

Day 07 Solving Non-Linear Systems Graphically Notes Name _____

A **system of equations** is when you have two or more equations. The **solution to the system** is the set of coordinates that works for both equations. For a system of 2 quadratics, how many solutions can you have? For a system of a linear and a quadratic, how many solutions can you have? Sketch examples below.

1) Given the system $y = x^2 - 1$ and $y = (x - 1)^2$

a. Is (2, 3) a solution?

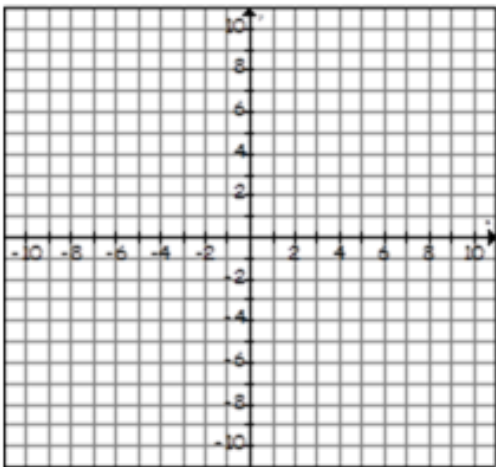
b. Is (1, 0) a solution?

Solving a System by Graphing: For each problem, do the following.

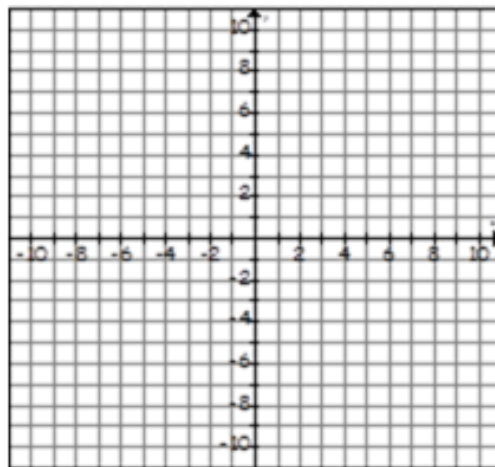
A) Graph each function on the same coordinate plane (Hint: Think if you have the vertex or the zeros)

B) Look for the intersection points, these are the solutions (name the full coordinate, x and y value)

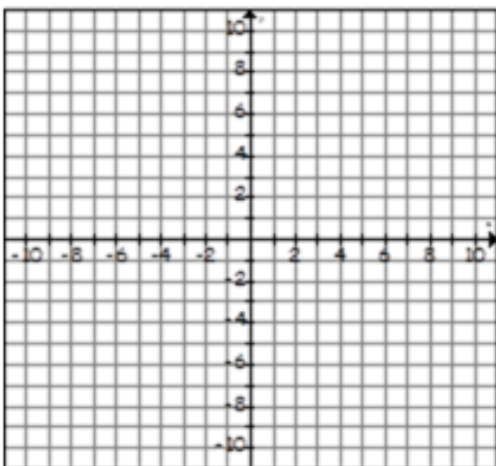
2) $y = -2(x - 2)^2 + 8$
 $y = (x - 2)^2 + 5$



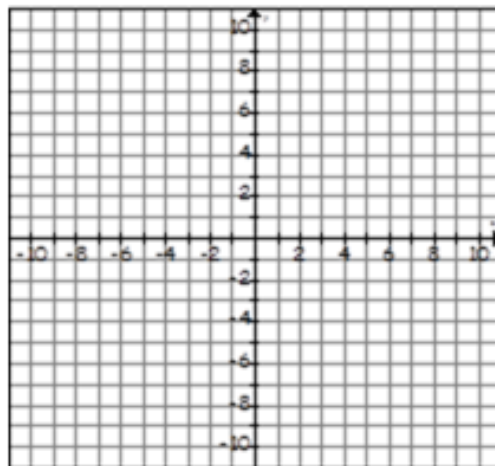
3) $y = \frac{1}{2}x^2 + 4$
 $y = 3x^2 - 6$



4) $x + y = 6$
 $y = -(x - 4)^2 + 4$



5) $y = x^2$
 $y = x + 2$



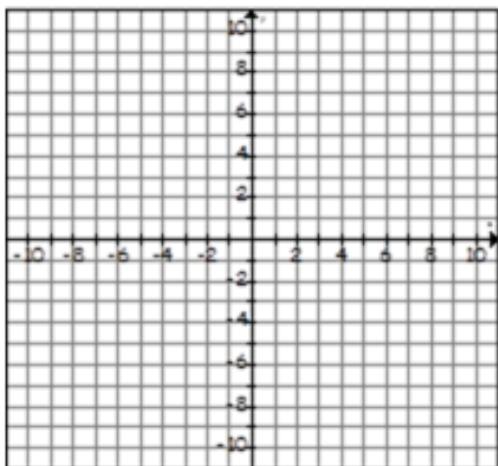
Day 07 Solving Non-Linear Systems Graphically Homework

Solving a System by Graphing: For each problem, do the following.

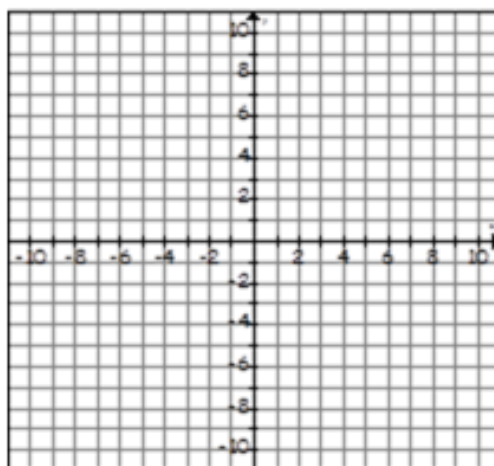
A) Graph each function on the same coordinate plane (Hint: Think if you have the vertex or the zeros)

B) Look for the intersection points, these are the solutions (name the full coordinate, x and y value)

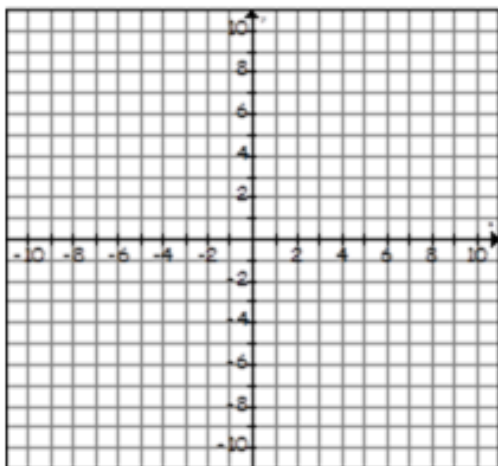
1) $x + y = 1$
 $y = -(x + 1)^2 + 4$



2) $y = -x^2 - 3$
 $y = x^2 - 5$



3) $y = x^2 - 4$
 $y = 3x$



4) $y = (x - 1)^2 + 3$
 $2x + y = 5$

