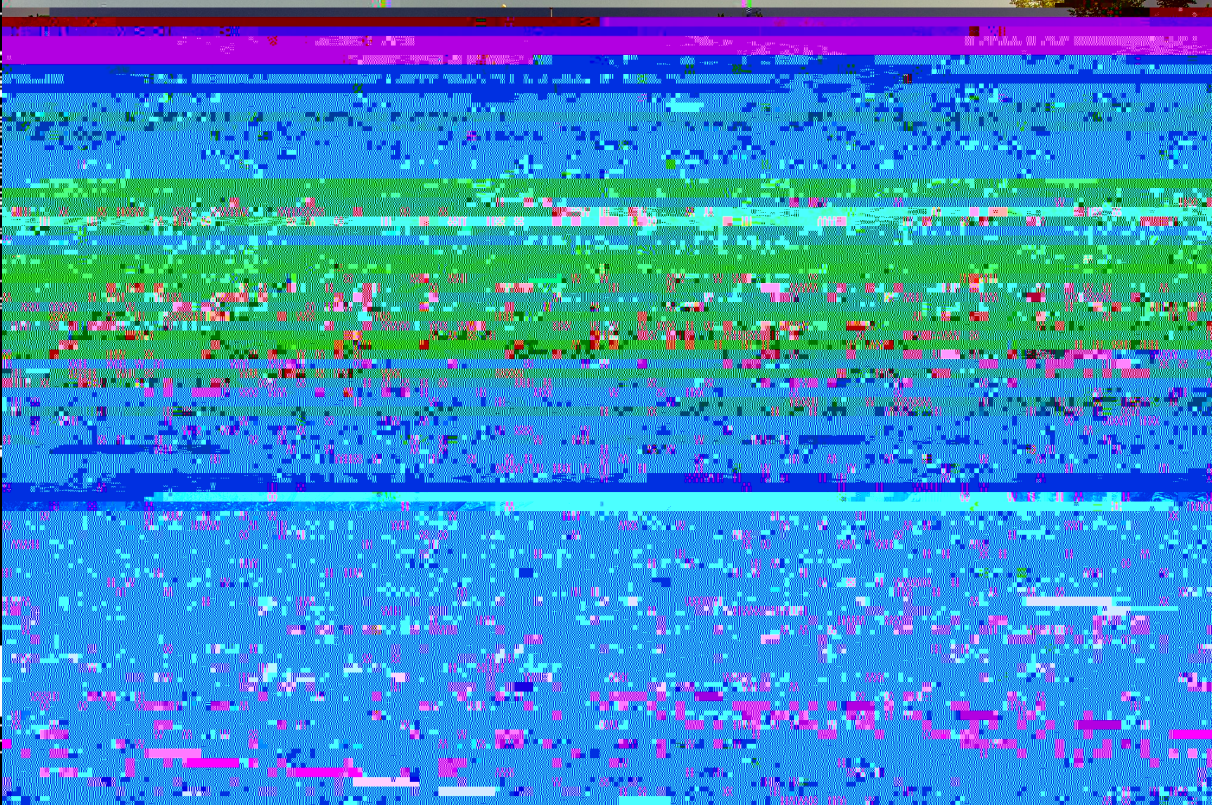


# ENGG1400



7ci fgY`Cj Yfj JYk


7ci fgY'8YHJ]`g

I b]hg'cZ7fYX]h\*`

Gi a a UfmcZ\Y'7ci fgY

5`Vei fgY`]b'cdhja ]nUhc]b'UbX'a cXY``]b[ 'Zcf'Z]fghimYUf'Yb[ ]bYYf]b[ 'ghi XYbfg'k \c'XYg]fY'U'\[ \Yf'WdUV]]m  
]b'hY'Udd']WUhc]b'cZ\Y'a cXY``]b[ 'cZYb[ ]bYYf]b[ 'gmghYa gZ'UbX'gYY\_'rc'UW`ei ]fY'U'gYhcZcdhja ]nUhc]b'hcc`g





# 5ggYgga Ybh

5`UggYgga Ybhg'a i ghVY'gi Va ]hYX'cb'A ccX`Y

: U]i fY'hc'UhhYbX'hY'ei ]nnYg'k ]`fYgi 'h]b'U'a Uf\_'cZnYfc" Gh XYbhg'k \c'a ]gg'hY'UggYgga YbhUg'U'fYgi 'h cZ]'bYgg'cf'i bZcfYgYYb'WfW'a ghU'VW'g'a i ghUdd'mZcf'gdYWU'W'cbg]XYfU]cbg'h'fci [ \`  
[\hdg.#g\]XYbh'i bkg "YXi "Ui #gdYWU'W'cbg\]XYfU\]cb](#) 'UbX'W'cbhU'Wh'hY'W'ei fgY'W'cfX]bU'rcf"

Gh XYbhg'k \c'dYfZcfa 'dcccfm]b'hY'Ugg][ ba YbhUbX'k cf\_g\cdg'UfY'fYW'a a YbXYX'hc'X]gW'gg'dfc[ fYgg k ]h'hY'Y'W'h fYf'Xi f]b[ 'hY'h'fa "H\Y'Y'W'h fYf'fYgYf] Yg'hY'f][ \h'hc'UX↑ gh'hY'Z]bU'g'W'cfYg'VmgWU]b[ 'Z U[ fYXX'hc'Vm'hY'<YUX'cZGW'cc"

H\Y'dUgg'a Uf\_]b'h]g'W'ei fgY'g') \$i 'cj YfU'ž\ck Yj Yfž'gh XYbhg'a i ghg'W'fY'Uh'YUgh( \$i ]b'hY Z]bU'YI Ua ]bU]cb ]b'cfXYf'hc'ei U']mZcf'U'DUgg]b'h]g'W'ei fgY"'ZVY'ck U'( \$i ]g'g'W'fYX'cb'hY : ]bU'9I Ua ž'hY Z]bU'YI Ua 'a Uf\_'k ]`fYd'UW'mci f'W'ei fgY'a Uf\_"

Gi dd'Ya YbhUfm'9I Ua ]bU]cbg'Zcf'HYfa '&&\$&&k ]`VY'\Y'X'cb'A cbXUm) h'GYdhYa VYf-: f]XUm-h' GYdhYa VYf'&\$&&f]bW] gj Y'g\ci 'X'mci 'VY'fYei ]fYX'hc'g]hcbY" M'ci 'UfY'fYei ]fYX'hc'VY'Uj U]UV'Y'Xi f]b[ h'YgY'XUH'g" D'YUgY'Xc'bch'hc'a U\_Y'UbmidYfgcbU'cf'hfUj Y'UffU]b[ Ya Ybhg'Xi f]b[ 'h]g'dYf]cX"

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H\Y'Z]bU'k f]h'Yb'YI Ua ]bU]cb'k ]`VY']b'hY'W'ebj Ybh]cbU'W'cgYX'Vcc\_'Zcfa Uh'W'ej Yf]b[ 'U''hc'd]W'g']b'f'c'Xi W'X h'fci [ \ci h'hY'W'ei fgY" H\Y'Z]bU'YI Ua ]bU]cb'k ]`W'cbg]gh'cZU'gYf]Yg'cZdfcV'Ya g'UbX'Z'W'g'c'b h'YcfYh]WU'UbX'a Y'h'c'X'c'c[ ]WU'W'cbW'dhg'dfYgYbh'X'k ]h]b'hY'Y'W'h fYg'Ug'k Y`Ug'k ]h]b'dfYj ]ci g UggYgga Ybhg" H\Y'Z]bU'YI Ua ]bU]cb'k ]`UggYgg'hY'YI dY'W'Y'X'Y'Ufb]b[ 'ci h'W'a Yg'UbX'k ]`VY'UggYggYX VUgYX'cb'h'V'X'b]WU'U'W'W'fU'W'ž'W'Uf]m]b'fY'd'c'f]b[ 'UbX'dfYgYbh'U]cb"

5ggYgga Ybh& '5gg][ ba Ybhfl fci d'Dfc'Y'W'Ł

GhUfhXUHy. '& # \$ \* # & \$ & \$ ( . \$ \$ ' DA

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Gi Va ]gg]cb`bcHyg. '8][ ]U`Vtd]Yg`UFY`YI dYWYX`tc`VY`gi Va ]hYX`cb`]bY`j ]U`Hi fb]h]b`VmihY`Xi Y`XUHy`"H\Y`UghXUHy`cZgi Va ]h]b[ `h\Y`Ugg][ ba Ybh]g`&bX`5i [ i gh&\$&&`Uh( DA `fK YY`\_%\$E"5`UH`dYbU`hmicZ%\$i `dYf XUmK ]`Udd`mZcf`ZU]i fY`tc`gi Va ]h\Y`Ugg][ ba YbhVmihY`gHUYX`Xi Y`XUHy`"5bmFYdcfYg`gi Va ]hYX`) `cf a cfY`XUmg`UZfYf`h\Y`XYUX`]bY`k ]`fYW]j Y`U`a Uf`\_cZnYfc`"5bmXi d`]WUHy`gi Va ]gg]cbg`f`cf`dUfYg`k ]h]bLk ]`fYW]j Y`U`a Uf`\_cZnYfc`"Gh XYbYg`k \c`d`U[ ]Uf]hY`UFY`U`gc`"UV`Y`tc`X]gW]d`]bUfmUW]cbz`]bWi X]b[ `YI Wi`g]cb Zca`Ybfc`a Ybh`

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H\Y`5gg][ ba Ybhk ]`VY`fY`YUgYX`]b`K`YY\_`( `UbX`k ]`VY`Xi`Y`]b`K`YY`\_%\$"H\Y`Ugg][ ba Ybhk ]`Vtd]g]g]cZ`U`gYf]Yg`cZdfcV`Ya`g`UbX`ZcW`g`cb`gh`XYbYg`gc`j`]b[ `]bZUgfi`Wi`fY`gmgh`Ya`g`XYW]g]cb`dfcV`Ya`g`]b`5A`D@`dfYgYbhYX`Xi`f]b[ `h\Y`Vtd`fgY`"H\Y`ei`Ygh]cbg`k ]`VY`VUgYX`cb`h\Y`a`Uhf]U`Vtd`j`YfYX`]b`YWi`fYg`UbX`k`cf\_g\cd`" #]g`]bhYbXYX`tc`Vi`]X`cb`h\Y`g\_]`g`XY]`Y`cdYX`]b`k`cf\_g\cd`UbX`\Y`d`dfYdUfY`h\Y`gh`XYbYg`Zcf`h\Y`Z]bU`YI`Ua`]bU]cb`"

Gh XYbYg`UFY`YI dYWYX`tc`k`cf\_]`b[ `fci`dg`cZ` `cf( `ZUbX`Udd`mH\Y`h\Y`cfYh]WU`\_`bck`YX[ `Y[ `U]bYX`Xi`f]b[ `YWi`fYg`UbX`k`cf\_g\cdg`tc`fYU`k`cfX`Yb[ ]bYf]b[ `dfcV`Ya`g`"H\Y`[ `fci`d`Ugg][ ba Ybhk ]`UggYgg`h\Y`YI dYWYX`YUfb]b[ `ci`hVtd`Yg`]b`U`dfUW]WU`gYh]b[ `UbX`h\Y]f`h\Ua`a`Ya`VYfg`\d`UbX`YUXYfg`\d

UW]cbž]bWl X]b[ `Yl Wl g]cb`Zca `Ybfc`a Ybh'

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GhUfhXUHy. `\$- #\*\$ #&\$&`\$(`.\$\$`DA

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H\]g`ei ]n`dfcj ]XYg`&i `cZH`Y`Wti fgY`a Uf\_`UbX`k ]`Wtbg]ghcZga U`z`W`ghca ]nYX`dfcV`Ya g`Wtj Yf]b[ `h`Y`  
a UH`f]U`]btf`cXi W`X`Xi f]b[ `h`Y`W`ffYbhk YY\_`"

H\Y`k YY\_`mei ]nnYg`k ]`UggYgg`h`Y`YI dY`W`X`Y`Ufb]b[ `ci h`W`a Yg`UbX`k ]`VY`UggYggYX`VUgYX`cb`h`W`b]WU`  
U`W`W`fU`W`h`UbX`dU`h`j]W`dU`h]cb`"H\Y`A ccX`Y`ei ]nnYg`k ]`VY`cdYb`Vcc\_`z`U`W`h`i` Yb]bf` mX`cca` nn` cV`Ya`g`W`

5ggYgga YbhW]hYf]U

H\Y`ei Yghcbg`k ]`VY`a Uf\_YX`VUgYX`cb`hYWXb]WJ`UWVW fUWn": U]i fY`hc`Wca d`YHY`U`ei ]n`k ]h]b`hY  
UWVYgg]V`Y`hja Y`dYf]cX`k ]`fYgi`h]b`U`a Uf\_`cZnYfc"9UWX`ei ]n`k ]`Wcbf]Vi hY`hc`&i`cZhY`Wci fgY`[ fUXY"

5hYbXUbW`F Yei ]fYa YbHg










# 5WUXYa ]WbZcfa Uh]cb

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: ]bU`YI Ua g ]b`H&`&\$&&`k ]`VY`VY`X`cb`]bY`VYtk`YYb`%&h`!`&) h`5i [ i gh&\$&&`]bW`g]j`Yz`UbX`gi`dd`Ya`YbHfM`YI`Ua`g`VYtk`YYb`)`h`!`-`h`GYdH`Ya`VYf`&\$&&`]bW`g]j`Y`"Mci`UFY`fYei`]fYX`tc`VY`Uj`U]UV`Y`cb`h`YgY`XUH`g"D`YUgY`Xc`bchtc`a`U`\_`Y`UbmdYfgcbU`cf`fUj`Y`UffUb[`Ya`YbHg`Xi`f]b[`h`]g`dYf]cX"

57589A ⇒ 58J ⇒ 9

- ?YmGHUZZtc`7`cbH`UWh`Zcf`5WUXYa` ]W5Xj` ]W`f]c[` ]b`k` ]h`mci`f`n`-8`UbX`dUggk`cfXk` [\hfdg.##bhfUbYh`Wj`Yb\[`"i`bgk`"YXi`"Ui`#`YmghUZZtc`!`VcbH`UWh`Xi`f\]b\[`!`mci`f\]gh`X\]Yg!`Uh`i`bgk`](#)
- ?Yml`BGK`8`UH`g`!`Y[`"7`Ybgi`g`8`UH`z`YI`Ua`XUH`g`z`Ugh`XUmhc`Xfcd`U`Wci`fgY`k` ]h`ci`h`UWUXYa` ]W`]b`Ub`W`U`"UV"]`m`Y`h`W`
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- Gh`XYbh`@]Z`Uh`7`J`9`B`z`]b`W`X]b[`Gh`XYbh`Gc`W`Y`h`Yg` [\hfdg.##k`k`"i`bgk`"YXi`"Ui`#`b\[`\]b`YYf\]b\[`#`Wj`\]`!`Ub`X`!`Y`b`j`f\]c`b`a`Y`b`H`!`Y`b\[`\]b`YYf\]b\[`#`gh`XYbh`\]Z`](#)
- Gd`Y`W`U`7`cbg`]X`Y`f`U`h`c`b` [\hfdg.##gh`XYbh`i`bgk`"YXi`"Ui`#`gd`Y`W`U`!`V`cbg`\]X`Y`f`U`h`c`b`](#)

