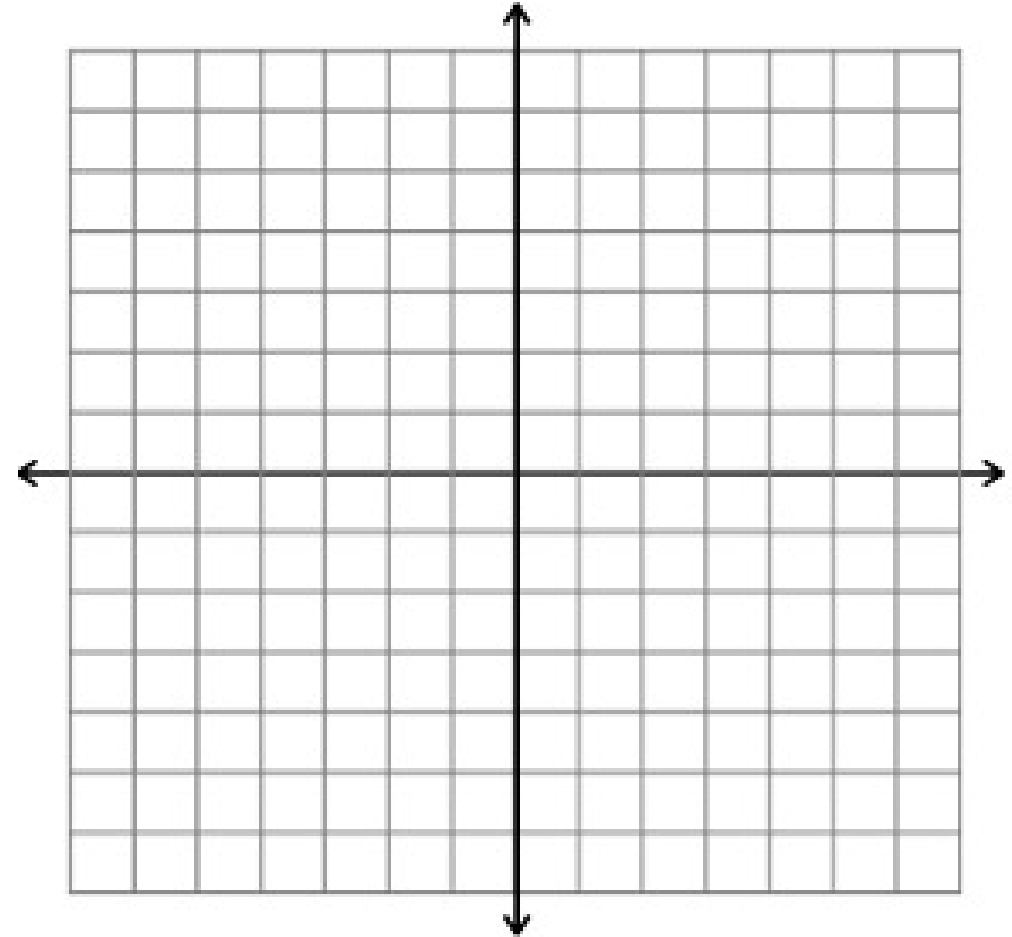# **Activator**

Graph the function. $f(x) = -4x + 6$

Is it linear?

Yes, it makes a straight line.

x	f(x)
0	6
1	2
2	-2
3	-6

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Today's Objective

Students will be able to solve two equations algebraically using the elimination method.

Announcements

How do I enter the 2nd function (equation) on the graph?

$f(x) = -4x + 6$

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x	f(x)
1	2

$f(x) = 8x - 6$

Which point is on both tables?

Press TAB to Enter the 2nd function (equation)

The intersection (solution).

Today's New Vocab (2 of 4)

Sometimes, the "y" is not by itself.

So, you can use the Elimination method.

Combine the two equations into 1 new equation.

$$8x + 2y = 12$$
$$-8x + y = -6$$
$$+ 3y = 6$$
$$\div 3 \quad \div 3$$
$$y = 2$$

Eliminate X to solve for y

This solution point is (x,2).

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Where does the two lines intersect?

Substitute y = 2 to solve for x

$8x + 2y = 12$

$8x + 2(2) = 12$

$8x + 4 = 12$

$-4 \quad\quad -4$

$8x = 8$

$\div 8 \quad \div 8$

$x = 1$

$-8x + y = -6$

$-8x + (2) = -6$

$-8x + 2 = -6$

$-2 \quad -2$

$-8x = -8$
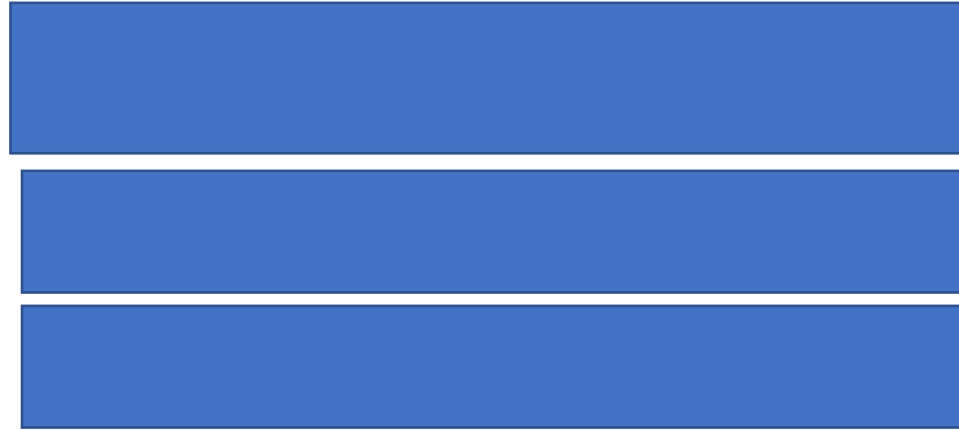
$\div -8 \quad \div -8$

$x = 1$

Choose your favorite red or blue.

The Solution

(1, 2)

DOUBLE CHECK. Is (1, 2) on both lines?

$8x + 2y = 12$ $-8x + y = -6$

The last equation in both problems is

So, the point (1, 2) is   and

is at the   of both lines.

Work Period

What is the x-value of the intercept (solution) ?

$$3x - y = 12$$
$$2x + y = 13$$

Elimination Method

$$5x + 0y = 25$$
$$5x = 25$$
$$\div 5 \qquad \div 5$$
$$x = 5$$

Eliminate y by combining the two equations into one equation.

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Group Work Questions

Directions: All groups, please do all of the questions. Use your notes from last class to help you. [Ask 2 people before you ask me.]

Yesterday, we did Lesson 5.3 Notes.

2nd Stop @ 9:03   3rd Stop @ 10:06   8th Stop @ 2:20

*One person from each group will present one question.

Exit Ticket

Where do the two lines intersect?

$$3x - y = 12$$

$$3(5) - y = 12$$

$$15 - y = 12$$

$$-15 \qquad -15$$

$$-y = -3$$

$$\div -1 \qquad \div -1$$

$$y = 3$$

$$2x + y = 13$$

$$2(5) + y = 13$$

$$10 + y = 13$$

$$-10 \qquad -10$$

$$y = 3$$

The Solution is (5, 3)

Substitute x to solve for y.

$$x = 5$$

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Lesson 5.3

The point (5,3) is where the two lines intersect.

Lesson 5.3 Game

"Cards Against Equations"

Directions: Get the game sheet. Draw a card from Mr. V. Complete the corresponding question to earn that many points. The winner is the group with the most points at the end of the game.

Scoring Rules: A = 1 point, 2 = 2 points, 3 = 3 points, etc. Q = 12 points, K = 13 points, J = 1 Bonus Point

Money: $5 per correct answer + $1 per point.