Name: _____ **Period:** _____

Algebra 2 and Trigonometry - Unit 6 – Quadratic Functions
Review Problem Set 3

A2.A.46a I can write a quadratic function in vertex form and identify it's vertex, direction of opening and dilation factor

Write the below in vertex form and identify the vertex

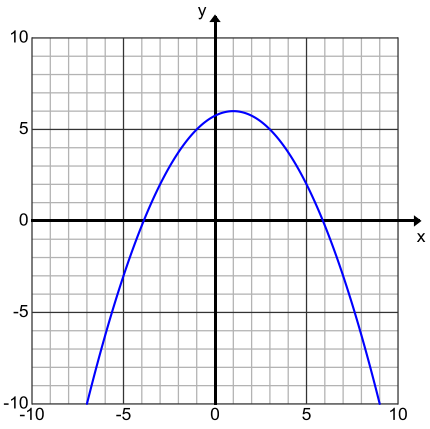
1. $y - 24 = x^2 - 14x$

2. $y + 18x = 3x^2 + 15$

A2.A.46b I can perform transformations with quadratic functions

1. Write the equation of the function $y = x^2$ that has been shifted 2 units to the left, 6 units up and opens downward

2. Write the equation of the below graph



A2.A.3 I can solve systems that involve one quadratic and one linear equation

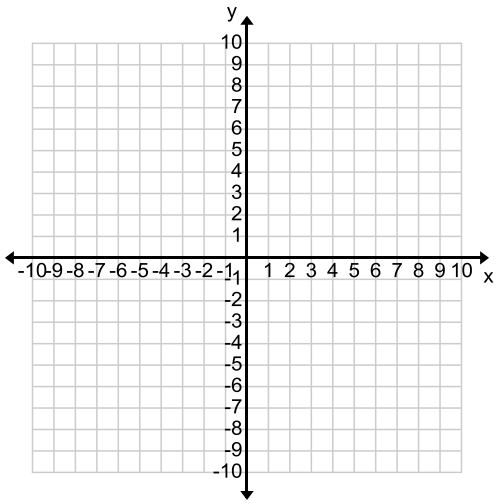
1. At how many places do the graphs of $x = 4$ and $y = (x+8)^2 + 3$ intersect?

2. Solve the system algebraically

$(x + 1)^2 + (y - 2)^2 = 4 \quad y = 3 - x$

3. Solve the system algebraically

$y = 2x^2 - 8x \qquad y = 2x$

A2.A.4aI can solve quadratic inequalities in one variable and graph the solution set.	**I can solve quadratic inequalities in two variables and graph the solution set.**
Solve the below inequalities algebraically and write your solution set in interval notation 1. $x^2 - 2x - 35 < 0$ 2. $4x^2 - 16x + 12 \leq 0$ 3. $x^2 \geq 5x$	1. Graph the inequality $-2x^2 + 3x < y$ and state a point in the solution set.  2. Graph the system of inequalities and state a point in the solution set $y - (x + 2)^2 + 5 \geq 0$ $y < 7$