Solving Systems of Linear Equations in Two Variables by Graphing

Jonathan R. Bacolod

Sauyo High School

How to Solve a System of Linear Equations by Graphical Method?

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1. Identify the intercepts or slopes of each equation in the system.

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2. Draw the graphs of both equations on the same Cartesian plane.

How to Solve a System of Linear Equations by Graphical Method?

1. Identify the intercepts or slopes of each equation in the system.
2. Draw the graphs of both equations on the same Cartesian plane.
3. Interpret the graphs.

How to Solve a System of Linear Equations by Graphical Method?

How to Solve a System of Linear Equations by Graphical Method?

Graph   **Solution**

How to Solve a System of Linear Equations by Graphical Method?

Graph	Solution
Parallel	None

How to Solve a System of Linear Equations by Graphical Method?

Graph	Solution
Graph	**Solution**
Parallel	None
Coinciding	Infinitely many

How to Solve a System of Linear Equations by Graphical Method?

Graph	Solution
Parallel	None
Coinciding	Infinitely many
Intersecting	One

Example 1

Draw the graph of the following system of linear equations and tell whether it has one solution, no solution, or infinitely many solutions. If it has one solution, name its ordered pair.

$$\begin{cases} y = -x - 2 \\ 2x + 2y = -4 \end{cases}$$

Example 1

First equation $\quad\quad\quad\quad y = -x - 2$

First equation $y = -x - 2$

Find the slope:

Example 1

First equation $\qquad\qquad\qquad y = -x - 2$

Find the slope: $\qquad\qquad\qquad m = -1$

Example 1

First equation $y = -x - 2$

Find the slope: $m = -1$

Find the y-intercept:

Example 1

First equation $y = -x - 2$

Find the slope: $m = -1$

Find the y-intercept: $b = -2$

Example 1

Step 1: Identify the intercepts or slopes of each equation in the system.

Second equation $\quad 2x + 2y = -4$

Second equation $\quad 2x + 2y = -4$

Find the x-intercept:

Example 1

Step 1: Identify the intercepts or slopes of each equation in the system.

Second equation $\quad 2x + 2y = -4$

Find the x-intercept:

Let $y = 0$

Second equation $2x + 2y = -4$

Find the x-intercept:

Let $y = 0$ $2x + 2(0) = -4$

Example 1

Second equation $\qquad$ $\mathbf{2x + 2y = -4}$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad$ $2x + 2(0) = -4$

Simplify $\qquad\qquad\qquad$ $2x + 0 = -4$

Second equation $2x + 2y = -4$

Find the x-intercept:

Let $y = 0$ $2x + 2(0) = -4$

Simplify $2x + 0 = -4$

Use Division Property $\dfrac{2x}{2} = \dfrac{-4}{2}$

Example 1

Second equation $\qquad$ $2x + 2y = -4$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad$ $2x + 2(0) = -4$

Simplify $\qquad\qquad\qquad$ $2x + 0 = -4$

Use Division Property $\quad$ $\dfrac{2x}{2} = \dfrac{-4}{2}$

Simplify $\qquad\qquad\qquad$ $x = -2$

Example 1

Second equation $\quad$ **$2x + 2y = -4$**

Find the x-intercept:

Let $y = 0$ $\qquad\qquad$ $2x + 2(0) = -4$

Simplify $\qquad\qquad\qquad$ $2x + 0 = -4$

Use Division Property $\quad$ $\dfrac{2x}{2} = \dfrac{-4}{2}$

Simplify $\qquad\qquad\qquad$ $x = -2$

Coordinates $\qquad\qquad$ $(-2, 0)$

Example 1 Step 1: Identify the intercepts or slopes of each equation in the system.

Second equation $2x + 2y = -4$

Example 1

Second equation $2x + 2y = -4$

Find the y-intercept:

Second equation $2x + 2y = -4$

Find the y-intercept:

Let $x = 0$

Example 1

Second equation $\quad$ $2x + 2y = -4$

Find the y-intercept:

Let $x = 0$ $\qquad\qquad$ $2(0) + 2y = -4$

Second equation $2x + 2y = -4$

Find the y-intercept:

Let $x = 0$ $2(0) + 2y = -4$

Simplify $0 + 2y = -4$

Second equation $\quad$ $\mathbf{2x + 2y = -4}$

Find the y-intercept:

Let $x = 0$ $\qquad\qquad$ $2(0) + 2y = -4$

Simplify $\qquad\qquad\qquad$ $0 + 2y = -4$

Use Division Property $\quad$ $\dfrac{2y}{2} = \dfrac{-4}{2}$

Second equation $2x + 2y = -4$

Find the y-intercept:

Let $x = 0$ $2(0) + 2y = -4$

Simplify $0 + 2y = -4$

Use Division Property $\dfrac{2y}{2} = \dfrac{-4}{2}$

Simplify $y = -2$

Example 1

Second equation $2x + 2y = -4$

Find the y-intercept:

Let $x = 0$ $2(0) + 2y = -4$

Simplify $0 + 2y = -4$

Use Division Property $\dfrac{2y}{2} = \dfrac{-4}{2}$

Simplify $y = -2$

Coordinates $(0, -2)$

Example 1

Plot:

Example 1

Plot:

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$

Example 1

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$
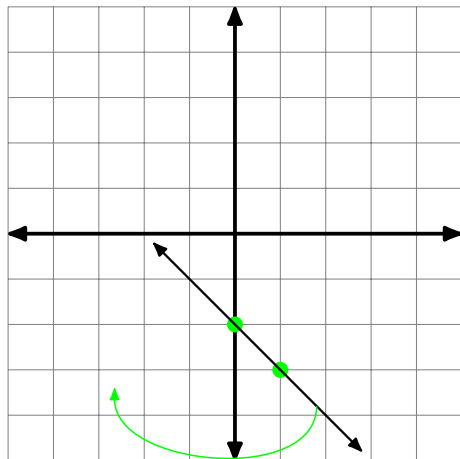- $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

Example 1

Plot:

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$

▶ $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

Example 1

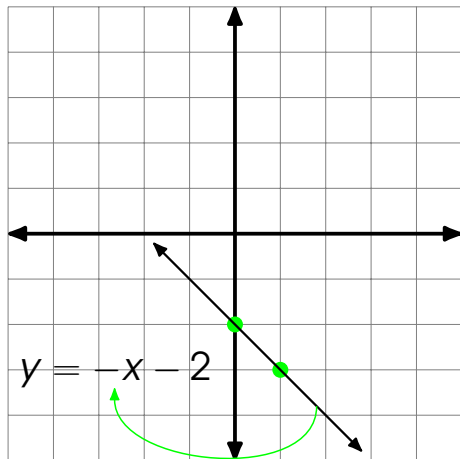Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$
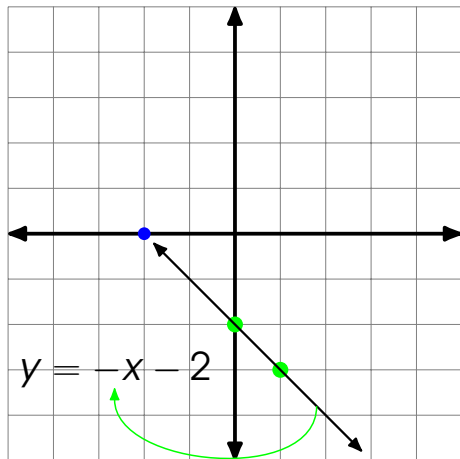- $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

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Plot:

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Plot:

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Example 1

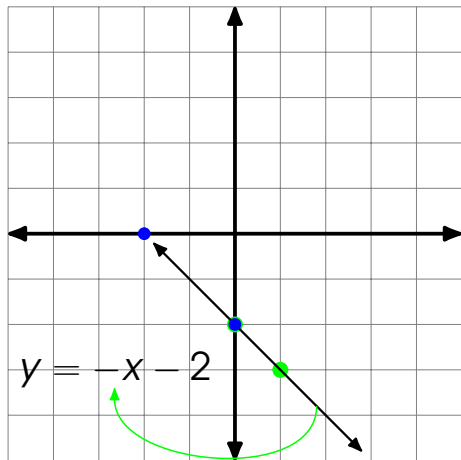Plot:

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$
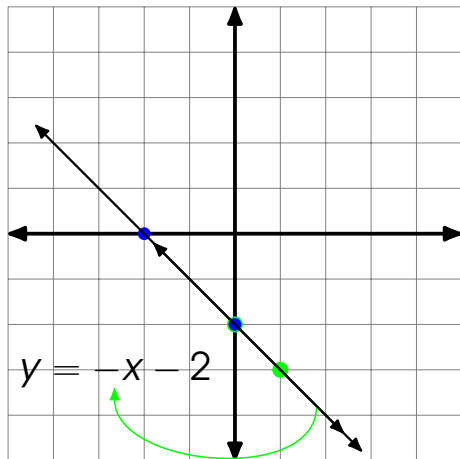
▶ $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

$y = -x - 2$

Example 1

Plot:

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$

▶ $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

$y = -x - 2$

Example 1

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$
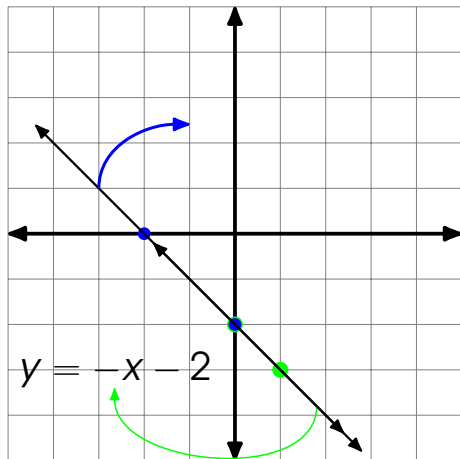- $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

$y = -x - 2$

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Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$
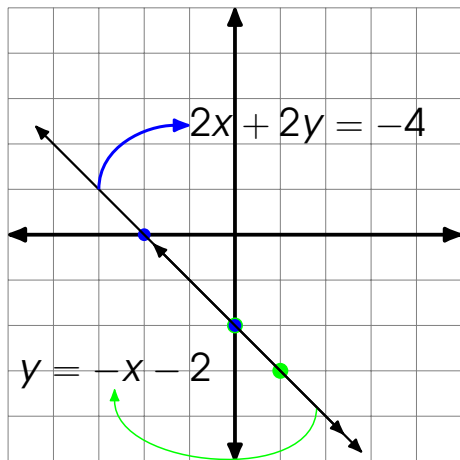- $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

$y = -x - 2$

Example 1

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$
- $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

$y = -x - 2$

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Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$
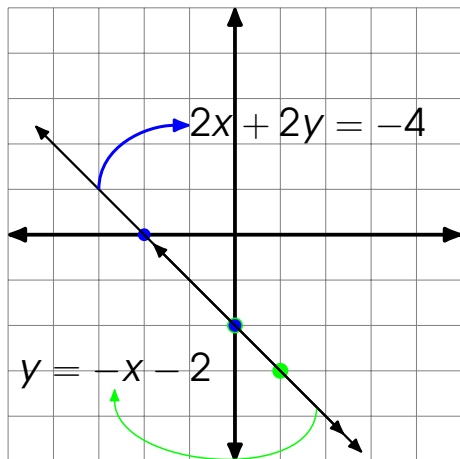- $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

Example 1

Plot:

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$

▶ $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

$2x + 2y = -4$

$y = -x - 2$

▶ Graph: coinciding

Example 1

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = -2$ for $y = -x - 2$
- $(-2, 0)$ and $(0, -2)$ for $2x + 2y = -4$

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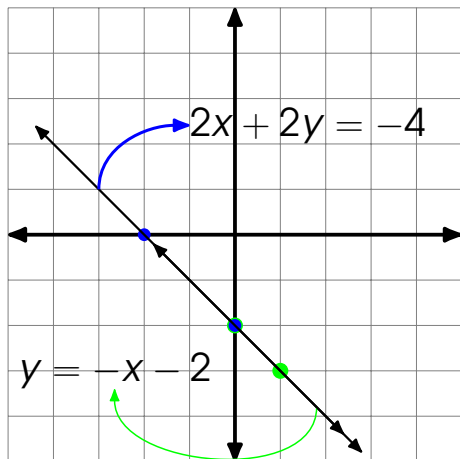
$y = -x - 2$

- Graph: coinciding
- Solutions: infinitely many

Example 2

Draw the graph of the following system of linear equations and tell whether it has one solution, no solution, or infinitely many solutions. If it has one solution, name its ordered pair.

$$\begin{cases} x + y = -2 \\ \quad y = -x + 3 \end{cases}$$

Example 2

First equation

Example 2

First equation $x + y = -2$

First equation $\qquad\qquad x + y = -2$

Find the x-intercept:

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$

Example 2

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $x + 0 = -2$

Example 2

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad x + 0 = -2$

Simplify

Example 2

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $x + 0 = -2$

Simplify $x = -2$

Example 2

First equation $\qquad\qquad\qquad$ $\boldsymbol{x + y = -2}$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad\qquad$ $x + 0 = -2$

Simplify $\qquad\qquad\qquad$ $x = -2$

Coordinates

Example 2

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $x + 0 = -2$

Simplify $x = -2$

Coordinates $(-2, 0)$

Example 2

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $\qquad x + 0 = -2$

Simplify $\qquad x = -2$

Coordinates $\qquad (-2, 0)$

Find the y-intercept:

Example 2

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $x + 0 = -2$

Simplify $x = -2$

Coordinates $(-2, 0)$

Find the y-intercept:

Let $x = 0$

Example 2

First equation $\qquad\qquad x + y = -2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad\qquad x + 0 = -2$

Simplify $\qquad\qquad\qquad\qquad x = -2$

Coordinates $\qquad\qquad\qquad (-2, 0)$

Find the y-intercept:

Let $x = 0$ $\qquad\qquad\qquad 0 + y = -2$

Example 2

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $x + 0 = -2$

Simplify $x = -2$

Coordinates $(-2, 0)$

Find the y-intercept:

Let $x = 0$ $0 + y = -2$

Simplify

Example 2

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $x + 0 = -2$

Simplify $x = -2$

Coordinates $(-2, 0)$

Find the y-intercept:

Let $x = 0$ $0 + y = -2$

Simplify $y = -2$

First equation $x + y = -2$

Find the x-intercept:

Let $y = 0$ $x + 0 = -2$

Simplify $x = -2$

Coordinates $(-2, 0)$

Find the y-intercept:

Let $x = 0$ $0 + y = -2$

Simplify $y = -2$

Coordinates

Example 2

First equation	$x + y = -2$
Find the x-intercept:	
Let $y = 0$	$x + 0 = -2$
Simplify	$x = -2$
Coordinates	$(-2, 0)$
Find the y-intercept:	
Let $x = 0$	$0 + y = -2$
Simplify	$y = -2$
Coordinates	$(0, -2)$

Example 2

Example 2

Step 1: Identify the intercepts or slopes of each equation in the system.

Second equation

Example 2

Second equation $y = -x + 3$

Second equation $y = -x + 3$

Find the slope:

Example 2

Step 1: Identify the intercepts or slopes of each equation in the system.

Second equation $y = -x + 3$

Find the slope: $m = -1$

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Second equation $y = -x + 3$

Find the slope: $m = -1$

Find the y-intercept:

Example 2

Second equation $y = -x + 3$

Find the slope: $m = -1$

Find the y-intercept: $b = 3$

Example 2

Plot:

Example 2

Plot:

- $(-2, 0)$ and $(0, -2)$ for $x + y = -2$

Example 2

Plot:

▶ $(-2, 0)$ and $(0, -2)$ for $x + y = -2$

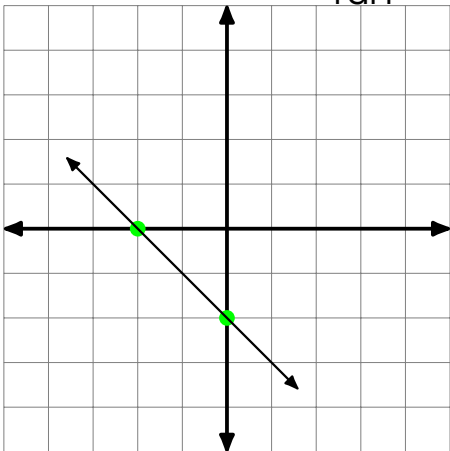▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

Example 2

Plot:

▶ $(-2, 0)$ and $(0, -2)$ for $x + y = -2$

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

Example 2
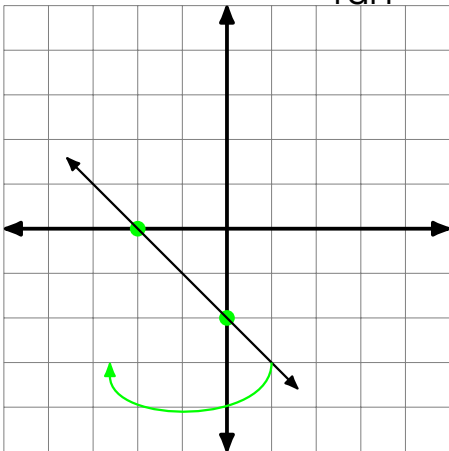
Plot:

▶ $(-2, 0)$ and $(0, -2)$ for $x + y = -2$

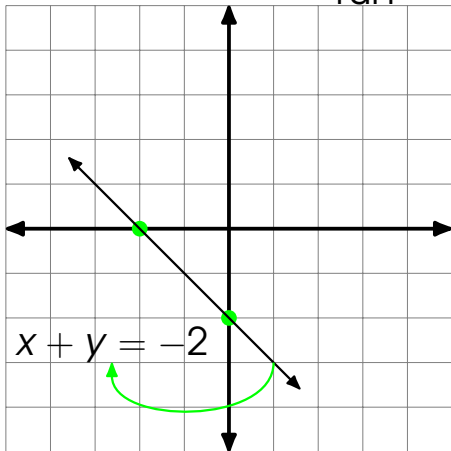▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

Example 2

Plot:

- $(-2, 0)$ and $(0, -2)$ for $x + y = -2$
- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

Example 2

Plot:

▶ $(-2, 0)$ and $(0, -2)$ for $x + y = -2$

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

Example 2

Plot:

- $(-2, 0)$ and $(0, -2)$ for $x + y = -2$
- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

$x + y = -2$

Example 2

Plot:

- $(-2, 0)$ and $(0, -2)$ for $x + y = -2$
- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$
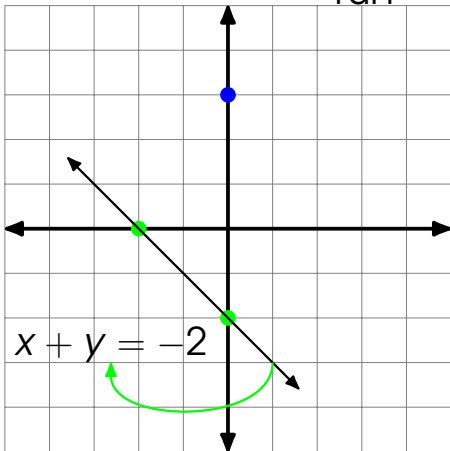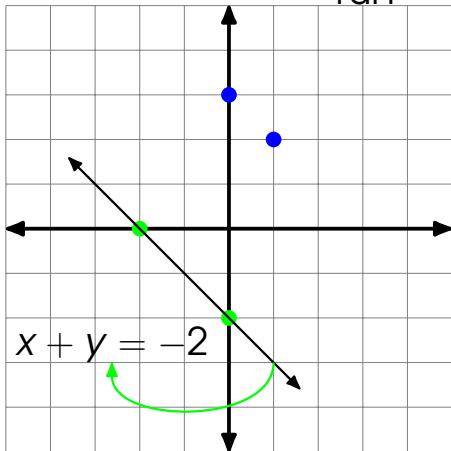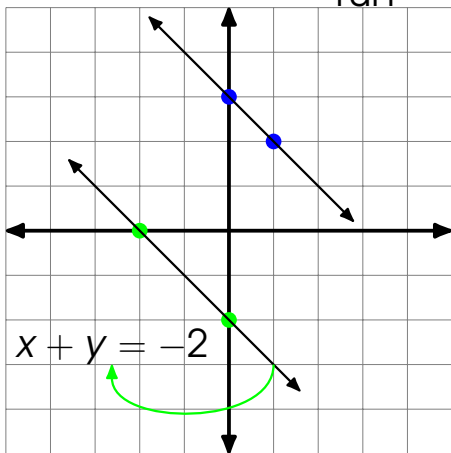

$x + y = -2$

Example 2

Step 2: Draw the graphs of both equations on the same Cartesian plane.

Plot:

- $(-2, 0)$ and $(0, -2)$ for $x + y = -2$
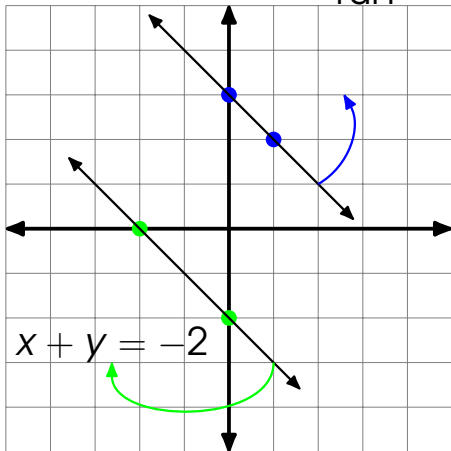- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

$x + y = -2$

Example 2

Plot:

- $(-2, 0)$ and $(0, -2)$ for $x + y = -2$
- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

$x + y = -2$

Example 2

Plot:

- $(-2, 0)$ and $(0, -2)$ for $x + y = -2$
- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

$x + y = -2$

Example 2

Plot:

▶ $(-2, 0)$ and $(0, -2)$ for $x + y = -2$

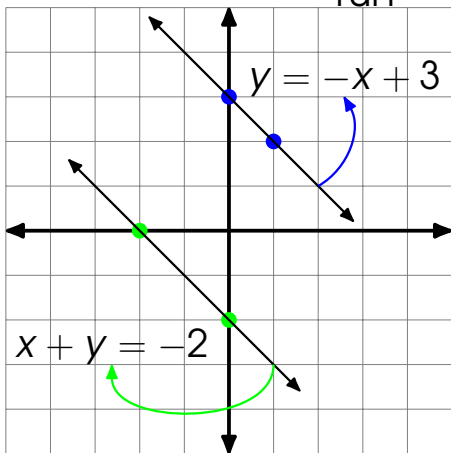▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

$y = -x + 3$

$x + y = -2$

Example 2

Plot:

- ▶ $(-2, 0)$ and $(0, -2)$ for $x + y = -2$
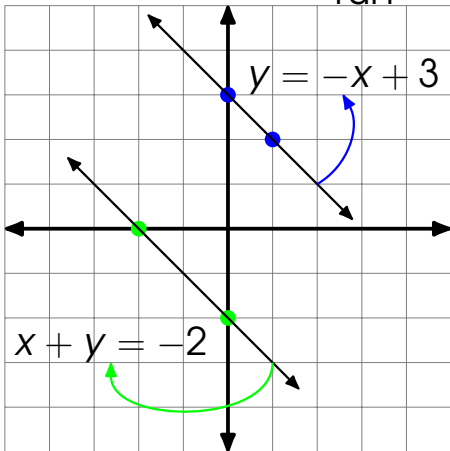- ▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

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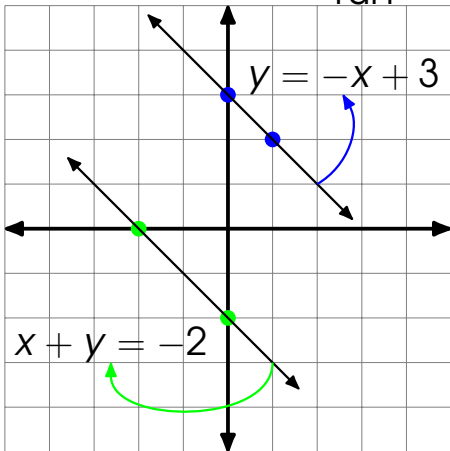
$x + y = -2$

- ▶ Graph: parallel

Example 2

Plot:

▶ $(-2, 0)$ and $(0, -2)$ for $x + y = -2$

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 3$ for $y = -x + 3$

$y = -x + 3$

$x + y = -2$

▶ Graph: parallel
▶ Solutions: none

Example 3

Draw the graph of the following system of linear equations and tell whether it has one solution, no solution, or infinitely many solutions. If it has one solution, name its ordered pair.

$$\begin{cases} y = -x + 4 \\ x - y = 2 \end{cases}$$

Example 3

Example 3

First equation

Example 3

First equation $\qquad y = -x + 4$

Example 3

First equation $y = -x + 4$

Find the slope:

Example 3

First equation $y = -x + 4$

Find the slope: $m = -1$

Example 3

First equation $y = -x + 4$

Find the slope: $m = -1$

Find the y-intercept:

Example 3

First equation	$y = -x + 4$
Find the slope:	$m = -1$
Find the y-intercept:	$b = 4$

Example 3

Example 3

Second equation

Second equation $x - y = 2$

Example 3

Second equation $\qquad x - y = 2$

Find the x-intercept:

Second equation $x - y = 2$

Find the x-intercept:

Let $y = 0$

Example 3

Second equation $x - y = 2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad$ $x - 0 = 2$

Example 3

Second equation $x - y = 2$

Find the x-intercept:

Let $y = 0$ $x - 0 = 2$

Simplify

Example 3

Second equation $\quad x - y = 2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad x - 0 = 2$

Simplify $\qquad\qquad\qquad x = 2$

Example 3

Step 1: Identify the intercepts or slopes of each equation in the system.

Second equation $\boldsymbol{x - y = 2}$

Find the x-intercept:

Let $y = 0$ $\qquad x - 0 = 2$

Simplify $\qquad x = 2$

Coordinates

Example 3

Second equation $x - y = 2$

Find the x-intercept:

Let $y = 0$ $x - 0 = 2$

Simplify $x = 2$

Coordinates $(2, 0)$

Second equation $x - y = 2$

Find the x-intercept:

Let $y = 0$ $\qquad x - 0 = 2$

Simplify $\qquad x = 2$

Coordinates $\qquad (2, 0)$

Find the y-intercept:

Example 3

Step 1: Identify the intercepts or slopes of each equation in the system.

Second equation $\quad\quad\quad\quad x - y = 2$

Find the x-intercept:

Let $y = 0$ $\quad\quad\quad\quad\quad\quad x - 0 = 2$

Simplify $\quad\quad\quad\quad\quad\quad\quad x = 2$

Coordinates $\quad\quad\quad\quad\quad\quad (2, 0)$

Find the y-intercept:

Let $x = 0$

Example 3

Second equation $\qquad x - y = 2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad\qquad x - 0 = 2$

Simplify $\qquad\qquad\qquad\qquad x = 2$

Coordinates $\qquad\qquad\qquad (2, 0)$

Find the y-intercept:

Let $x = 0$ $\qquad\qquad\qquad 0 - y = 2$

Example 3

Second equation $\qquad$ $x - y = 2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad$ $x - 0 = 2$

Simplify $\qquad\qquad$ $x = 2$

Coordinates $\qquad\qquad$ $(2, 0)$

Find the y-intercept:

Let $x = 0$ $\qquad\qquad$ $0 - y = 2$

Simplify

Example 3

Second equation $\qquad\qquad$ $x - y = 2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad\qquad$ $x - 0 = 2$

Simplify $\qquad\qquad\qquad\qquad$ $x = 2$

Coordinates $\qquad\qquad\qquad$ $(2, 0)$

Find the y-intercept:

Let $x = 0$ $\qquad\qquad\qquad$ $0 - y = 2$

Simplify $\qquad\qquad\qquad\qquad$ $-y = 2$

Example 3

Second equation $x - y = 2$

Find the x-intercept:

Let $y = 0$ $x - 0 = 2$

Simplify $x = 2$

Coordinates $(2, 0)$

Find the y-intercept:

Let $x = 0$ $0 - y = 2$

Simplify $-y = 2$

Use MPE

Example 3

Second equation $\qquad x - y = 2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad\qquad x - 0 = 2$

Simplify $\qquad\qquad\qquad\quad x = 2$

Coordinates $\qquad\qquad\quad (2, 0)$

Find the y-intercept:

Let $x = 0$ $\qquad\qquad\qquad 0 - y = 2$

Simplify $\qquad\qquad\qquad\quad -y = 2$

Use MPE $\qquad\qquad\qquad -1(-y) = -1(2)$

Example 3

Second equation $\quad\quad\quad\quad$ $x - y = 2$

Find the x-intercept:

Let $y = 0$ $\quad\quad\quad\quad\quad\quad$ $x - 0 = 2$

Simplify $\quad\quad\quad\quad\quad\quad\quad$ $x = 2$

Coordinates $\quad\quad\quad\quad\quad\quad$ $(2, 0)$

Find the y-intercept:

Let $x = 0$ $\quad\quad\quad\quad\quad\quad$ $0 - y = 2$

Simplify $\quad\quad\quad\quad\quad\quad\quad$ $-y = 2$

Use MPE $\quad\quad\quad\quad\quad\quad\quad$ $-1(-y) = -1(2)$

Simplify

Example 3

Second equation $x - y = 2$

Find the x-intercept:

Let $y = 0$ $x - 0 = 2$

Simplify $x = 2$

Coordinates $(2, 0)$

Find the y-intercept:

Let $x = 0$ $0 - y = 2$

Simplify $-y = 2$

Use MPE $-1(-y) = -1(2)$

Simplify $y = -2$

Example 3

Second equation $\qquad x - y = 2$

Find the x-intercept:

Let $y = 0$ $\qquad\qquad\qquad x - 0 = 2$

Simplify $\qquad\qquad\qquad\qquad x = 2$

Coordinates $\qquad\qquad\qquad (2, 0)$

Find the y-intercept:

Let $x = 0$ $\qquad\qquad\qquad 0 - y = 2$

Simplify $\qquad\qquad\qquad\qquad -y = 2$

Use MPE $\qquad\qquad\qquad\quad -1(-y) = -1(2)$

Simplify $\qquad\qquad\qquad\qquad y = -2$

Coordinates

Example 3

Step 1: Identify the intercepts or slopes of each equation in the system.

Second equation $x - y = 2$

Find the x-intercept:

Let $y = 0$	$x - 0 = 2$
Simplify	$x = 2$
Coordinates	$(2, 0)$

Find the y-intercept:

Let $x = 0$	$0 - y = 2$
Simplify	$-y = 2$
Use MPE	$-1(-y) = -1(2)$
Simplify	$y = -2$
Coordinates	$(0, -2)$

Example 3

Plot:

Example 3

Plot:

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$

Example 3

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▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
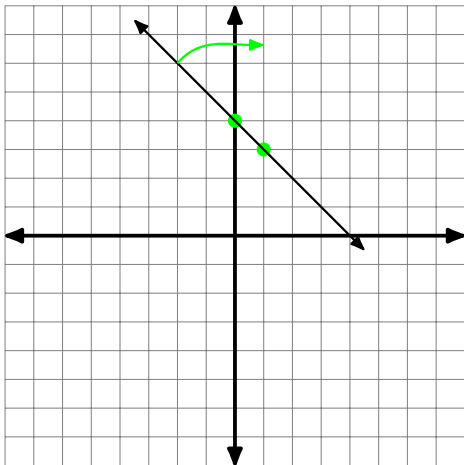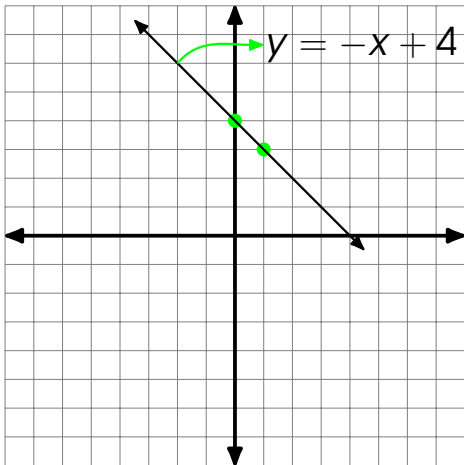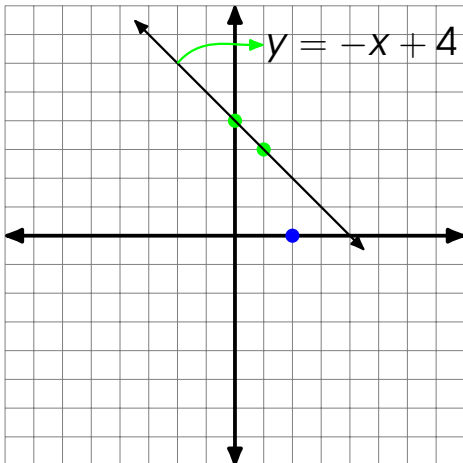
▶ $(2, 0)$ and $(0, -2)$ for $x - y = 2$

Example 3

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

Example 3

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

Example 3

Plot:
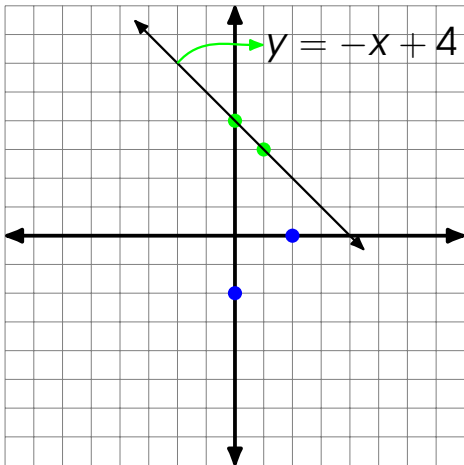
▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$

▶ $(2, 0)$ and $(0, -2)$ for $x - y = 2$

Example 3

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▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$

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Example 3

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- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
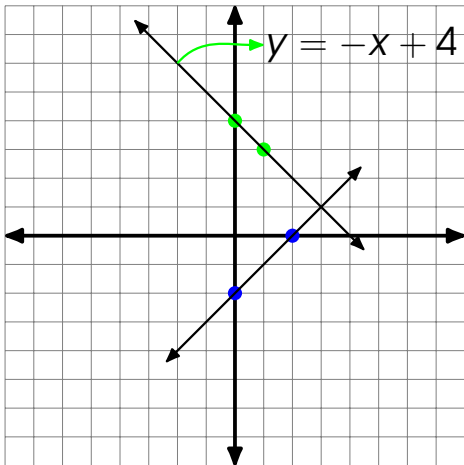- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

$y = -x + 4$

Example 3

Plot:

▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
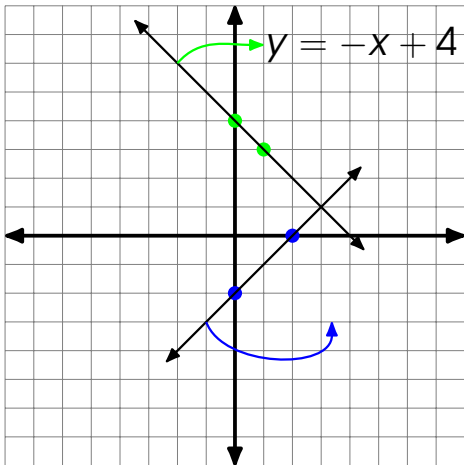
▶ $(2, 0)$ and $(0, -2)$ for $x - y = 2$

$y = -x + 4$

Example 3

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

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Example 3

Plot:

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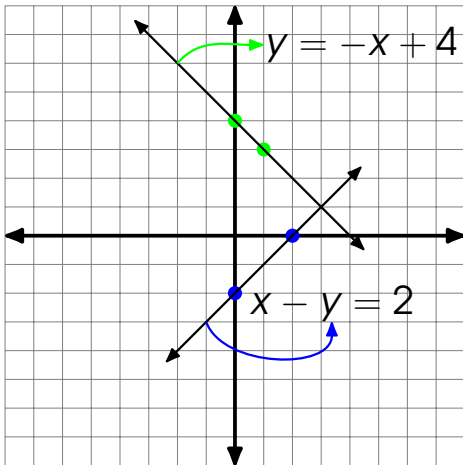- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

$y = -x + 4$

Example 3

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
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Example 3

Plot:

- ▶ $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
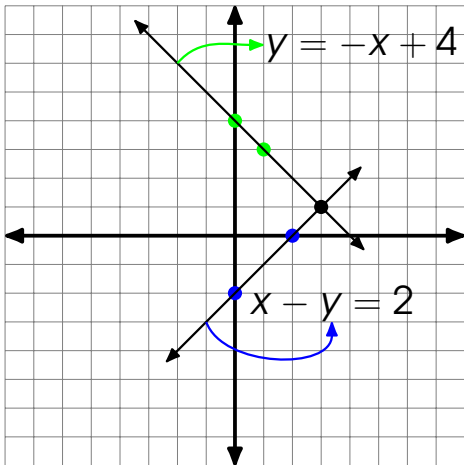- ▶ $(2, 0)$ and $(0, -2)$ for $x - y = 2$

$y = -x + 4$

$x - y = 2$

Example 3

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

Example 3

Plot:
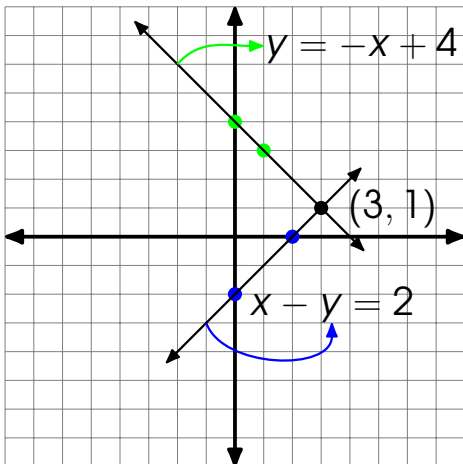
- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

Example 3

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
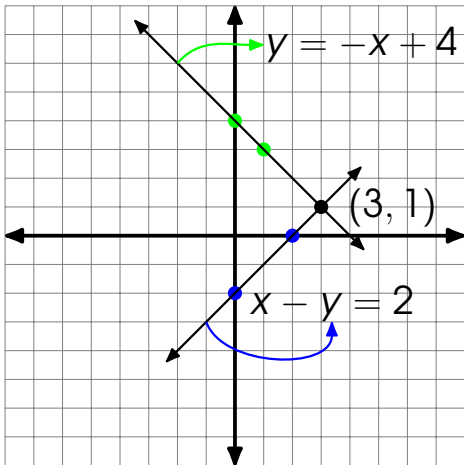- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

- Graph: intersecting

Example 3

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
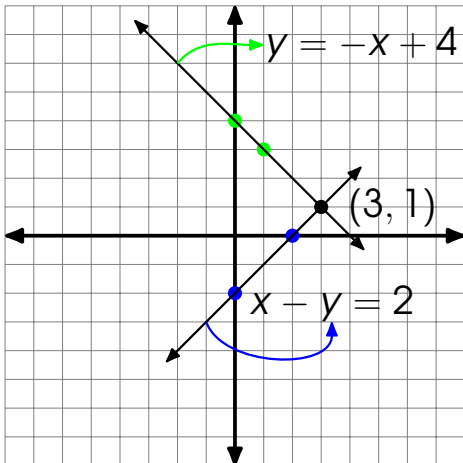- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

$y = -x + 4$

$(3, 1)$

$x - y = 2$

- Graph: intersecting
- Solution: one

Example 3

Plot:

- $m = -1 = \dfrac{\text{rise}}{\text{run}}$ and $b = 4$ for $y = -x + 4$
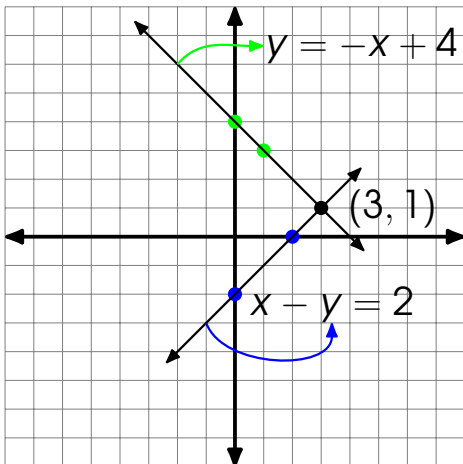- $(2, 0)$ and $(0, -2)$ for $x - y = 2$

- Graph: intersecting
- Solution: one
- Solution set: $(3, 1)$

Thank you for watching.