**Name: Period: Job 37: Solving Quadratic w Quadratic Formula** .

**Part 1: Lesson 9-6 Textbook**

Page 393: 15, 19, 21, 23, 30, 31

**Part 2: Algebra Regents Questions –**

1. Which equation has the same solutions as $x^{2}-6x-12=0$?
2. $(x+3)^{2}=21$ (3) $(x+3)^{2}=3$
3. $(x-3)^{2}=21$ (4) $(x-3)^{2}=3$

1. A student was given the equation $x^{2}+6x-13=0$ to solve by completing the square. The first step that was written is shown below.

$$x^{2}+6x=13$$

The next step in the student’s process was $x^{2}+6x+c=13+c$.

State the value of $c$ that creates the perfect square trinomial.

Explain how $c$ is determined.

1. What are the roots of the equation $x^{2}+4x-16=0$?
2. $2\pm 2\sqrt{5}$ (3) $2\pm 4\sqrt{5}$
3. $-2\pm 2\sqrt{5}$ (4) $-2\pm 4\sqrt{5}$

1. Keith determines the zeros of the function $f(x)$ to be $-6$ and $5$. What could be Keith’s function?
2. $f\left(x\right)=(x+5)(x+6)$ (3) $f\left(x\right)=(x-5)(x+6)$
3. $f\left(x\right)=(x+5)(x-6)$ (4) $f\left(x\right)=(x-5)(x-6)$

1. On the axes below, graph $f\left(x\right)=|3x|$.



If $g\left(x\right)=f\left(x\right)-2$, how is the graph of $f(x)$ translated to the graph of $g(x)$?

If $h\left(x\right)=f(x-4)$, how is the graph of $f(x)$ translated to the graph of $h(x)$?

1. Determine and state whether the sequence $1, 3, 9, 27, …$ displays exponential behavior. Explain how you arrived at your decision.
2. Solve for $x$: $(x+2)^{2}=10$. State if the solution is rational or irrational and why.
3. Given $2x+ax-7>-12$, determine the largest integer value of $a$ when $x=-1$/