MAC 1147 - Quiz 1 **Name:**

For full credit, you must show all work and circle your final answer.

1 Simplify the following and write without absolute value signs:
$|\sqrt{5}-6|+|(-3)+2|$

$\sqrt{5}<6$ this means $(\sqrt{5}-6)<0$ so, $|\sqrt{5}-6|=-(\sqrt{5}-6)=6-\sqrt{5}$
Also, $|(-3)+2|=|(-1)|=1$
So, $|\sqrt{5}-6|+|(-3)+2|=(6-\sqrt{5})+1=7-\sqrt{5}$

2 Simplify:
$2x^2(3x)^0(-2x)^3$

Note that $y^0=1$, $y^2*y^3=y^{(2+3)}=y^5$ and that $(ab)^2=a^2b^2$, so we can see that:

$2x^2(3x)^0(-2x)^3$
$=2x^2(1)(-2^2x^3)$
$=(2*(-2^2))(x^2*x^3)$
$=8x^5$

3 Factor:
$(2x^2+7x+6)$

$=(2x+3)(x+2)$

You can check using FOIL, First, Outside, Inside, Last:
$(2x+3)(x+2)$
$=(2x*x)+(2x*2)+(3*x)+(3*2)$
$=2x^2+4x+3x+6$
$=2x^2+7x+6$