

General Form

Show You Know

Ex. 1

Rewrite the equation $y = \frac{3}{4}x - 2$ in general form.

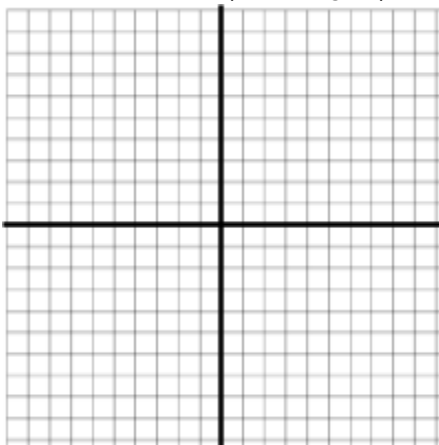
Ex. 2

Consider the linear equation $4x + 5y - 20 = 0$.

a) What is the x -intercept of a graph of the equation?

b) What is the y -intercept?

c) Use the intercepts to graph the line.



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Ex. 3

Sketch each linear relation and identify the intercepts. What are the domain and range for each relation?

$x - 3 = 0$ 	$x = 0$ 	$y + 2 = 0$
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Ex. 4

Brooke wants to save \$336 to decorate her bedroom. She has two part-time jobs. On weekends, she works as a snowboard instructor and earns \$12 per hour. On weeknights, she earns \$16 per hour working as a high-school tutor.

- a) Write an equation to represent the number of hours Brooke needs to work as a snowboard instructor, S , and as a tutor, T .

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b) What is the S -intercept of a graph of the equation? What does the S -intercept represent?

c) What would the T -intercept be? What does it represent?

d) Suppose Brooke works 8 h as a snowboard instructor. How many hours will she need to work as a tutor?

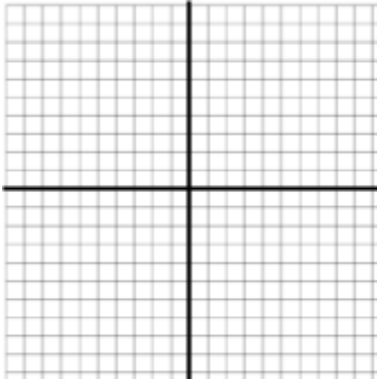
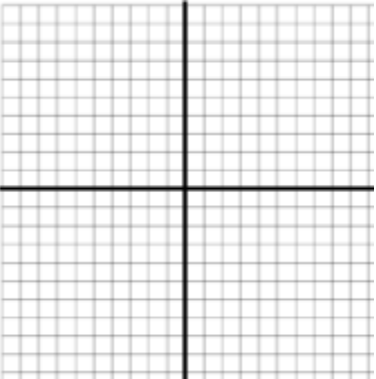
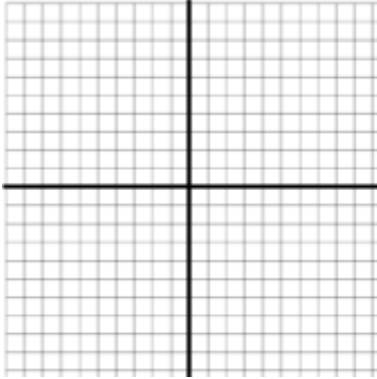
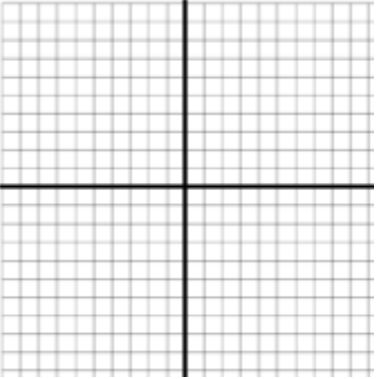
Practice

1. Write each equation in the general form, $Ax + By + C = 0$.

$y = \frac{1}{3}x + 5$	$y = \frac{-2}{7}x$	$y = \frac{1}{8}$	$y = -0.2x + 1.2$
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2. Determine the intercepts of each line. Graph each line.

<p>a) $2x - y - 8 = 0$</p> 	<p>b) $9x - 4y = 0$</p> 
<p>c) $5x - 20 = 0$</p> 	<p>d) $8y + 4 = 0$</p> 

3. Determine the missing value, A , B , or C , in the following linear equations.

a. $6x - By + 1 = 0$, for the line that passes through the point $(-1, 5)$

b. $Ax + y - 10 = 0$, for the line that passes through the point $(3, -2)$

c. $9x - 5y + C = 0$, for the line that passes through the point $(0, 0)$

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4. Josef is training for a race. His training consists of swimming and mountain biking. The table shows the number of calories burned per minute for a person of Josef's body mass.

Activity	Calories Per Minute
Swimming	14
Biking	12

- a) Write a linear equation to show the number of minutes Josef would need to swim, x , and the number of minutes he would need to bike, y , to burn 4200 calories.
- b) What are the intercepts of the line? What do they represent?
- c) What are the graph's domain and range?
- d) Suppose Josef bikes for 2 hours. How long would he need to swim to burn 4200 calories?