

# RESPOND TO FEEDBACK ON YOUR WORK

**Directions:** If you have a Schoology message from Mr. Durden about Tuesday's assignment, respond to that message in the space below.

# CHOICE

Choose one of the following options for completing the rest of your work in Algebra 1.1.

- Learn about systems of linear equations through lessons today (Thursday) and Friday.
- Complete a project to review linear equations (due on Tuesday).

**Suggestions:** If you missed one or fewer questions from Tuesday's work, I encourage you to learn about systems of linear equations (they are wonderful). If you missed two or more questions from yesterday's work, I encourage you to complete the project.

# SYSTEMS OF EQUATIONS LESSON

**Directions:** For this lesson, you will answer the questions on the following slides. On each slide, please indicate whether you worked out the answer independently or received help\*.

\* I ask that you try to answer the questions independently, but I will be including links to videos that you can watch if you need help.

The questions for this lesson are from [brilliant.com](https://brilliant.org).

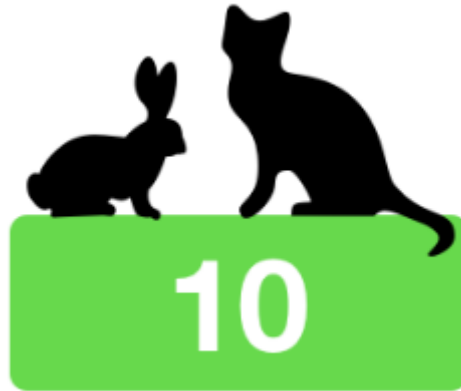
# INTRODUCTION TO SYSTEMS OF EQUATIONS

## LEARNING GOAL

1. I can describe what it means to find a **solution** to a **system of equations**.
2. I can solve systems of linear equations by graphing each equation and finding points where the lines intersect.

Can you tell how  
much the cat  
weighs?

$x$  = weight of the cat     $y$  = weight the rabbit



$$x + y = 10$$

Can you tell how  
much the cat  
weighs?

$x$  = weight of the cat     $y$  = weight the rabbit



$$x + y = 10$$



$$y = 4$$

Read the slide to understand the key concepts (in bold).

This is called a **system of two equations**.

The **solutions** to a system are the values of the variables that make *all of the equations* true.

A solution to a system can be written using an **ordered pair**.

$x$  = weight of the cat

$$x + y = 10$$

$y$  = weight the rabbit

$$y = 4$$



The cat weighs 6 units.



The rabbit weighs 4 units.

The **solution** to this system of equations is:

$$x = 6, y = 4$$

As an **ordered pair** the solution is:

$$(x, y) = (6, 4)$$

Can you tell the  
weight of each  
animal?



Weight of  
cat:

$x =$

Weight of  
rabbit:

$y =$

Weight of  
dog:

$z =$



**Challenge**  
**(Optional):** Can  
you tell the  
weight of each  
animal?



Weight of  
cat:  
 $x =$



Weight of  
rabbit:  
 $y =$



Weight of  
dog:  
 $z =$

Graph the equation

$$x + y = 10$$

Then graph the equation

$$y = 4$$

You should have two lines. Where  
do they cross?

(     ,     )

What is the solution to this system  
of equations?

(     ,     )

$x$  = weight of  
the cat

$y$  = weight the  
rabbit



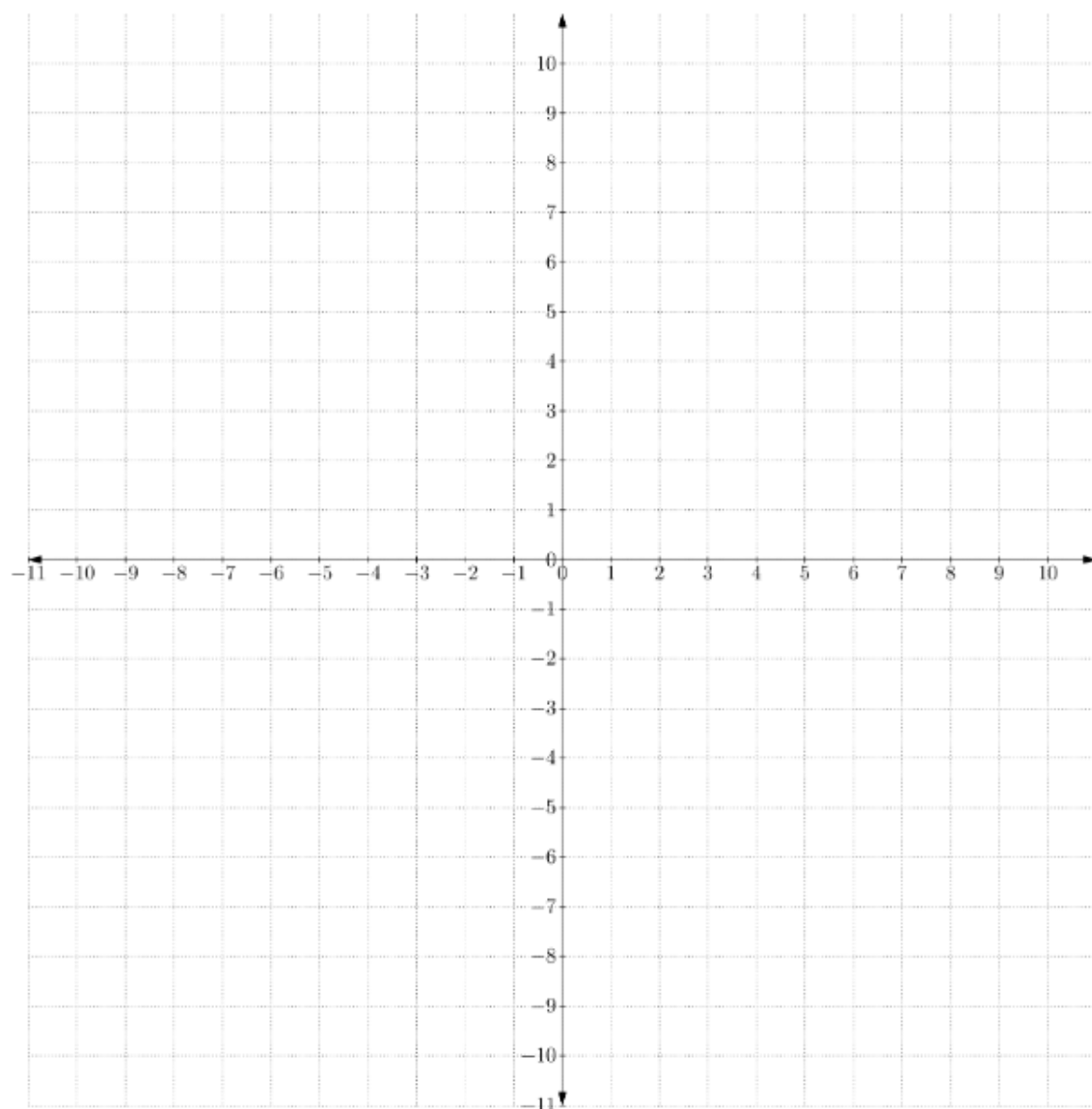
10



4

$$x + y = 10$$

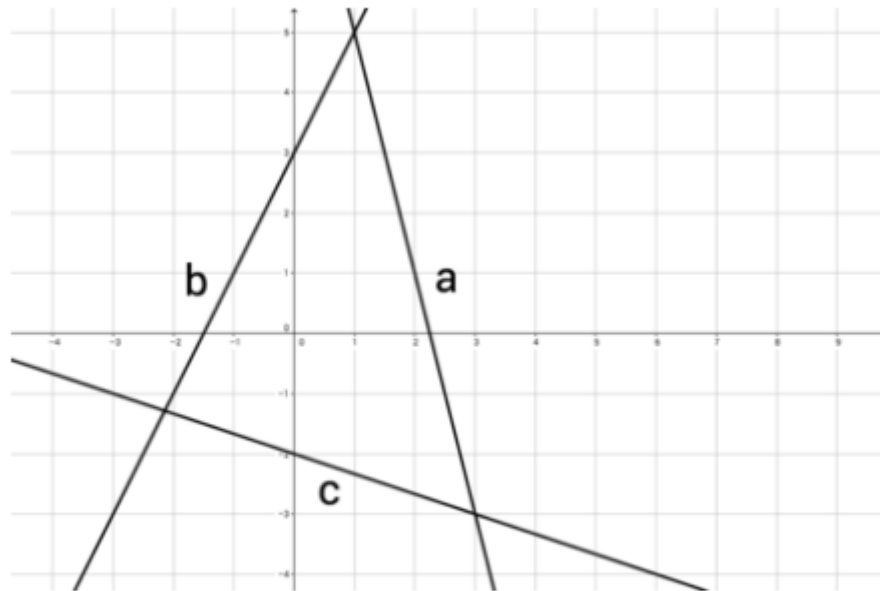
$$y = 4$$



A point where all graphs meet is called a  
**solution** to a system of equations.

A point where all graphs meet is called a **solution** to a system of equations.

# Help videos ()



☐ (3,-3)

☐ (-3,3)

☐ (1,5)

☐ (5,1)

Lines  $a$ ,  $b$ , and  $c$  represent three different linear equations.

What is the solution for the system of  $a$  and  $c$ ?

☐ I answered this independently    ☐ I received help on this

# Help videos ()

$x$  and  $y$  are real numbers that satisfy  $x = 7$  and  $x + y = 9$ .  
What is the value of  $y$ ?

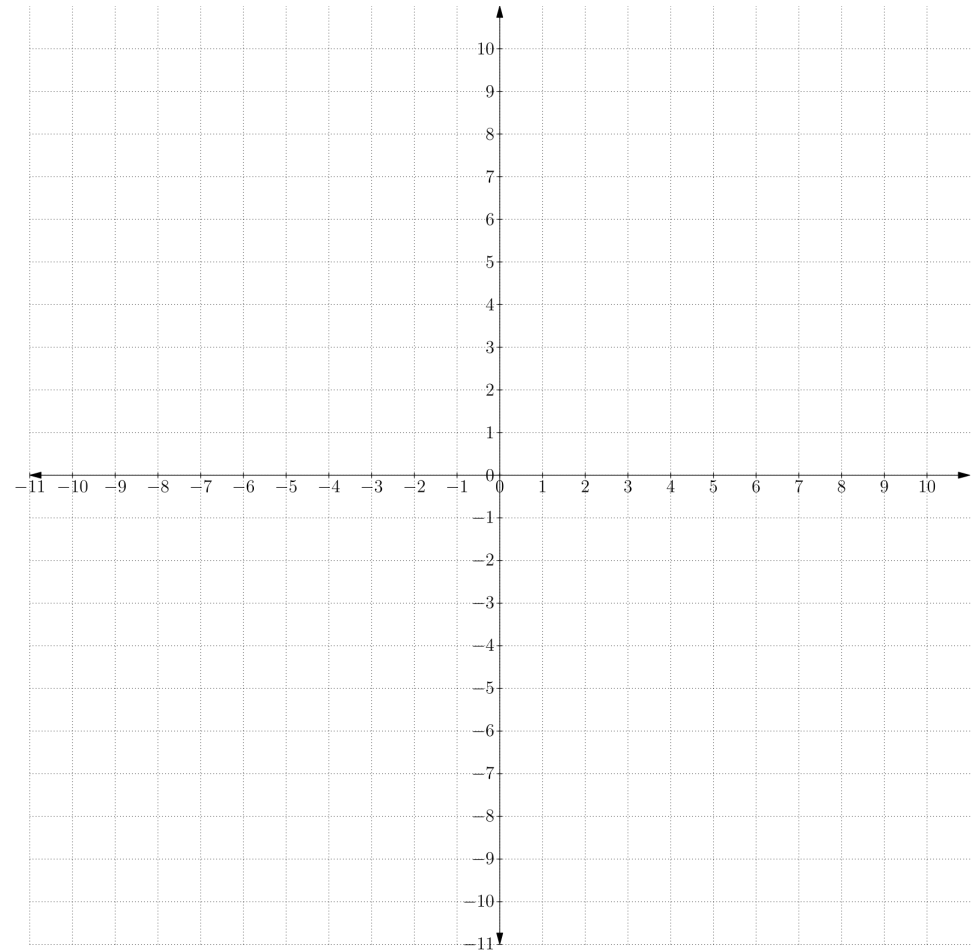
☐ 5

☐ 2

☐ 3

☐ 4

☐ 1



☐ I answered this independently    ☐ I received help on this

Watch the video "How many solutions" for background information before completing this question.

How many solutions are there for this system of equations?

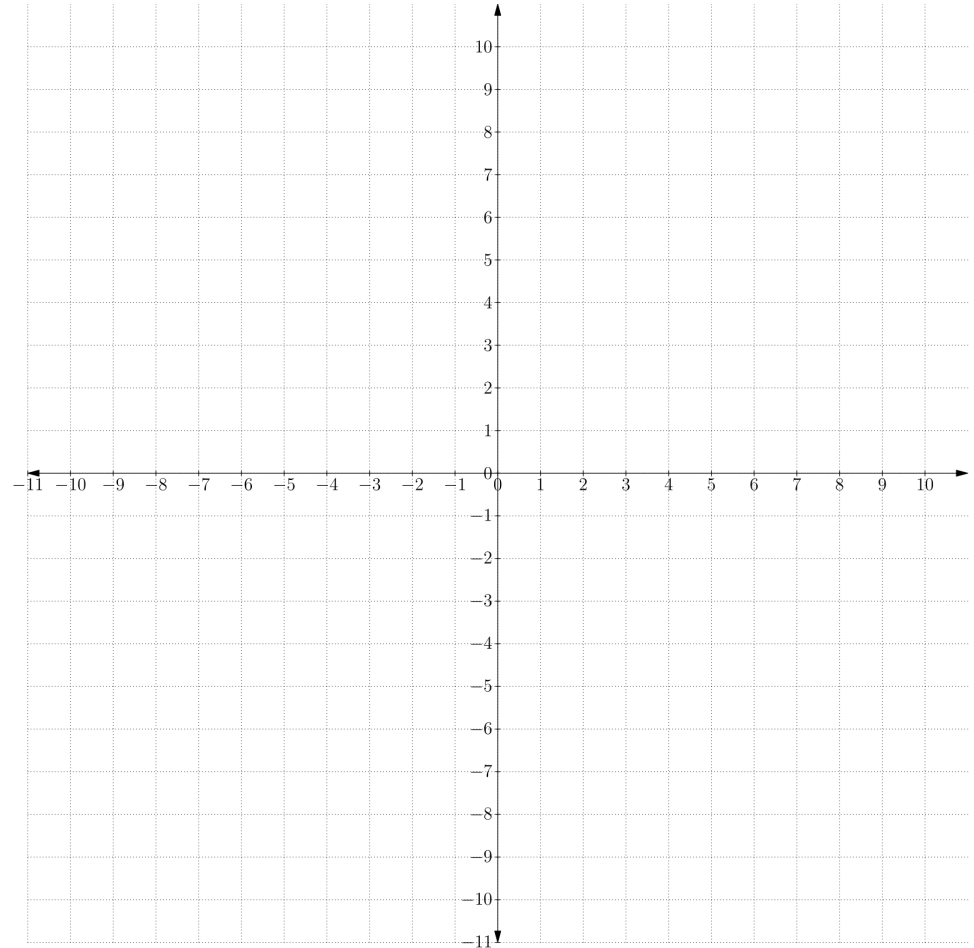
$$x + y = 4$$

$$x + y = 6$$

☐ 0

☐ 1

☐ Infinity



☐ I answered this independently    ☐ I received help on this

# Help videos ()

$x$  and  $y$  are real numbers that satisfy  $2x = 50$  and  $x + y = 40$ . What is the value of  $y$ ?

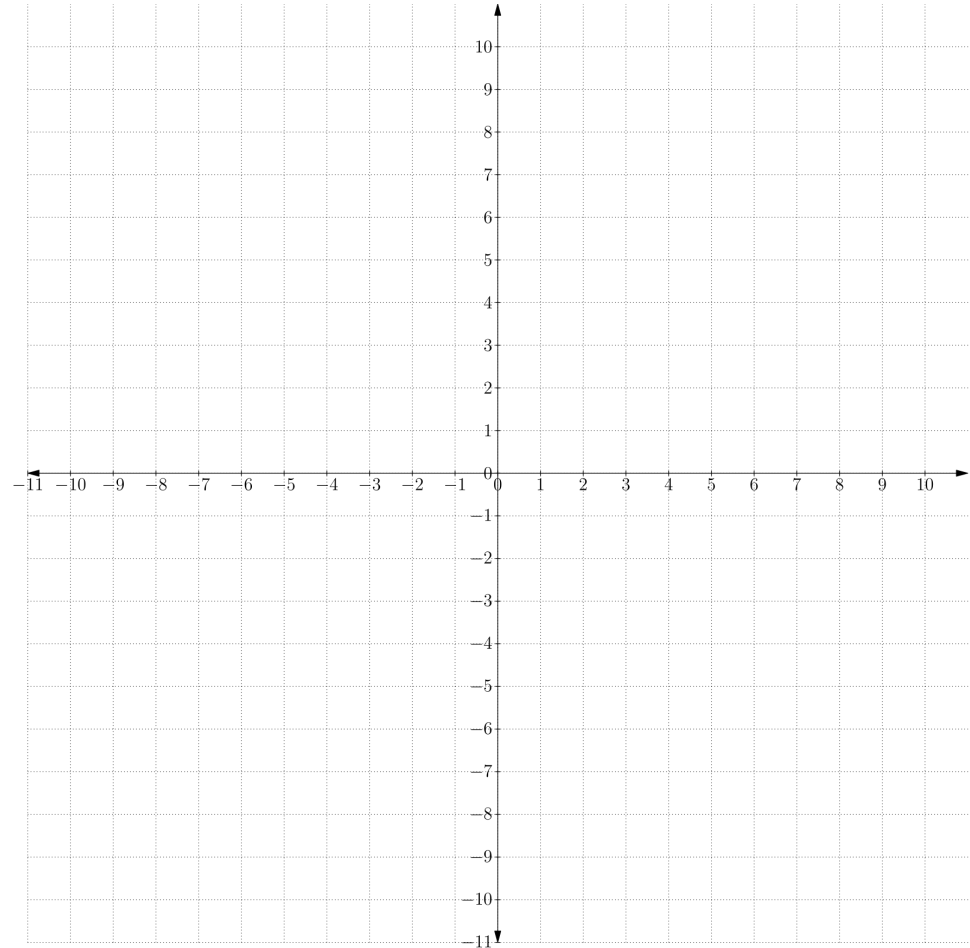
☐ 10

☐ 25

☐ 5

☐ 20

☐ 15



☐ I answered this independently    ☐ I received help on this

# Help videos ()

How many  $(x, y)$  pairs are solutions for both of these equations?

$$x + 2y = 4$$

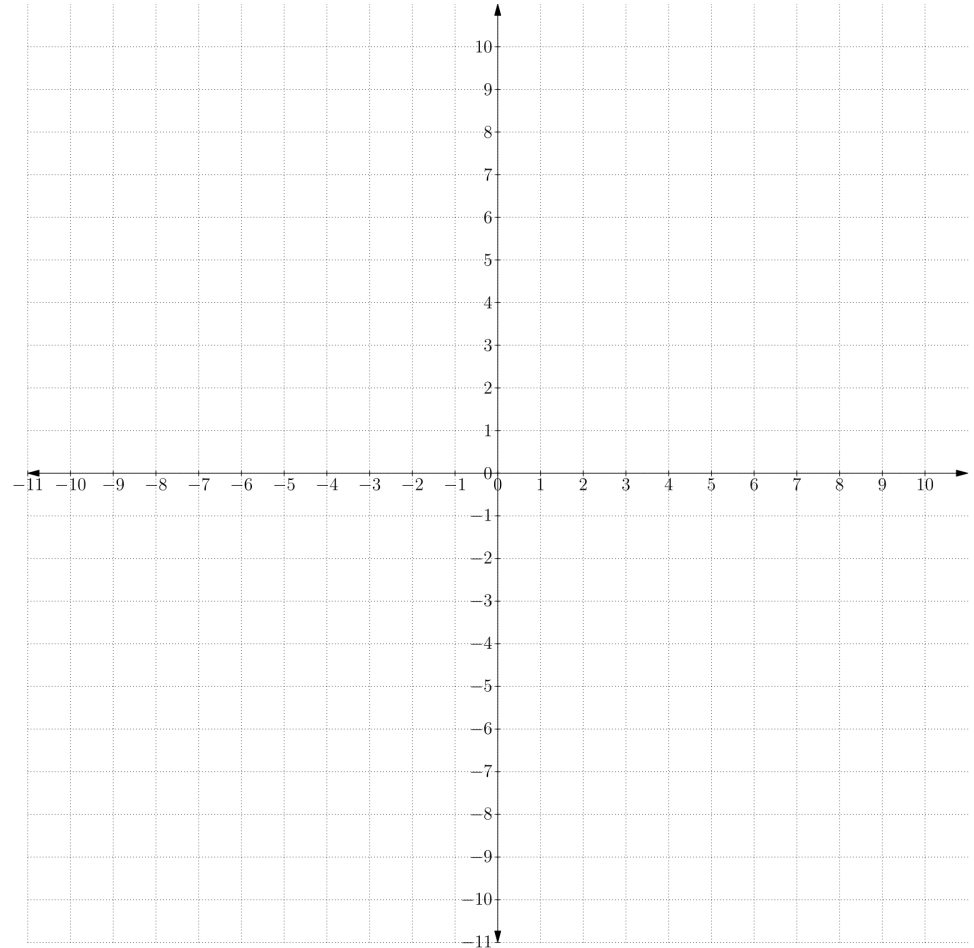
$$3x + 6y = 12$$

☐ 0

☐ 1

☐ 2

☐ infinitely many



☐ I answered this independently   ☐ I received help on this



# Help videos ()

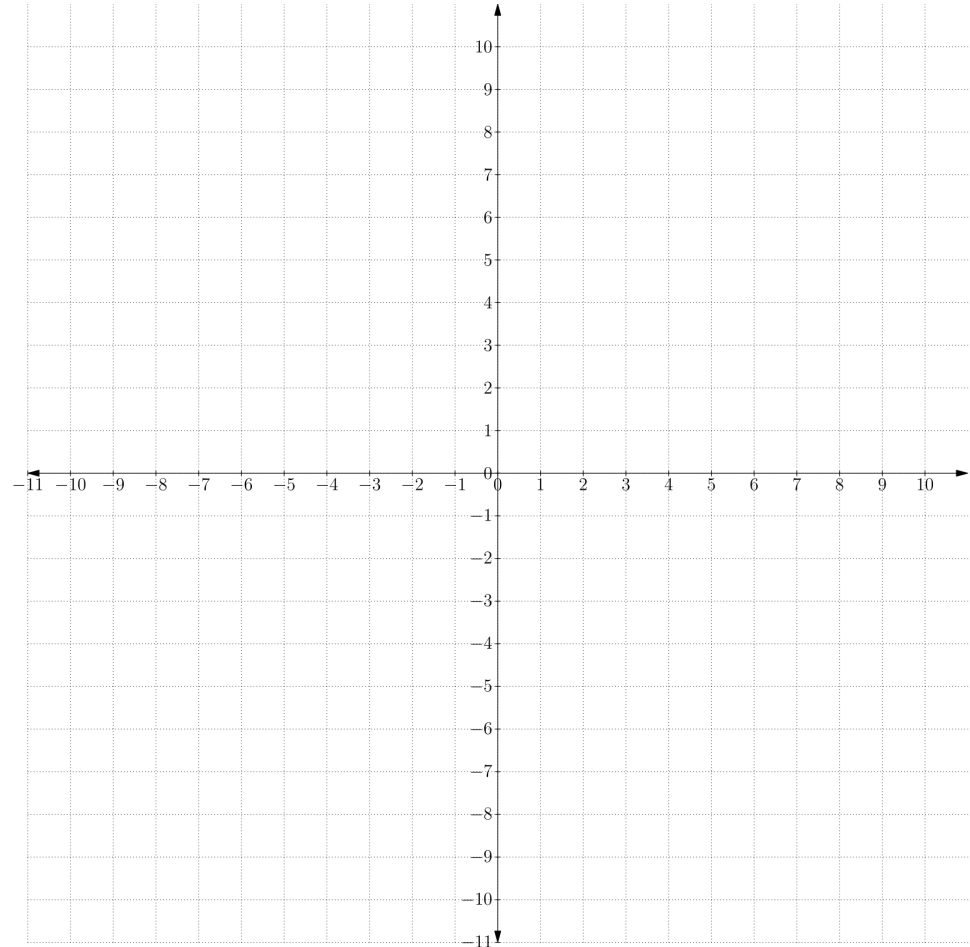
Find  $xy$  if  $2x + 4y = 2$  and  $y - x = 5$ .

☐ -6

☐ 5

☐ 6

☐ -5



☐ I answered this independently    ☐ I received help on this