

From Algebra I:

1. What is a system of equations?

$$\begin{cases} 5x - 2y = 11 \\ 2x + y = 8 \end{cases}$$

2. What are the three methods that I can use to solve a system of equations?

3. How many solutions can a system of linear equations have?

4. What does it mean if (3, 2) is the solution to a system?

From Geometry: The equation of a circle centered at the origin is $x^2 + y^2 = \text{radius}^2$.

5. What is the equation of a circle with center (-3, 2) and a radius of 4?

For Algebra II:

6. What happens to the number of solutions a system can have if I change one line in a system to a quadratic (a circle or a parabola)? Sketch examples.

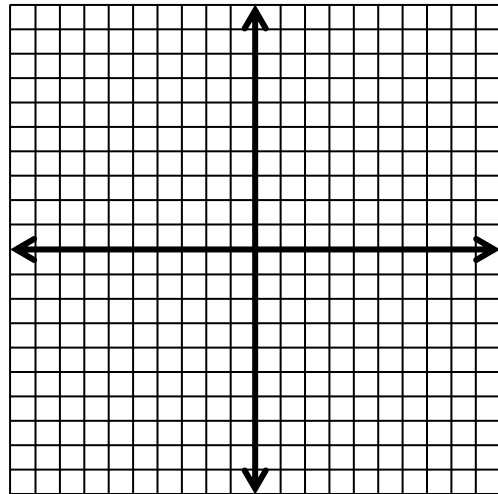
7. What happens to the number of solutions a system can have if I change both lines in a system to quadratics (circles or parabolas)? Sketch examples.

Solve the following systems.

8.
$$\begin{cases} x^2 + (y - 2)^2 = 25 \\ x + 2y - 9 = 0 \end{cases}$$

How many solutions are possible?

What method(s) could I use to solve?

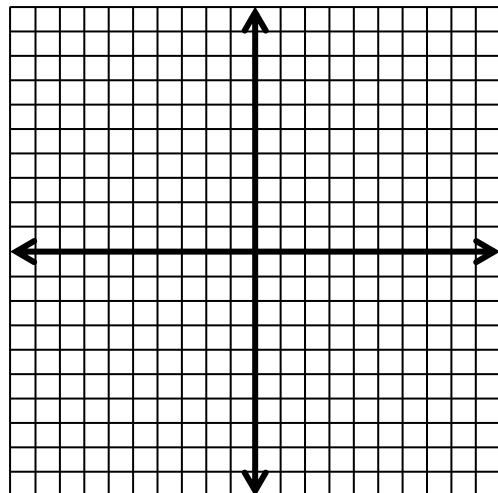


Solutions: _____

How can I check my solution(s)?

9.
$$\begin{cases} x^2 - y + 4 = 0 \\ x^2 + 4y = 0 \end{cases}$$

How many solutions are possible?



10.
$$\begin{cases} 4x - y - 22 = 0 \\ 2x^2 - 12x + y + 12 = 0 \end{cases}$$

How many solutions are possible?

