

## Definitions...

**x-intercept:** is the x-coordinate of a point where a graph crosses the x-axis. The y-coordinate of this point is zero.

**y-intercept:** is the y-coordinate of a point where a graph crosses the y-axis. The x-coordinate of this point is zero.

Feb 24-10:31 PM

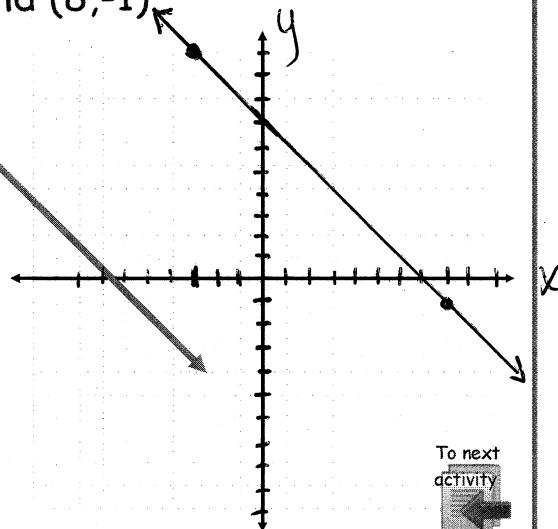
## Finding intercepts from graphs - Example 1

Graph the line that passes through the points  $(-3, 10)$  and  $(8, -1)$

Identify:

1. x-intercept
2. y-intercept
3. quadrants through which the line passes

I, II, IV



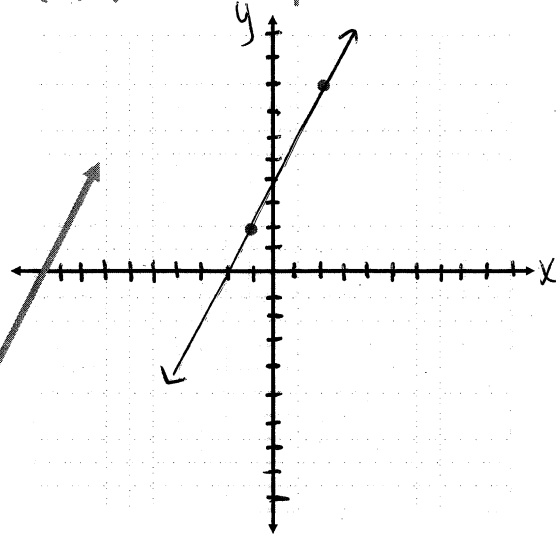
To next activity

Activity 3 Key

Graph the line that passes through the points  $(-1, 2)$  and  $(2, 8)$  -- Example 2

Identify:

1. x-intercept  
~~#~~ -2
2. y-intercept  
4
3. quadrants through which the line passes  
I, II, III



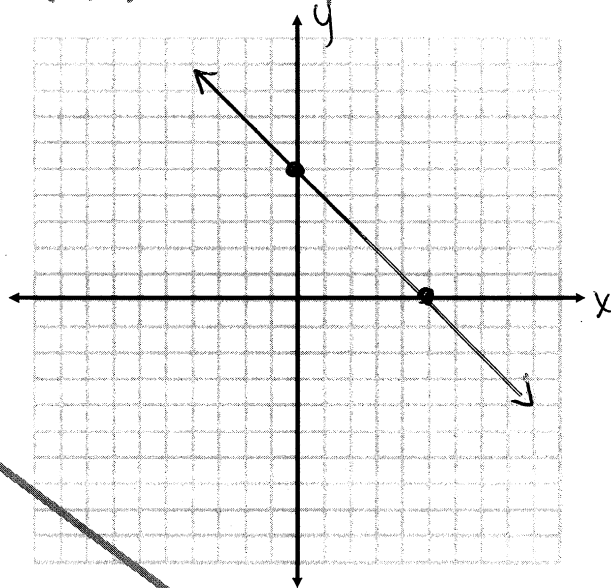
Activity 2 Key

Graph the line that passes through the points  $(5, 0)$  and  $(0, 5)$  -- Example 3

Identify:

1. x-intercept
2. y-intercept
4. quadrants through which the line passes

I, II, IV



$$y = x - b$$

X-intercept  
let  $y = 0$

$$y = x - b$$

$$0 = x - b$$

$$0 = x + -b$$

$$\downarrow$$

$$0 = x + \frac{-b}{1}$$

$$\underline{\quad \quad \quad}$$

$$b = x$$

### Finding intercepts from equations - Example 1

Graph the line:  $y = x - 6$

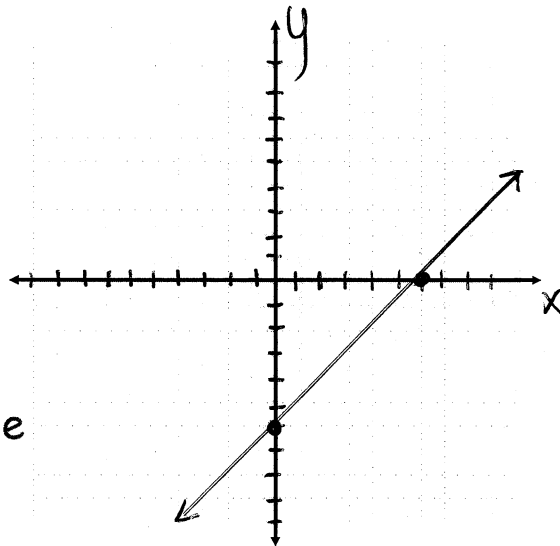
Identify:

1. x-intercept  
let  $y$  be zero  $b$

2. y-intercept  
let  $x$  be zero  $-b$

4. quadrants  
through which the  
line passes

I, II, IV



y-intercept  
let  $x = 0$

$$y = x - b$$

$$y = 0 - b$$

$$y = 0 + -b$$

$$y = -b$$

$$x + 2y = 4$$

X-intercept  
let  $y = 0$

$$x + 2y = 4$$

$$x + 2(0) = 4$$

$$x + 0 = 4$$

$$x = 4$$

### Finding intercepts from equations - Example 3

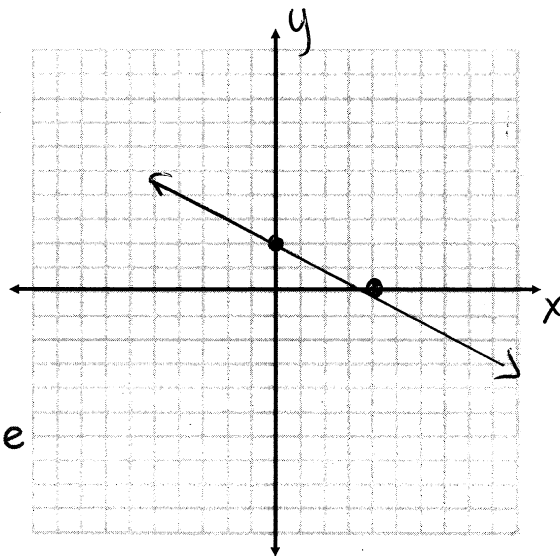
Graph the line:  $x + 2y = 4$

Identify:

1. x-intercept  
let  $y$  be zero

2. y-intercept  
let  $x$  be zero

4. quadrants  
through which the  
line passes



$$x + 2y = 4$$

y-intercept  
let  $x = 0$

$$0 + 2y = 4$$

$$2y = 4$$

$$\frac{2y}{2} = \frac{4}{2}$$

$$y = 2$$

Finding intercepts from equations -

Example 2

Graph the line:  $y = 6$

Identify:

1. x-intercept

let y be zero

none

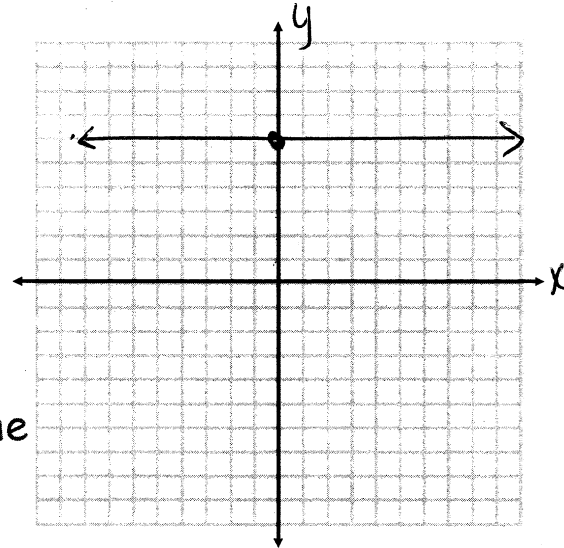
2. y-intercept

let x be zero 6

4. quadrants

through which the

line passes I, II



Finding intercepts from equations -

Example 4

Graph the line:  $x = -4$

Identify:

1. x-intercept

-4

2. y-intercept

none

4. quadrants

through which the

line passes II, III

