

MUSC1603

A UhYf]U`g`UbX`Ghfi Whi fYg`cZA i g]W&

HYfa "Hk c "# "&\$&\$

7ci fgY[·]Cj Yfj]Yk

GHJZZ:7cbHJWh:8YHJ]`g

7cbj Ybcfg

BUa Y	9a U]`	5j U]`UV]`]m	@cWUhjcb	D∖cbY
>c\b`DYhYfgcb	^dYhYfgcb4 i bgk "YXi "Ui	5 bmija Yij]U'Ya U]`	CZ[WY:%\$)ž @YjY:*%ž FcVYfh KYVgHYf:6:X[-',)'(,+\$
@YWhi fYfg				_
				<u> </u>
		•	1	

7ci fgY 8YW] g

7 fYX]hDc]bhg**

Giaa UfmcZh&YhDjògifgY

Gi VYWh5fYU. ? ge[U

 $\label{thm:continuous} $$H\g^WcfY'WcifgY'YI hYbXg'mcifZcibXUh]cbU`'_bck`YX[Y'cZh\Y'aUhYf]U'gžghfiWhfYg'UbX'dfcWl'ggYg'cZhcbU'aig]WUbX'cZh\Y'Udd`]WUh]cb'cZ\Ufacb]WUbX'aY`cX]WdfUWhWg']b'dcgh\% $$'Wcadcg]h]cb'UbX'ch\Yfghm`Yg']bWl X]b['dcdi`Uf'aig]WUbX'\Unn'''Mci'k]``XYjY`cd'hYW\b]WU`'_bck`YX[Y'UbX'g_]``']b'h\Y'UbU`mg]gUbX'Udd`]WUh]cb'cZaY`cX]WUbX'\Ufacb]WY`UVcfUh]cbžjc]WY!YUX]b['ž'UbX'aig]WU''Zcfa'''9IYfW]gYg']b$

5ggYgga Ybh

D@95G9BCH9. Ghi XYbhgʻa i ghʻUWX]Yj YʻUʻfDUggfia Uf_ʻZcfʻh\Yʻ<Ufa cbmf@YWhi fYŁWca dcbYbhhcʻVYUk UfXYX`UʻfDUggfia Uf_ʻZcfʻh\Yʻcj YfU``A I G7'%*\$' '7 ci fgY"

Gh XYbhgʻUfYʻUXj]gYXʻhcʻWXYW_A ccX`YʻfY[i`Uf`miZcfʻUbm\WXUb[Ygʻcfʻi dXUhYgʻhcʻXYhU]`g fY[UfX]b[ˈUggYgga Ybh`]hYa gʻUbXʻWci fgY`Wca dcbYbhg"

5```UggYgga Ybh']hYa gʻa i ghVYʻgi Va]hhYX`j]UʻA ccX`Y"

5ggYgga Ybh'HUg_g'

5ggYgga Ybh'tUg_	K Y][\h	8iY'8UHY	Gh XYbh@YUfb]b[Ci hWca Ygʻ5ggYggYX
DcfhZc`]c'cZ <ufacbmubx 7 cadcg]h]cb'9l YfW]gYg'</ufacbmubx 	*\$1	Bch5dd`]WUV`Y	%ž&Ž ž(ž)
DcfhZc`]c`cZ5i fU``Hi hcf]U``UbX F\mh\a 'Gh X]c'9l YfW]gYg`	&) ı	Bch5dd`]WUV`Y	%ž&Ž Ž(
5i fu`]u'HYgh'UbX'Dfc[fYgg'	%) ।	Bch5dd`]WUV`Y	%ž&ž ž)

5ggYgga Ybh'8YhJ]`g

5ggYgga Ybh% DcfhZc`]c cZ<Ufa cbmUbX 7ca dcg]h]cb 9l YfW]gYg

GhUfhXUhY. Bch5dd`]WUV`Y

8YW]`q.

Hkc < UfacbmUbXAig]WH\YcfmhYghg UbXcbY 7cadcg]h]cb Yl YfW]gY"

HYghfYgi `hg`dfcj]XYX`k]h\]b`cbY`k YY_`cZWca d`Yh]cb`cZhYghg"`K f]hhYb`ZYYXVUW_`cb`Wca dcg]h]cb`dfcj]XYX j]U`A ccX`Y`Vm`YWhi fYf"

5XX]h]cbU`XYhU]`q.

 $< Ufa\ cbmff@YWi fYL `DcfhZc`]c`cZ < Ufa\ cbmHYghg`UbX`U`7 ca\ dcg]h]cb`Yl YfW]gY. `*\$i ``cZ'hchU``a Uf_`Zcf`h\YWci fgY"$

Ghi XYbhgik]``VY`UggYggYXicbih\Y`Wca d`Yh]cbicZgdYW]Z]W\Ufa cb]W_bck`YX[Yij]U'hYghg'UbX'U Wca dcg]h]cbU``YIYfW]gYigYhVmh\Y`YWhifYf''H\YgY`UfY`XYg][bYXibciXYjY`cdih\Yighi XYbhgih\YcfYh]WU`_bck`YX[Y`UbXiaig]W]Ubg\]dik\]Yidfcj]X]b[i'Ubicddcfhib]hmiZcfighi XYbhgihciXYacbghfUhYih\Y]fi]b]h]Uh]jYUbX`WfYUhjj]hm'

 $HYYY'UfY'hYY'UggYgga Ybh']hYa g'UggcW]UhYX'k]h\'h\Y'< Ufa cbm'@YWh' fY'DcfhZc`]c.$

&"`<**Ufa cbmHYgh'&`f%)**ı Łžcb'a UhYf]U`g'X]gW ggYX`]b``YW**i** fYg') '!', ž\Y`X'Xi f]b[``YW**i** fY'h]a Y'cb'Hi YgXUm &, '>i `mfK YY '- Ł/

D`YUgY'BchY. 'Ghi XYbhg'a i ghUW\]Yj Y'U'fDUggfia Uf_'Zcf'h\Y'<Ufa cbm@YWhi fY'DcfhZc`]c'hc'VY Uk UfXYX'U'fDUggfia Uf_'Zcf'h\Y'cj YfU``A I G7'%*\$' '7 ci fqY"

 $Hi fb]hbgYhb[...H\]g]gbchUHi fb]hbUgg][ba Ybh$

5qqYqqa Ybh'& 'DcfhZc`]c'cZ'5i fU`'Hi hcf]U`'UbX'F\mh\a 'Gh X]c'9l YfWqYq

GhUfhXUhY. Bch5dd`]WUV`Y

8YHJ]`g.

Hkc'Wca dcbYbhg.

UŁ:5i fU`'Hi hcf]U`'-cbY'lfUbgWf]dl/cb'fcf'g]a]'UfŁ'UbU'mf]WU''YI YfW]gYž'cbY'g][\hg]b['lbg'hygh

VŁF\mh\a K cf_g\cd - k c hyghg

K f]hhyb ZYYXVUW_dfcj]XYX Vmh hcfg"

5XX]h]cbU`XYhU]`g.

5i fU Hi hcf]U UbX F \mh\a K cf_g\cd fGh X]cŁ &) i

H\Y'5i fU``k cf_g\cd`\Y`dg'[Ui [Y`\ck `k Y```h\Y'gh XYbh\Ug'XYj Y`cdYX'h\Y]f'Ui fU``dYfWYdh]cb`UbX Wa a UbX`cZh\Y'Zci bXUh]cbU``a i q]\W\`_bck `YX[Y'h\fci [\ 'h\Y'Wci fqY"

Gh XYbhgik]``VYi[]j YbiZYYXVUW_icbih\Yidfc[fYggicZh\Y]fiUi fU`XYj Y`cda Ybhh\fci [\ik f]hhYbifYdcfhgicb.

&£'U'G][\h'G]b[]b[]'HYghž'hc'VY'Wca d`YhYX'UbX'gi Va]hhYX'Xi f]b['5i fU'`Hi hcf]U'`h]a Ygžcb': f]XUm' %>i `m fK YY_'-Ł')ı

'E'rk c'HYgrg'rc'VY'gYh'Zcf'Wca d'Yr]cb'Xi f]b['F\mt\a'GhiX]c'r]a Yg/cbY'cb': f]XUm'\$' '>i `mfK YY_') Łž'UbX cbY'cb': f]XUm'\$+'5i [i ghfK YY_'%\$Ł''%\$i

Hi fb]hjb gYhjb[. H\]g]g bchU Hi fb]hjb Ugg][ba Ybh

5qqYqqa Ybh' . 5i fU`]U'HYqh'UbX'Dfc[fYqq

GhUfhXUhY. Bch5dd`lWUV`Y

8YHJ]`q.

GY`ZX]fYWYX`qhiXmij]U`cb!`]bY`qcZhkUfYžk]h\`cbY`Z|bU``cb!`]bY`hYqh'

: YYXVUW_dfcj]XYX VmfYgi `hZcf`Yl Ua "

5XX]h]cbU`XYhJ]`g.

5i fU`]U'5ggYgga Ybh'%)ı

5 i fu`]u'Dfc[fYgg.'i gY'cZh\Y'5 i fu']u'Yuf!ffu]b]b['gcZk ufY']g'Ub'YggYbf]u'`Wa dcbYbhcZh\Y'Wa fgY uggYgga Ybfz'UbX'U``ck g'gh XYbfg'fc XYj Y`cd'h\Y'g_]``g'h\Uhk]```YbUV'Y'h\Ya 'hc'UWW fUfY`m]XYbfjZm a Y`cX]Wz\Ufa cb]WUbX'f\mh\a]Wglfi Wh fYg'Ug'dfYgWf]VYX'Vmh\Y'5 i fu`]U'gcZk UfY''Gh XYbfg'WUb'XYj Y`cd h\Y]f'g_]``g'Uhh\Y]f'ck b'dUW'z'UbX'dfc[fYgg'Zcfk UfX'h\fci [\'a cfY'X]ZZ]W`h'Yj Y`g'k]h\]b'f\Y'gcZk UfY''Ug h\Y]f'UV]`]fjYg']a dfcj Y''

Dfc[fYggžUbX'fUhY'cZWca d`Yh]cb'cZYl YfW]gYg'UbX'`Yj Y`gž'k]h\'h\Y'5i fU`]U'dfc[fUa 'k]``VY'a cb]hcfYX'Vm h\Y'5i fU`'hi hcfž8Uj]X'HUmcfžXi f]b['hYfa "'A cb]hcf]b['cWW fg'UhfUbXca 'h]a Ygž'gc'ghi XYbhg'UfY YbWci fU[YX'hc'a U]bhU]b'U'Wcbg]ghYbhfUhY'cZdfc[fYgg'fWU"'%)!&\$'a]bi hYg'dYf'XUmž'cf'Uddfcl]a UhY`m'&\ci fq'dYf'k YY_Ł"

- •'5i fU]`U'Dfc[fYgg')ı .:H\Y'fY[i`Uf`Wca d`Yh]cb'cZ5i fU`]U'YI YfW]gYgž'UbX'U'gh XYbhfg'fUhY'cZdfc[fYgg h\fci [\'h\YgY'YI YfW]qYg'Xi f]b['h\Yfa ž']g'k cfh\')ı 'cZh\Y'hchU`a Uf_'Zcf'h\Y'Wci fqY"
- TH. Y'5 i fu'] U'HYgh'% i . Th. Y'5 i fu'] U'HYgh'a Um'VY'Wa d'YhYX'Uh'Ubmiha Y'k]h.]b Th. Y'h]a Y! ZTUa Y'gYh'Vm'h. Y 5 i fu' Hi hafz'8 Uj]X'HUmaffh. Y'hYgh'k]``'VY'adYb Zaf'gYj Yfu' 'XUmg'ha 'U'ak 'ghi XYbhg'ha Wa a d'YhY']hz'Vi h ghi XYbhg'a Um'Uh'Ya dhih. Y'hYgh'ab 'mabW' Xi f]b ['Th. Uhih]a Y'dYf]cX"'HYgh'k]``'VY'gW. YXi 'YX'Zaf'Wa a d'Yh]ab Xi f]b ['K YY_'- aZHYfa"

51 F 5@=5 'Gc Zrk UfY.

5```ghi XYbhg`g\ci`X`\Uj Y`UWW`gg`hc`h\Y`5I F 5@=5`YUf!hfU]b]b['gcZhk UfY`VUgYX`]b`h\Y]f'Ybfc`a Ybh`]b`h\]g Wti fgY`]b`&\$&\$"`D`YUgY`Zc``ck 'h\Y`]bghfi Whjcbg`]b`A ccX`Y`UbX`UWW`gg`5i fU`]U'j]U'h\Y``]b_'dfcj]XYX`fXc`bch Xck b`cUX`UbmgcZhk UfY`!`UWW`gg`]g`U`k Umg`j]U`A ccX`YŁ"

Hi fb]hb gYhb[. H\]g]g bchU Hi fb]hb Ugg][ba Ybh

5 hmy b X Ub WY F Yei] f Ya Yb hg

5 hhyb XUb WY cZ@Y Whi fygž Hi hcf] U`g Ub X Ghi X]cg]g a Ub XUhcfm]b h\]g Wci fgY"

5 thY b X U b WY 'k]``VY 'a cb] tcfY X 'U h'Y j Y fm@Y Wi fY ž'Hi tcf] U `ž'U b X 'G hi X]c" I b Y I W gY X 'U V gY b WY 'Z fca 'a cfY 'h \ U b &\$ i 'c Z W U gg Y g' k]``fY gi 'h] b 'h Y 'U k U f X 'c Z U ': U]`'; fU X Y "

@97 HI F 9.]b "YWi fYg mci 'k] " UWIj Y mYb [U [Y 'k]h\ 'WcfY 'Wci fgY 'WcbhYbhh\ Uhk] " \Y 'd mci 'hck UfXg h\ Y 'UhtU]ba YbhcZU a UghYfmcZh\ Y _bck \ YX [Y 'cb 'h\ Y 'a UhYf]U 'gžghfi Wi fYgžUbX 'dfcW 'ggYg'cZ

hcbU`aig]Wf7@C'%E'VYmcbX'h\Y'ZcibXUh]cbU``ghU[Yž'UbX'U``ck 'mci'hc'Yld`cfY'h\Y'UWfcZ Wcadcg]b['aig]Wk]h\]b'Uddfcdf]UhY'\Ufacb]WghfiWhifYg'f7@C'&Ez'UbX'hc'Udd`mh\]g'_bck 'YX[Y'hc'h\Y UbU`mg]g'cZhcbU``aig]Wlb'U'jUf]YhmcZghmYqz']bWiX]b['dcdi'Uf'aig]WUbX'\Unn'f7@C'' E''

51 F 5@HI HC F \pm 0.]b 5i fU`hi hcf]U`g`mci 'k]``UWf] Y`mYb[U[Y`k]h\ 'WcfY'Wci fgY'WcbhYbhh\Uhik]`` YbUV`Y'mci 'hc'Udd`mmci f'a i g]\\U`g_]``g']b a i g]\\Ubg\]dž]b 'dUff]\\\' 'Uf'hc'a i g]\\'j\'fY\\UX\]b[ž'UbX \\Y'dYf\Zcfa Ub\\'fY\\C'\'fY\\C'\'f\'\'

 $F < MH < A ``GHI `8 + C . ``]b ``ghi X]cg'mci ``k]```UWfj Y`miYb[U[Y`k]h\ `WcfY `Wci fgY `WcbhYbhih\Uhik]```\Y`d'mci Udd`mmci f'Ui fU``UbX'h\Ycfmg_]``g'hc'a i g]Wa U_]b['j]U']bX]j]Xi U``dYfZcfa UbW'`ff7 @C `(Ł"$

7ci fgY GWX YXi `Y

J]Yk 'WUqq'ha YHJV'Y

H]a YHJV`Y

8 UhY	HmdY	7 cbh/bh
K YY_'%'%'>i bY'!') '>i bY	@YWhifY	< Ufa cbm@YWi fY. Hi YgXUm\$&`>i bYž-"\$\$Ua '! %\$"' \$Ua žcb!`]bY"
		@YWMifYf.'>c\b'DYhYfgcb
		±bHfcXiVM]cb'hc'h\Y'WcifgY"
		D`YUgY`BcHY.`5i fU``Hi hcf]U`g`UbX`F \mh\a `Gh X]cg VY[]b`]b`K YY_`&"
K YY_'&.', '>i bY'!'%& >i bY	@YWn fY	< Ufa cbm@YWi fY. `Hi YgXUm\$- `>i bYž- "\$\$Ua `! %\$"' \$Ua žcb!`]bY"
		@YWhifYf.'>c\b'DYhYfgcb
	Gh X]c	F \mt\a 'K cf_g\cd.': f]XUm'&'>i bYž'%\$"' \$Ua '! '&"\$\$da ž'cb!`]bY"
		Hi hcf. '>c\b'DYhYfgcb
	Hi hcf]U`	5i fU`Hi hcf]U`.': f]XUm'&'>i bYž'&"\$\$da '!'%" \$da ž

		%"' \$da '!'' "\$\$da žcb!`]bY"
		Hi hcf. 8 Uj]X HUmcf
K YY_'' .'%) '>i bY'!'% >i bY	@YWhi fY	< Ufa cbm@YWi fY. Hi YgXUm%* '>i bYž- "\$\$Ua '! %\$"' \$Ua žcb!`]bY"
		@YWhifYf.">c\b"DYhYfgcb
	Gh X]c	F\mh\a 'K cf_g\cd.': f]XUm'%-'>i bYž'%\$"' \$Ua '! %%"\$\$da ž'cb!`]bY"
		Hi hcf. '>c\b'DYhYfgcb
	Hi hcf]U`	5 i fu``Hi hcf]u`.: f]XUm'% `>i bYž'\&"\$\$da `!`\%"' \$da ž \%"' \$da `!`' "\$\$da ž'cb!`]bY"
		Hi hcf. 8 Uj]X HUmcf
K YY_'(.'&&'>i bY'!'&* >i bY	@YWhi fY	< Ufa cbm@YWn fY. "Hi YgXUm&' '>i bYž- "\$\$Ua '! %\$"' \$Ua žcb!`]bY"
		@YWhifYf.'>c\b'DYhYfgcb
		< 5F A C B MH9GH '%
	Gh X]c	F\mh\a 'K cf_g\cd.': f]XUm&* '>i bYž'%\$"' \$Ua '! %&"\$\$da ž'cb!`]bY"
		Hi hcf. >c\b'DYhYfgcb
	Hi lcf]U`	5 i fu``Hi hcf]u`.': f]XUm'&*`>i bYž'&"\$\$da '!'%" \$da ž %" \$da '!'' "\$\$da žcb!`]bY"
		Hi hcf. 8 Uj]X HUmicf
K YY_').'&- '>i bY'!'' '>i `n	n @YWhifY	< Ufa cbm@YWi fY. 'Hi YgXUm' \$`>i bYž-"\$\$Ua '! %\$"' \$Ua žcb!`]bY"
		@YWnifYf.'>c\b'DYhYfgcb
	Gh X]c	F \mh\a 'K cf_g\cd.': f]XUm'\$' '>i `mž'%\$"' \$Ua '! %&"\$\$da ž'cb!`]bY"
		Hi hcf.'>c\b'DYhYfgcb
	Hi hcf]U`	5 i fu``Hi hcf]u`.: f]XUm'\$' `>i `mž'‱"\$\$da `!`%" \$da ž %"' \$da `!`' "\$\$da ž'cb!`]bY"
		Libert Olli W. Libert
K YY_'*.'*'>i `m'!'%\$'>i `m	@YWhi fY	Hi hcf. 8 Uj]X HUmcf Hi YgXUm\$+'>i `mž'BC '@97 HI F 9"
	Gh X]c	: f]XUm%\$ '>i `mž'B C `GHI 8 € "
	Hi hcf]U`	: f]XUm'%\$'>i `mž'B C `HI HC F =5 @'
K YY_`+.`%` `>i `m!`%+`>i `r		< Ufa cbm@YWn fY. Hi YgXUm%('>i `mž-"\$\$Ua '! %\$"' \$Ua žcb!`]bY"
l		

		@YWnifYf.`>c\b`DYhYfgcb
	Gh X]c	F \mt\a 'K cf_g\cd.': f]XUm'%+'>i `mž'%\$"' \$Ua '! %&"\$\$da ž'cb!`]bY"
		Hi hcf. '>c\b'DYhYfgcb
	Hi hcf]U`	5i fU``Hi hcf]U`.`: f]XUm%+`>i `mž'&&"\$\$da '!'%"' \$da ž %"' \$da '!'' "\$\$da ž'cb!`]bY"
		Hi hcf. 8Uj]X HUmcf
K YY_', .'&\$'>i `m!'&('>i `n	n@YWnifY	< Ufa cbm@YWn fY. Hi YgXUm&%'>i `mž'- "\$\$Ua '! %\$"' \$Ua ž'cb!`]bY"
		@YWnifYf.`>c\b`DYnYfgcb
	Gh X]c	F \mt\a 'K cf_g\cd.': f]XUm&('>i `mž'%\$"' \$Ua '! %&"\$\$da ž'cb!`]bY"
		Hi hcf. >c\b DYhYfgcb
	Hi hcf]U`	5i fU``Hi hcf]U`.`: f]XUm&(`>i `mž'%&"\$\$da '!'%"' \$da ž %"' \$da '!'' "\$\$da ž'cb!`]bY"
		Hi hcf. 8Uj]X HUmcf
K_YY_''&+'>i `m!'' %'>i `m@YV Vi fY		< Ufa cbm@YWhfY. Hi YgXUm&, `>i `mž'- "\$\$Ua '! %\$"' \$Ua žcb!`]bY"
		@YWnifYf.`>c\b`DYhYfgcb
		< 5F A C B MH9GH &"
	Gh X]c	F \mh\a 'K cf_g\cd.': f]XUm' %'>i `mž'%\$"' \$Ua '! %&"\$\$da ž'cb!`]bY"
		Hi hcf. >c\b DYhYfgcb
	Hi hcf]U`	5i fU``Hi hcf]U`.`: f]XUm' %>i `mž'&&"\$\$da '!`%"' \$da ž %"' \$da '!`' "\$\$da ž'cb!`]bY"
		Hi hcf. 8Uj]X HUmcf
K YY_'%\$.'' '5i [i gh!'+	Gh X]c	F \mt\a 'K cf_g\cd.': f]XUm'\$+'5i [i ghž'%\$'' \$Ua '!
5i [i gh		%&"\$\$da žcb!`]bY"
		Hi hcf. >c\b DYhYfgcb
	Hi hcf]U`	5i fU``Hi hcf]U`.': f]XUm\$+'5i [i ghž'&"\$\$da '! %"' \$da ž'%"' \$da '!'' "\$\$da ž'cb!`]bY"
		Hi hcf. 8Uj JX HUmcf

FYgci fWyg

DfYgWf]VYX F Ygci fWYg

FYWca a YbXYX FYgci fWfg

FYWca a YbXYX < Ufa cbm#H\YcfmHYI hVcc .

H h Y A i g W Ub'g; i XY h C H Y C fm Ub X 5 b U mg g

5 i h\cffgt >UbY D]dYf 7 YbX]bb]b['UbX 9`]nUVYh\ A Ufj]b K Ygh

Di V`]g\Yf. K "K "'Bcfhcb'/ '7 ca dUbm'\(\Di V \)

9X]h]cb." fX"9X]h]cb"

MYUf'Di V`]g\YX.'&\$%+

.

7 ci fgY '9j U'i Uh]cb 'UbX '8 Yj Y`cda Ybh

Ghi XYbhZYXVUW_cb'h\]g'Wci fgY']g'[Uh\YfYX'dYf]cX]\W\`mUbX']g'U`k Umg'\WfYZ\``mWcbg]XYfYX'k]h\'U'j]Yk hc'U\M]b['cb']h\Wcbghi \Mjj Y`mk \YfYj Yf'dcgg]V`Y'': YYXVU\W_']g'[Uh\YfYX'Vmj Uf]ci g'a YUbg']b\Wi X]b['h\Y a m9I dYf]Yb\W'Gi fj YmDfc\Wgg"

+b^`][\hcZdfYj]cig'ZYYXVUW_'Zfca 'ghi XYbhg']b'h\]g'WcifgYžYad\Ug]g'\Ug'VYYb'd'UW'X'cb'dfcj]X]b[acfY'cddcfhib]h]Yg'Zcfghi XYbhg'hc'fYWY]j Y'ZYYXVUW_'cb'fYj]g]cb'Yl YfW]gYg'a UXY'Uj U]'UV'Y'cb'AccX'Yž'gcUg'hc'acfY'UXYeiUhY`mgiddcfhghi XYbhg']b'h\Y'UXj UbW'aYbhcZh\Y]f'_bck `YX[Y'UbX'ibXYfghUbX]b['cZ\Ufacb]WWcbW'dhg"'5'k]XYf'fUb[Y'cZaig]WU`ghm`Ygž']bWiX]b['dcd'UbX'Unnž'UfY'U`gc'gcifWYX'UbX'hUi[\h]b'U``WcadcbYbhg'cZh\Y'WcifgY"

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

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

Image: Ybwei bhyfu'dfcv'ya k \yb'uhhya dhjb['hc'gi va]hmci f'Ugg][ba Ybhh\fci [\ 'Hi fb]h]bž'd'YUgY

Hy'Yd\cby'9| hy'fbu''Gi ddcfhcb'-',) '' ' ' %cf'Ya U]''h\Ya 'cb'Y! hy'fbu'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'mYUft"'=Z'mci
UfY'i bUV'Y'hc'gi va]hmci f'Ugg][ba YbhXi Y'hc'U'ZJi 'hk]h\ 'Hi fb]h]b'mci 'a Um'Udd'mZcf'Ub'Y! hy'bg]cbž'Vi hmci
a i ghfYhJ]b'mci f'h]W_Yhbi a VYf'Zfca '9! hy'fbU''Gi ddcfhfU'cb['k]h\ 'Ubmch\Yf'fy'Yj UbhXcW a Ybhgt'hc
]bWi XY'Ug'Yj]XYbW' 'hc'gi ddcfhmci f'Y! hy'bg]cb'Udd']WUh]cb"'=Zmci 'Ya U]''9! hy'fbU''Gi ddcfhmci 'k]'`
Ui hca Uh]WJ'`mfYW']j Y'U'h]W_Yhbi a VYfZ'Vi h]Zmci 'hY'Yd\cbY'mci 'k]``bYYX'hc'gdYW]Z]WJ'`mUg_'Zcf'cbY''
Hi fb]h]b'U'gc'dfcj]XYg'i dXUhy'g'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"

cfi]bZcfa Uhjcbicbi\ckihcigi Va]hUgg][ba Ybhgicbi]bYij]UiA ccXiY.i\hdg.#gh XYbhi bgk "YXi "Ui #\ck! gi Va]hUgg][ba Ybha ccXiY

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]XYbhJ``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.

 $7 \text{ cdm}b[...i g]b[...h\Y.gUa Y.cf.j Yfmig]a] \Uf'k cfXg'hc'h\Y.cf][]bU''hYl h'cf']XYU'k]h\ci h'U\V_bck `YX[]b[...h\Y.cf][]bU''hYl h'cf']XYU'k]h'cf']$

- 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

5WUXYa]W±bZcfaUhjcb

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