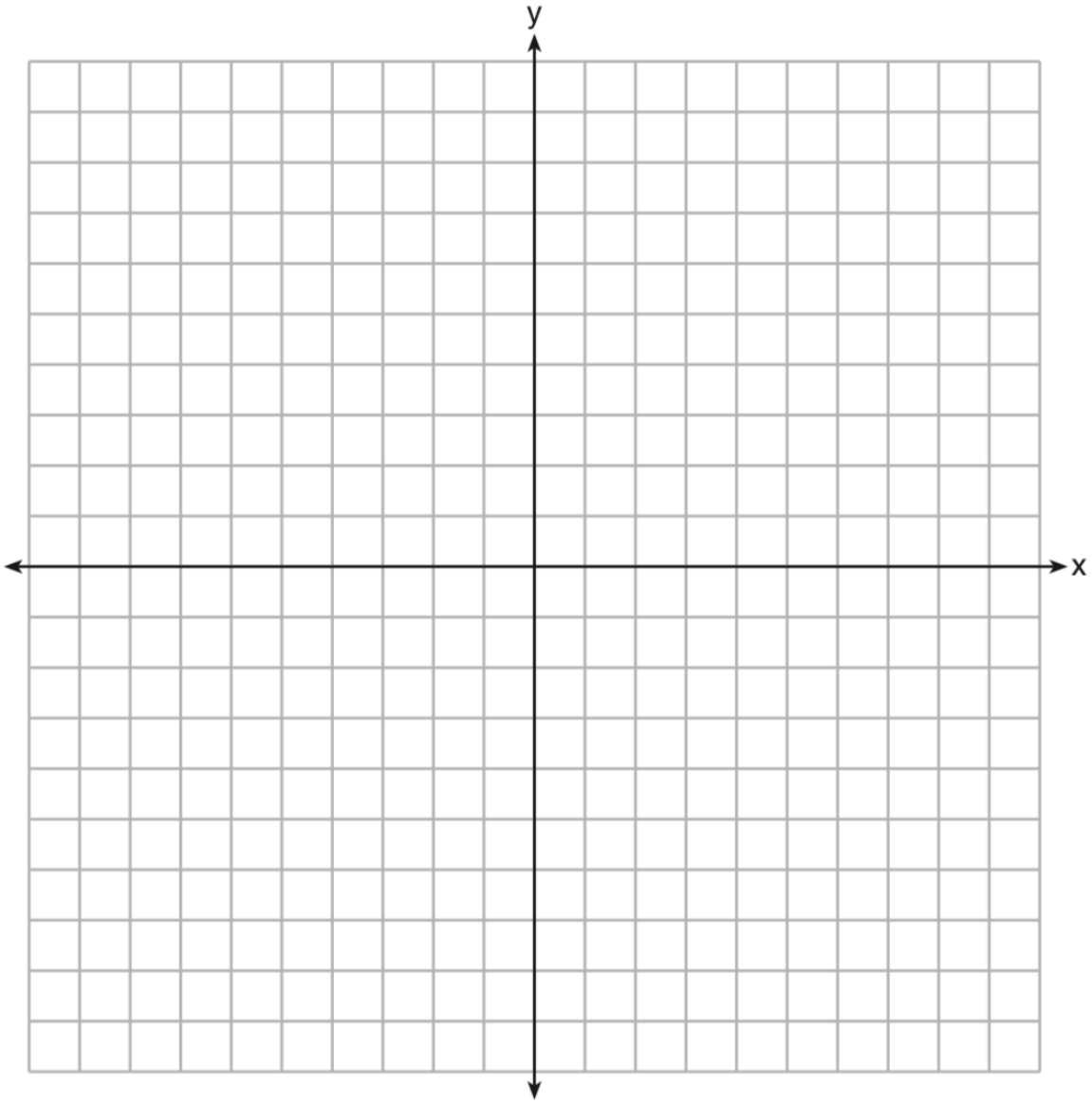
Name: _____ Class: _____

Quadratics Day Four: Systems

Question 1

Let $f(x) = -2x^2$ and $g(x) = 2x - 4$. On the set of axes below, draw the graphs of $y = f(x)$ and $y = g(x)$.



Using this graph, determine and state *all* values of x for which $f(x) = g(x)$.

Questions 2-3

2.

Given the system of equations: $y = x^2 - 4x$

$x = 4$

The number of points of intersection is

1) 1
2) 2
3) 3
4) 0

3.

Which ordered pair is a solution to the system of equations $y = x + 3$ and $y = x^2 - x$?

1) (6,9)
2) (3,6)
3) (3,−1)
4) (2,5)

Question 4

When the system of equations $y + 2 = (x - 4)^2$ and $2x + y - 6 = 0$ is solved graphically, the solution is:

1) $(-4, -2)$ and $(-2, 2)$ 2) $(4, -2)$ and $(2, 2)$ 3) $(-4, 2)$ and $(-6, 6)$ 4) $(4, 2)$ and $(6, 6)$

Question 5

What is the solution of the following system of equations?

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

1) (0,−4)
2) (−4,0)
3) (−4,−3) and (0,5)
4) (−3,−4) and (5,0)

Question 6

The graphs of the equations $y = x^2 + 4x - 1$ and $y + 3 = x$ are drawn on the same set of axes. At which point do the graphs intersect?

1) (1, 4) 2) $(1, -2)$ 3) $(-2, 1)$ $(-2, -5)$

Question 7

Solve the following system of equations, *algebraically*:

$$y = x^2 - 6x + 9$$
$$y = -9x + 19$$

Question 8-9

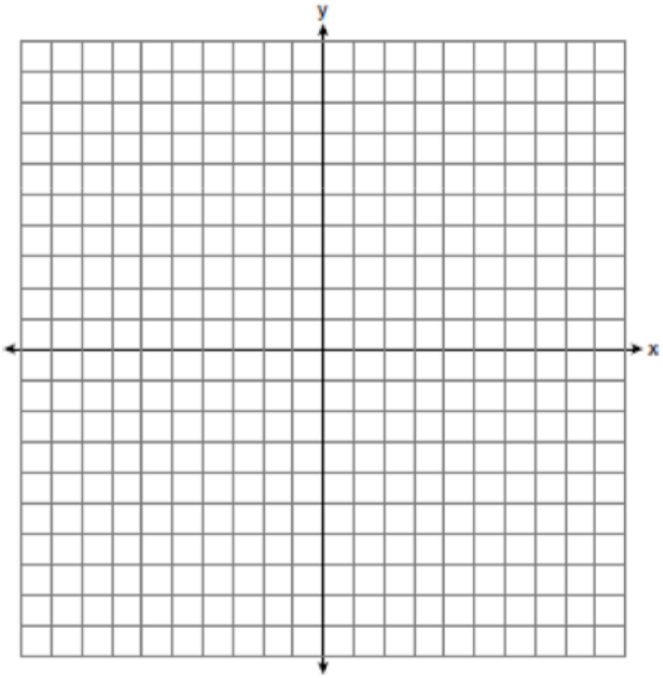
8.

On the set of axes below, graph the following system of equations.

$$y + 2x = x^2 + 4$$

$$y - x = 4$$

Using the graph, determine and state the coordinates of *all* points in the solution set for the system of equations.

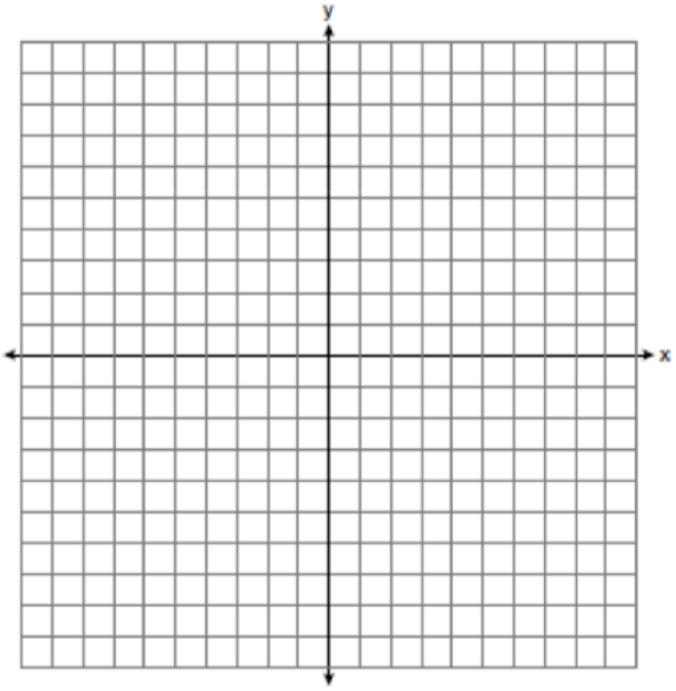


9.

Solve the following system of equations graphically.

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

$$x + y = 1$$

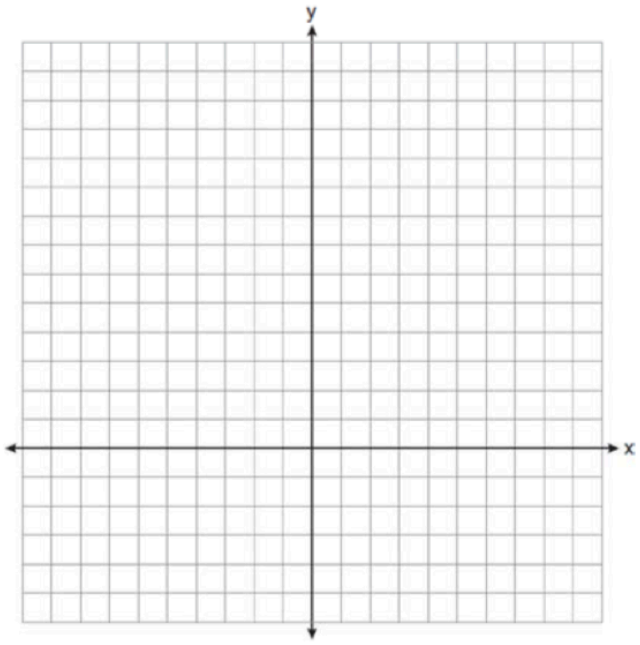


Question 10

On set of axes, solve the following system of equations graphically for all values of x and y.

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

$$4x + 2y = 14$$



Question 11 (Equations Review)

a. $-2 = 2 - 49x^2$

b. $5 - 4x^2 = -4$

c. $\frac{20}{x} = x - \frac{5}{x}$

d. $-\frac{130}{x} = -2x - \frac{2}{x}$

e. $3 - (x-4)^2 = -13$

f. $-40 = -4 - (x+1)^2$

Solve for x in terms of a:

g. $\frac{x^2}{a} = a$

h. $\frac{49x^2}{a} = a$

Question 12

If $a = x + 3$ and $b = 3x - 1$, find all possible values of x if $ab = 0$

Question 13

If $A = x - 10$, $B = 3x + 1$, $C = x$, and $ABC = 0$, find all possible values of x