhg\ Yhhg\ bug\ Yhhg\ Yhhg\ Yhhg\ bug\ Yhhg\ Yhhg\$

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

Zmci 'YbWci bhYf'U'dfcV'Ya 'k \Yb'UhhYa dh]b['hc'gi Va]hmci f'Ugg][ba Ybhh\fci [\'Hi fb]h]bžd'YUgY hY'Yd\cbY'9| hYfbU''Gi ddcfhcb'-',)'''' %cf'Ya U]''h\Ya 'cb'<u>Yl hYfbU'hY`hgi ddcfh4 i bgk "YXi "Ui</u>"'Gi ddcfh ł `G][b]Z]\WbhmUZZY\Wimci f`dYfZcfa Ub\Wr`]b`UggYggUV`Y`k cf_ž`VY`]h'U`Zcfa U``YbX!cZgYa YghYf`Yl Ua]bUh]cbž`U`\WUgg`hYghž`U``UVcfUhcfmihYghž`U`gYa]bUf`dfYgYbhUh]cb`cf`Ubmch\Yf`Zcfa 'cZUggYgga Ybh'

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

D`U[]Uf]ga `]g`i g]b['h\Y`k cfXg`cf`]XYUg`cZch\Yfg`UbX`dfYgYbh]b['h\Ya `Ug`mci f`ck b"'=hWJb'hU_Y`a Ubm Zcfa gžZfca `XY`]VYfUhY`W\YUh]b['hc`UWW]XYbhU`mWcdm]b['Zfca `U`gci fWY'k]h\ci hUW_bck `YX[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`hYl h'cf']XYU'k]h\ci h'UW_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'dfcYWhgž'Ug'k Y``'Ug dfYgYbhUh]cbg'k \YfY'gca YcbY'dfYgYbhg'Ubch\Yf'g']XYUg'cf'k cfXg'k]h\ci h'WfYX]h'

#JUddfcdf]UhY`dUfUd\fUg]b[.'W\Ub[]b['U'ZYk'k cfXg'UbX'd\fUgYg'k\]'Y`a cghmfYhU]b]b['h\Y`cf][]bU`ghi Whi fY`UbX']bZcfa Uh]cb`k]h\ci h'UW_bck `YX[Ya Ybh''H\]g'U`gc'Udd`]Yg']b'dfYgYbhUh]cbg'k\YfY`gca YcbYdUfUd\fUgYg'Ubch\Yf'g']XYUg'cf'k cfXg'k]h\ci h'WfYX]h''#iU`gc'Udd`]Yg'hc'd]YW]b['hc[Yh\Yf'ei chYg'UbXdUfUd\fUgYg']bhc'U'bYk'k\c`Yž'k]h\ci h'fYZYfYbW]b['UbX'U'ghi XYbhg'ck b'UbU`mg]g'hc'Vf]b['h\Y'a UhYf]U`hc[Yh\Yf'

7 c``i g]cb. 'k cf_]b['k]h\ 'ch\Yfg'Vi h'dUgg]b['cZZh\Y'k cf_'Ug'U'dYfgcb'g']bX]j]Xi U``k cf_"'7 c``i g]cb'U`gc]bWi XYg'dfcj]X]b['mci f'k cf_'hc'Ubch\Yf'ghi XYbhVYZcfY'h\Y'Xi Y'XUhYžcf'Zcf'h\Y'di fdcgY'cZh\Ya d`U[]Uf]g]b['Uh'Ubmh]a Yž'dUm]b['Ubch\Yf'dYfgcb'hc'dYfZcfa 'Ub'UWUXYa]WhUg_ž'ghYU`]b['cf'UWei]f]b[Ubch\Yf'dYfgcb'g'UWUXYa]Wk cf_'UbX'Wcdm]b[']hz'cZYf]b['hc'Wca d`YhY'Ubch\Yf'dYfgcb'g'k cf_'cf'gYY_]b[dUma YbhZcf'Wca d`Yh]b['UWUXYa]Wk cf_"

±bUddfcdf]UhY`W]hUh]cb.`7]h]b[ˈgci fW/gˈk \]WX`\Uj Y`bchVYYb`fYUXžk]h\ci hUW_bck`YX[]b[ˈh\Y`″gYWcbXUfm″gci fW/Zfca k \]WX`_bck`YX[Y`cZh\Ya`\Ug'VYYb`cVhU]bYX"

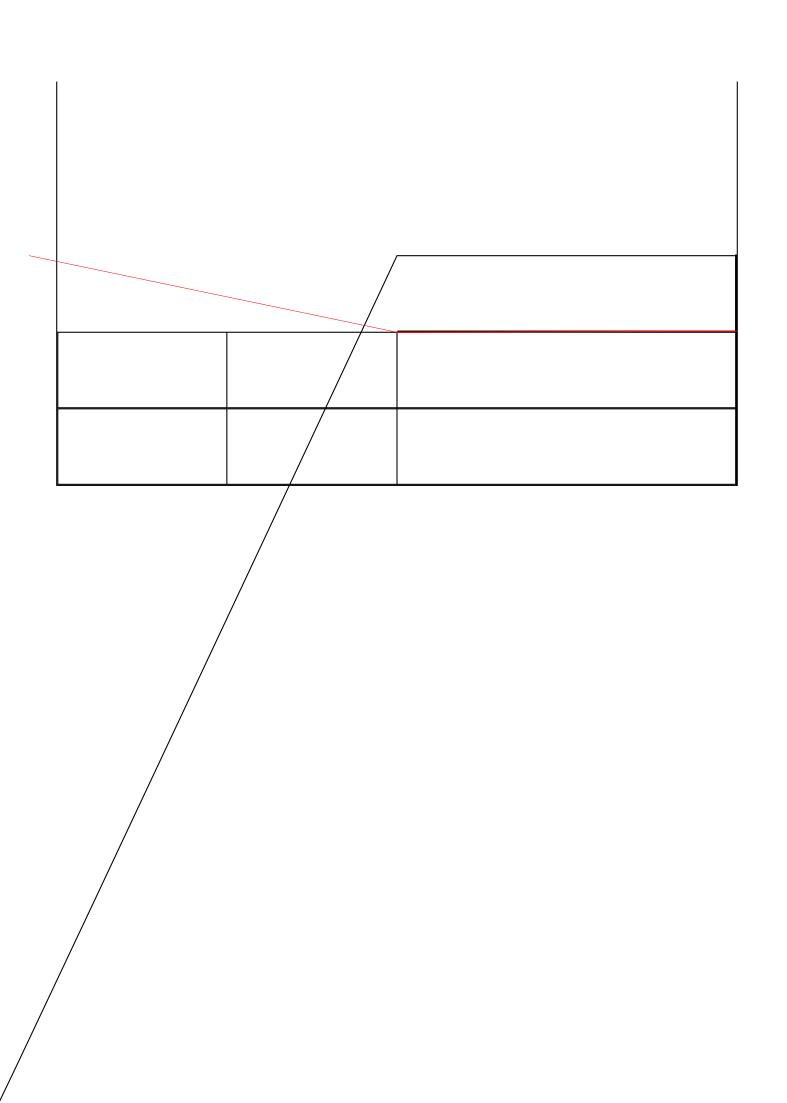
8 i d`]\WUh]cb`ff`gY`Zld`U[]\Uf]ga "Ł`gi Va]\h]b[`mci f`ck b`k cf_ž]b`k \c`Y`cf`]b`dUfhžk \YfY`]h`\Ug`dfYj]ci g`m VYYb`dfYdUfYX`cf`gi Va]\hYX`Zcf`Ubch\Yf`UqqYqqa Ybhcf\Wci fgY`UhI_BGK_`cf`Ubch\Yf`i b]\Yfq]\m"

7 cffYWhfYZYfYbWb[dfUWhWyg.

• Dufud\fug]b[žgi a a Uf]g]b[žYggUmk f]h]b["UbX"h]a Y a UbU[Ya Ybh

•

- VYMYfa UbU[Ymcifh]a Y
- i bXYfgHJbX'mci f'f][\hg'UbX'fYgdcbg]V]`]h]Yg'Ug'U'ghi XYbh'Uhi BGK
 VY'Uk UfY'cZd`U[]Uf]ga ž'Wcdmf][\hž'I BGK 'Ghi XYbh'7cXY'cZ7cbXi Wh'UbX'5WWYdhJV`Y'I gY'cZ I BGK '= H'F Ygci fWfg'Dc`]Wh



F Ygci fWYg

DfYgWf]VYX F Ygci fWYg