Lesson 4.2.3: The Quadratic Formula

Targets:

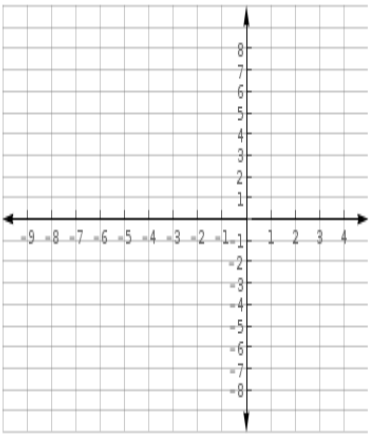
1. I understand how to solve a quadratic equation using the quadratic formula.

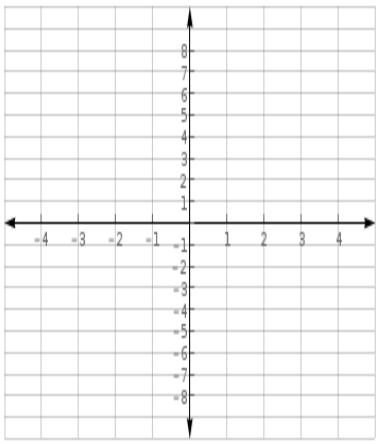
Warm Up:

Solve each of the following quadratic equations by graphing.

1. $0 = x^2 + 4x - 5$

2. $2x^2 - 3x - 7 = 0$





3. Which graph was less helpful in finding the solution to the equation? Why?

Vocab

Today we get to learn about the **Quadratic Formula**, which is very helpful in solving quadratic equations.

1. What is the quadratic formula?

2. What is it used for?

3. How do you use it?

Practice 1

For each equation, identify what the value of a, b, and c are for the quadratic formula:

1. $0 = 3x^2 - 4x + 5$

a =
b =
c =

2. $-4x^2 + 3x - 5 = 0$

a =
b =
c =

3. $5 = x^2 + 3$

a =
b =
c =

Practice 2

Solve the equation using the quadratic formula: $x^2 - 2x + 1 = 0$

Practice 3

Solve the equation using the quadratic formula: $x^2 - 2x = 12$

Practice 4

Solve the equation using the quadratic formula: $2x^2 + 8x = 7$

Exit Ticket

1. Solve the equation using the quadratic formula: $2x^2 + 3x - 5 = 4$

2. What are some benefits to the quadratic formula?

3. Do you like the quadratic formula better or worse than graphing and factoring? Why