**Unit 2 - Quadratics Review Sheet #2**

1. Factor $3x^{4}+6x^{3}-27x^{2}-54x$ completely.
2. Solve $x^{2}=4x-22$
3. Solve for all values of x in simplest radical form by completing the square:

$$2x^{2}-14x-16=0$$

1. Solve for all values of *x*: $2x=-x-\sqrt{12x-16}+3$
2. Solve for all values of *x*: $-2x+4=(x-3)^{2}$
3. Given the quadratic equation $ax^{2}+5x+6=0$,
	1. For what integer values of *a* will the equation have real roots?
	2. For what integer values of *a* will the equation have imaginary roots?
4. If the roots of a quadratic equation are $3+3\sqrt{2}$ and $3-3\sqrt{2}$, write the equation in $ax^{2}+bx+c=0$ form.
5. Write the equation of the parabola in standard form whose focus is (3, 2) and whose directrix is y = -1.
6. Write the following quadratic equation in vertex form: $y=3x^{2}-18x-3$