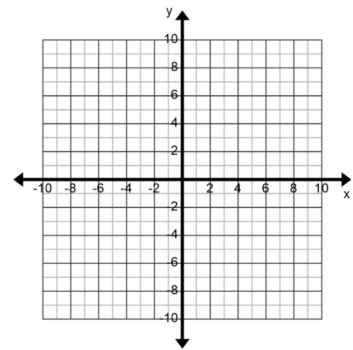
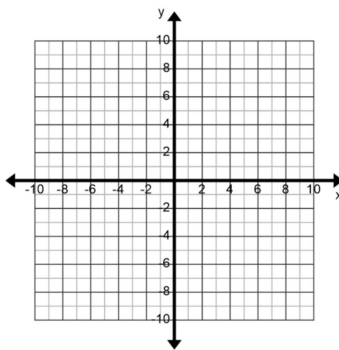
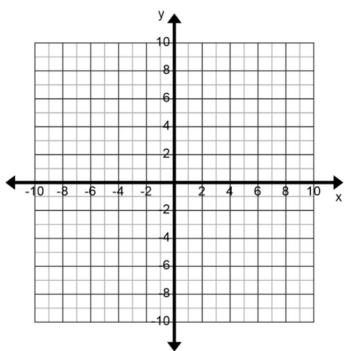


3.1 – I can solve quadratic functions by graphing.

- Step 1: Determine the x-coordinate of the vertex by using the formula $x = \frac{-b}{2a}$
- Step 2: Find the y-coordinate of the vertex by plugging in the x-value from step 1 into the function.
- Step 3: Identify the coefficient on the x^2 term and decide whether the parabola opens up or down.
- Step 4: Sketch a parabola that fits the information from steps 1-3 and estimate where the graph crosses the x-axis.

For #1-3, solve by graphing. *Estimate* the locations of the solutions.

- 1.) Solve $x^2 - 6x = 0$ by graphing. 2.) Solve $-2x^2 + 12x - 9 = 0$ by graphing. 3.) Solve $x^2 + 4x - 7 = 0$ by graphing.



3.1 – I can solve quadratic equations by factoring using the AC method and the Zero Product Property.

- Step 1: Move any terms so that the equation is set equal to zero, making sure the x^2 term is always positive.
- Step 2: Using the AC method, factor the polynomial
- Step 3: Using the Zero Product Property, set each of the parentheses equal to zero and solve.
- Step 4: If necessary, write the solutions from step 3 as ordered pairs $(x,0)$ representing the x-intercepts.

For #4-6, factor and solve the quadratic equations.

4.) $y^2 - 7 = 6y$

5.) $-6x - 56 = 2x^2$

6.) $4y^2 - 12y = 17y - 30$

3.1 and 3.2 – I can simplify radical expressions using “Radical Prison” with both real and imaginary numbers.

For #7-10, simplify the radical expressions.

7.) $\sqrt{225}$

8.) $\sqrt{-440}$

9.) $-2\sqrt{72}$

10.) $8\sqrt{-120}$

3.1 and 3.2 – I can solve quadratic equations using Greatest Common Factors (GCF) and square roots.

For #11-13, solve the equations.

11.) $-2x^2 - 10 = 30$

12.) $4(w+1)^2 - 12 = 20$

13.) $2p^2 - 14p = 0$

For #14, find the zeros of the function.

14.) $f(x) = \frac{1}{2}x^2 - 60$

3.2 – I can simplify imaginary numbers involving higher powers of i .

For #15-17, rewrite each expression in reduced powers of i (I won, I won!).

15.) $i^{34} =$

16.) $i^3 \cdot i^9 =$

17.) $(i^5)^2 =$

3.2 – I can perform operations on complex number including addition, subtraction, and multiplication.

For #18-23, simplify the complex expressions by performing the required operations.

18.) $5i(6 - 3i)$

19.) $(6 - 7i) - (4 + 2i)$

20.) $(8 - i)(3 + 10i)$

21.) $(10 + 2i) + (16 - 3i)$

22.) $(4 - 4i)(1 - 11i)$

23.) $2(9 - i) - 3(4 + i)$