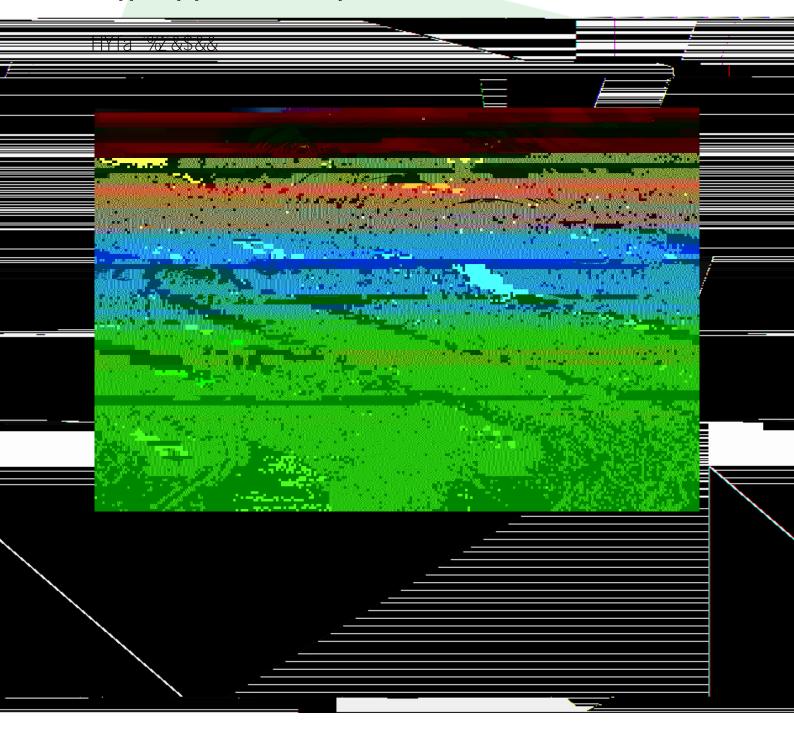


GSOE9820

9b[]bYYf]b['DfcYWiA UbU[Ya Ybh



7ci fgY'Cj Yfj]Yk

GHJZ:7cbHJWh:8YHJ]`g

7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]hm	@cWUhjcb	D\cbY
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G\]j U'5VXc`]	g"UVXc`]4 i bgk "YXi "Ui	Hi YgXUmg'% .\$\$!%) .\$\$" D`YUgY gWXYXi `Y'Ub Uddc]bha YbhUh `YUgh&(`\fg']b UXj UbWY"	5]bgk cfh\ 6`X"`>%+	

@YWhi fYfg

B Ua Y	9a U]`	5j U]`UV]`]m	@cWUhjcb	D\cbY
∌ fUbU'? UV]f]"_UV]f4_i_bgk_"YXi_"Ui_		5]bgk cfh\ 6`X"`>%+	

GWXcc`7cbHJWh = bZcfa Uh]cb

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K YV

GWkcc``cZA YVXUb]WU``UbX`A Ubi ZUWi f]b['9b[]bYYf]b[

9b[]bYYf]b[Gh XYbhGi ddcfhGYfj]Wg

9b[]bYYf]b[*\DXi glf]U``HfU]b]b[

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D\cbY

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H\Y`Wci fgY`U]a g`hc`U`k Umg`dfcj]XY`ghi XYbhg`k]h\`? bck `YX[Y`UbX`I bXYfghUbX]b[ž\VYZcfY`Ug_]b[ghi XYbhg`hc`WUffmci higca Yh\]b['a cfY`Wca d`YI ``]_Y`5bU`mg]g`cf`9j U`i Uh]cb"`8]ZZYfYbhUgg][ba Ybhg`XYU` k]h\`X]ZZYfYbh_]bXg`cZ9Xi WUh]cbU``CVYWhj Ygž'gi W\`h\UhZcf`YI Ua d`Y`]bX]j]Xi U``ei]nnYg`UfY`i gYX`hc UggYgg`? bck `YX[Yž'k\]'Y`U'hYUa `Ugg][ba YbhUggYgg`h\Y`]bhY[fUh]cb`cZU'dfcYWhd`Ub`fk\]W\`]g`U'_]bX`cZ Gmbh\Yg]g\!"

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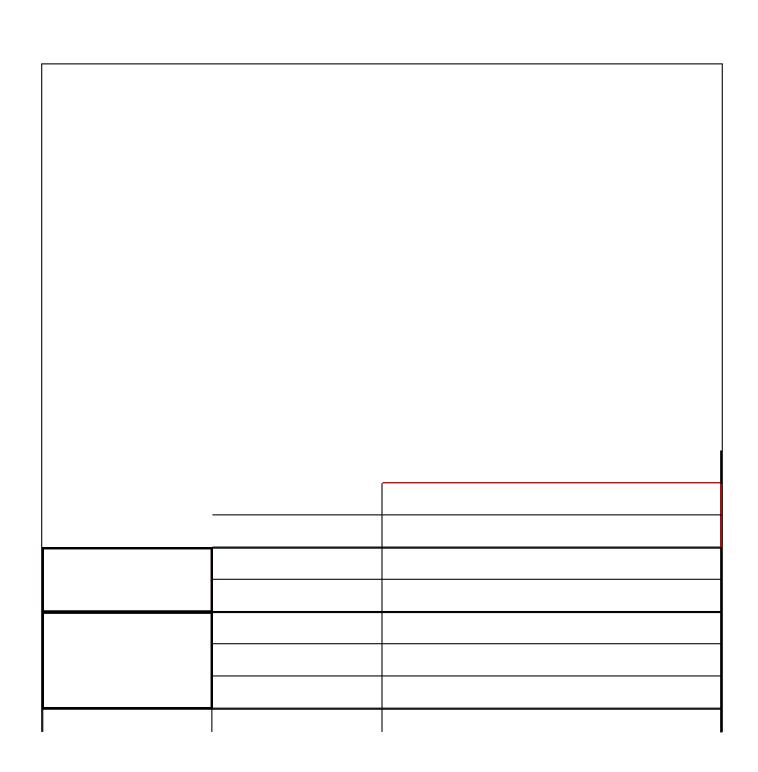
5ggYgga Ybh% Dfc YWhA UbU[Ya YbhD`Ub

 $5ggYgga Ybh`Yb[h\.5ddfcl"`&$'dU[Yg]$

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A Uf_g`fYhi fbYX.``%k YY_`UZhYf`gi Va]gg]cb

 \pm 'h\Y'dfc YWfiUgg][ba Ybh'ghi XYbh'hYUa g'k cf_'hc[Yh\Yf'hc'Wca d'YhY'Ub'9b[]bYYf]b['Dfc YWfiA UbU[Ya Ybh'



FYgci fW/g

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HYI hVcc_

Dfc YWnA UbU[Ya Ybhi+ogh]hi hYž]ggi]b['VcXm'5'; i]XY'hc'h\Y'Dfc YWnA UbU[Ya Ybh6cXmcZ? bck `YX[YfDA 6C?'; i]XYE'. 'UbXž5[]'Y'DfUWnJW'; i]XY"'G]l h\ 'YX]hJcb"'BYk hck b'Gei UfYž'DYbbgmj Ub]U. 'Dfc YWnA UbU[Ya Ybhi+ogh]hi hYž&\$%+"

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FYWca a YbXYX FYgci fWyg

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@]b_YX!]b`@YUfb]b[`UWWggYX`h\fci[\ | BGK.:\hdg.#k k k "a m|h'i bgk "YXi "Ui #gYfj]\W\g#gHUZZ#YXi \WUh]cbU`!hYW\bc`c[m#]b_YX]b!`YUfb]b[`

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

: YYXVUW_cb`h\Y`Wci fgY`]g`[Uh\YfYX`dYf]cX]WU``mi g]b['j Uf]ci g`a YUbgž]bWi X]b['h\Y`I BGK a m9I dYf]YbW'`dfcW'ggžZYYXVUW_igi fj Ymg`i gYX`h\fci [\ 'h\Y`Wci fgYžUbX`h\Y`GW\cc`'g`Ghi XYbh#GhUZZ a YYh]b[g"`Nci f`ZYYXVUW_i]g`hU_Yb`gYf]ci g`mžUbX`Wcbh]bi U``]a dfcj Ya Ybhg`UfY`a UXY`hc`h\Y`Wci fgY`hU_]b[]bhc`UVWci bhigi W\`ZYYXVUW_"

7\Ub[Yg'a UXY'h\]g'hYfa 'hc']a dfcj Y'cb`]bY'YXi WUh]cb'UbX'UggYgga Ybhg

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

5ggYgga Ybhgi Va]gg]cb UbX a Uf_]b[Wf]hYf]U

G\ci`X'h\Y'Wti fgY'\Uj Y'Ubmbcb!Y`YWfcb]WUggYgga Ybhigi Va]gg]cbž'h\YgY'g\ci`X'\Uj Y'U'ghUbXUfX GW\cc``Wtj Yf'g\YYh' YI Ua gžďYUgY gYY h\Y <u>91 Ua g</u> k YVdU[Y"

GdYWJU`7cbg]XYfUhJcb

⊋mci `\Uj Y`YI dYf]YbWX`Ub`]``bYgg`cf`a]gUXj Ybhi fY`VYmcbX`mci f`Wcblfc``h\Uhk]```]bhYfZ/fY`k]h\`mci f UggYgga YbhidYfZcfa UbWYž'mci `UfY`Y`][]V`Y`hc`Udd`mZcf`GdYWJU``7cbg]XYfUh]cb`df]cf`hc`gi Va]hh]b[`Ub UggYgga Ybhicf`g]hh]b[`Ub`YI Ua "

I BGK 'bck '\ug'U': <u>]hhc'G]h#Gi Va]hfi 'Y</u>ž'k \]W\'a YUbg'h\Uh]Zmci 'UhhYa dh'Ub'YI Ua 'cf'gi Va]h'U'd]YW\'cZ UggYgga Ybhž'mci 'UfY'XYWUf]b['mci fgY`ZZ]hYbci [\'hc'Xc'gc'UbX'WUbbch`UhYf'Udd`mZcf'GdYW]U` 7 cbg]XYfUh]cb"

: cf`XYhJ]`g`cZUdd`m]b['Zcf`GdYW]U``7 cbg]XYfUh]cb`UbX`WcbX]h]cbg`Zcf`h\Y`Uk UfX`cZgi dd`Ya YbhUfm UggYgga Ybhž'd`YUgY`gYY'h\Y`]bZcfa Uh]cb`cb`I_BGK 'g`<u>GdYWJU``7 cbg]XYfUh]cb`dU[Y</u>"

D`YUgY'bchY'h\Uhgh XYbhg'k]``bch'VY'fYei]fYX'rc'dfcj]XY'Ubm'XcW'a YbhUfm'Yj]XYbW'hc gi ddcfh'UVgYbWg'Zfca 'Ubm'WUggYg'a]ggYX'VYWUi gY'cZ'7CJ=8!% 'di V`]W\YU'h\ 'a YUgi fYg'gi W\'Ug]gc`Uh]cb"'| BGK 'k]``bch'VY']bg]gh]b['cb'a YX]WU`'Wfh]ZJWUh'g'Zfca 'UbmcbY'XYYa YX'rc'VY'U'dcg]h]j Y'WUgYž cf'k\Yb'h\Ym\Uj Y'fYWcj YfYX"'Gi W\'Wfh]ZJWUh'g'UfY'X]ZZJW 'hhc'cVhU]b'UbX'di hUb'i bbYWggUfmghfU]b'cb qh XYbhg'UbX'a YX]WU`'qhUZZ''

 $5 dd^{3}WUh^{3}cbg^{3}Zcf^{3}gdYW^{3}U^{3}Wcbg^{3}XYfUh^{3}cb^{3}K^{3}^{3}YfUh^{3}cb^{3}K^{3}YfUh^{3}cb^{3}K^{3}YfUh^{3}cb^{3}K^{3}YfUh^{3}cb^{3}K^{3}YfUh^{3}cb^{3}K^{3}YfUh^{3}Cf^{3}G^{3}VH^{3}Cf^{3}G^{3}VH^{3}Ch^{3}K^{3}YfUh^{3}Ch^{3}YfUh^{3}Ch^{3}YfUh^{3}Ch^{3}K^{3}YfUh^{3}Ch^{3}YfUh^{3}$

GdYWJU 7cbg]XYfUh]cb Ci hWca Yg

5ggYgga Ybhg`\Uj Y`XYZJi`hGdYWJU``7cbg]XYfUhJcb'ci hWca Yg"'H\Y`XYZJi`hci hWca Y`Zcf'h\Y`UggYgga Ybhk]`` VY`UXj]gYX`k \Yb'mci 'Udd`mZcf'GdYWJU``7cbg]XYfUhJcb"'6Y`ck ']g'h\Y``]ghcZdcgg]V`Y'ci hWca Yg.

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

 $\label{thm:continuous} IBGK ``Ug`Ub`cb[c]b[`Wcaa]haYbhhc`ZcghYf]b[``U`W``hifY`cZ`YUfb]b[`]bZcfaYX`VmUWUXYa]W]bHY[f]hm'`5``IBGK `ghiXYbhg`UjY`U`fYgdcbg]V]`]hmhc`UX\YfY`hc`h\]g`df]bW]d`Y`cZUWUXYa]W]bHY[f]hm'D`U[]Uf]gaibXYfa]bYg`UWUXYa]W]bHY[f]hmUbX`]g`bchhc`YfUhYX`UhIBGK "`B'SY[Sde_SfG@EI[eVW{`WSege[YfZW_aXSekagdai`ž$

Mci 'UfY'U'gc'fYa]bXYX'h\UhWUfYZ ``h]a Y'a UbU[Ya Ybh]g'Ub']a dcfhUbhdUfhcZgh XmUbX'cbY'cZh\Y]XYbh]Z]YX'WUi gYg'cZd`U[]Uf]ga ']g'dccf'h]a Y'a UbU[Ya Ybh'Gh XYbhg'g\ci `X'U``ck 'gi Z]W]Ybh'h]a Y'Zcf fYgYUfW\žXfUZ\]b['UbX'h\Y'dfcdYf'fYZYfYbW]b['cZgci fW/g']b'dfYdUf]b['U```UggYgga Ybh'hUg_g''

₹d`U[]Uf]ga i]gʻZci bXi]bimci fik cf_ik \Ybimci 'UfYi]bʻZ[fghmYUfžimci fi`YWi fYfik]``cZYfimci 'Ugg]ghUbWYihc
]a dfcj Yimci fi'UWUXYa]Wg_]``g'''H\Yma UmUg_imci ihci`cc_'Uhigca Yicb`]bYifYgci fWygžiUhhYbXih\Yi@YUfb]b[
7 YbhfYžcfigca Yh]a YgifYgi Va]himci fik cf_ik]h\h\YidfcV`Ya iZ[l YX'''< ck Yj Yfia cfYigYf]ci gi]bghUbWygi]biZ[fgh
mYUfžigi W\ugighYU`]b[iUbch\Yfighi XYbhgik cf_icfidUm]b[igca YcbYihciXcimci fik cf_žia UmVYi]bj Ygh][UhYX
i bXYfih\YiGhi XYbhA]gWcbXi WhDfcWYXi fYg''

FYdYUHYX'd`U[]Uf]ga 'fYj Yb']b'Z|fghmYUfłź'd`U[]Uf]ga 'UZHYf'Z|fghmYUfźcf'gYf]ci g']bghUbWYgža Um'U`gc'VY]bj Ygh][UhYX'i bXYf'h\Y'Gh XYbhA]gWcbXi WhDfcWYXi fYg"'H\Y'dYbU'h]Yg'i bXYf'h\Y'dfcWYXi fYg'WUb']bWi XY U'fYXi Whcb']b'a Uf_gž'ZU]`]b['U'Wci fgY'cf'Zcf'h\Y'a cghgYf]ci g'a UhHYfg'fi]_Y'd`U[]Uf]ga ']b'Ub'\cbci fg h\Yg]gŁYj Yb'gi gdYbg]cb'Zfca 'h\Y'i b]j Yfg]mm''H\Y'Gh XYbhA]gWcbXi WhDfcWYXi fYg'UfY'Uj U]`UV'Y'\YfY.

kkk"[g"i bgk"YXi"Ui #dc]Wn#XcWa Ybhg#ghi XYbha]gWcbXi WhdfcWYXi fYg"dXZ

5 WUXYa]W + DZcfa Uhjcb

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A cgh'Wci fgYk cf_'Wci fgYg'Uhil BGK 'UfY'*'l C7'UbX']bj c'j Y'Ub'Ygh]a UhYX'%) \$'\ci fg'hc'Wca d'YhYž'Zcf'Vch\