

Chapter 4 Review

Graphing Linear Equations and Functions

4.1 Plot Points in a Coordinate Plane

Plot ordered pairs

Graph functions and identify the domain and range

4.2 Graph Linear Equations

Is a coordinate pair a solution of the equation?

Graphing using a table (choose appropriate input values)

With and without a restriction

Making a graph and table to find all solutions to a problem

Identify the domain and range

4.3 Graph Using Intercepts

Finding the x and y intercepts

Graph using the intercepts

Using the intercepts to find the solutions to a problem

4.4 Find Slope and Rate of Change

Recognize positive slope, negative slope, zero slope, and an undefined slope

Finding the slope of a line on a graph (rise over run)

Finding the slope of a line given two points

4.5 Graph Using Slope-Intercept Form

Identifying the slope and y-intercept using $y = mx + b$

Plot the y-intercepts and use rise over run to find the next point

Determine if two lines are parallel by finding the slope

4.6 Model Direct Variation

Write direct variation equations

Graph direct variation equations

4.7 Graph Linear Functions

Evaluating functions

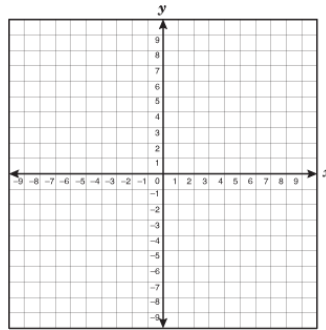
Finding the value of x

Graphing functions

Comparing graphs

Graphing real-world functions

Quadrants: Label each quadrant on the coordinate grid. I, II, III, IV



Solution?

Which ordered pair is a solution to the equation?

(3,4) or (1, -4)

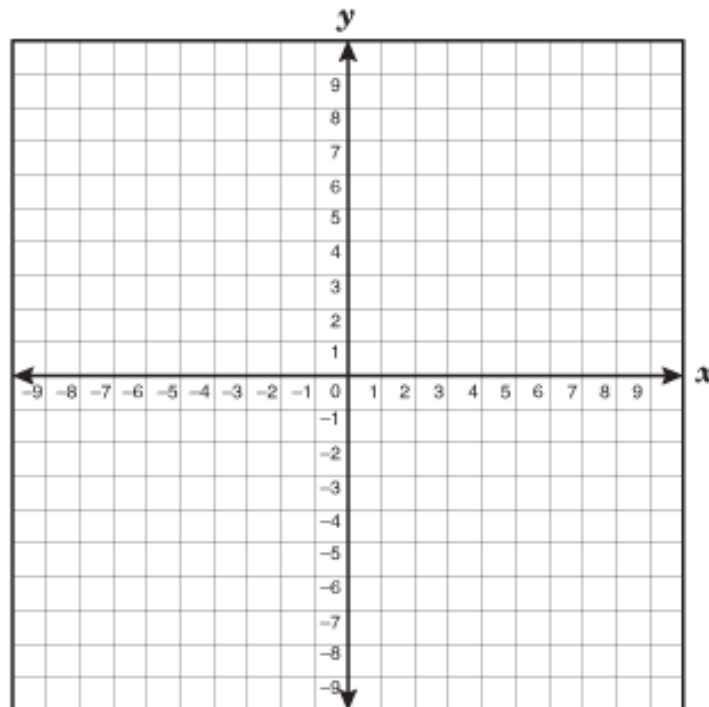
$$3x - y = 7$$

Graphing

Graph the equation $-2x + y = -3$ by making a table

No restriction. Use:

x					
y					

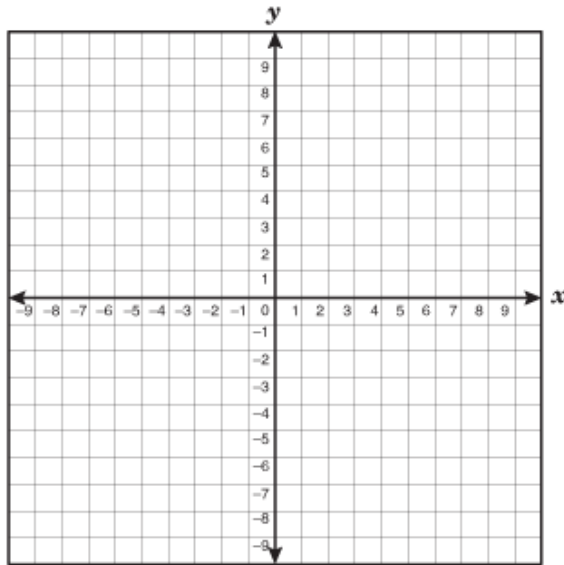


Graph the equation $2x + y = -3$ with domain $x \leq 0$ by making a table

Restriction: Use the values:

x					
y					

Range:

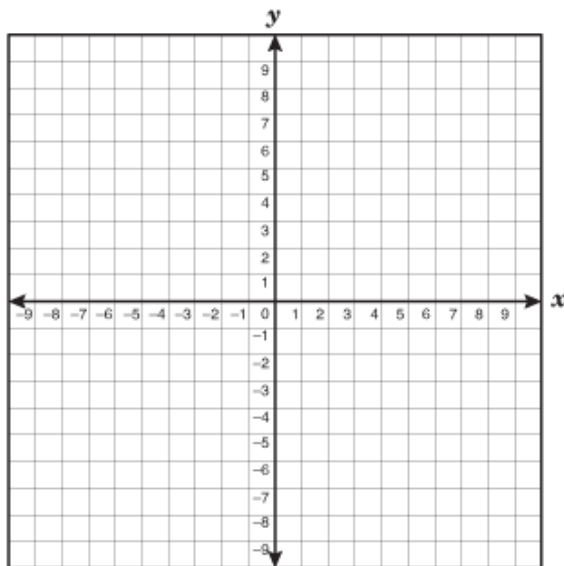


Graph the equation $-2x + 2y = -4$ with domain $0 \leq x \leq 4$ by making a table

Restriction: Use the values:

x					
y					

Range:



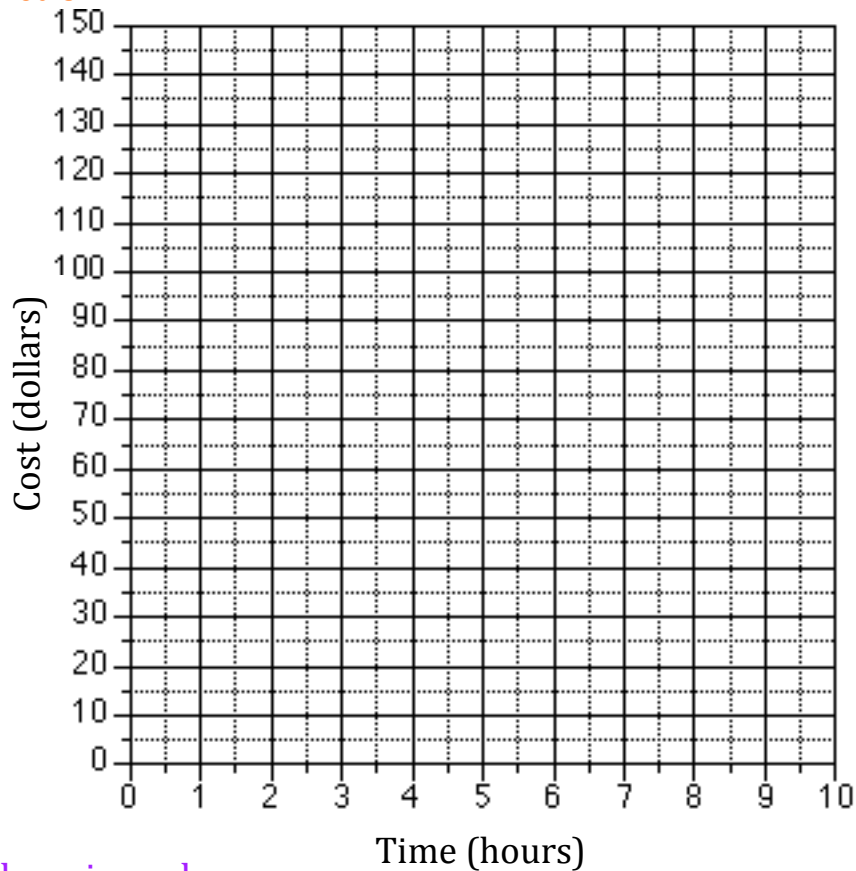
A gym charges a \$30 room rental fee for birthday parties and \$20 an hour for the staff. The maximum number of hours you can hire the staff is four hours.

Write the equation to represent the total cost:

Make a table:

x					
y					

Graph the function



Identify the domain and range:

Domain:

Range:

Intercepts:

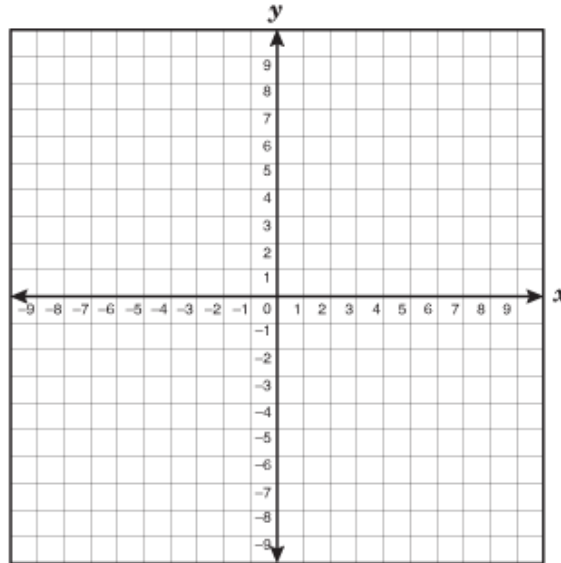
Finding the x-intercept and y-intercept

$$y = -3x + 6$$

Find the x-intercept:

Find the y-intercept:

Use the intercepts to graph.

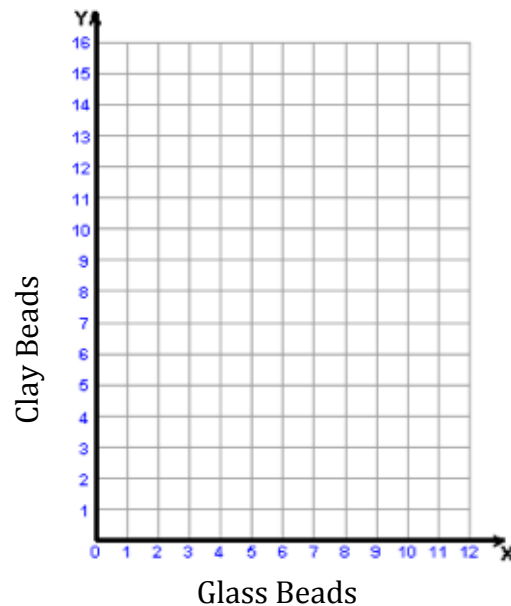


You are making a bracelet using two types of beads. The glass beads cost \$5 a piece and the clay beads cost \$4 a piece. You have a total of \$40 to spend.

Write an equation where x is the total number of glass beads and y is the total number of clay beads:

Find the intercepts of the equation:

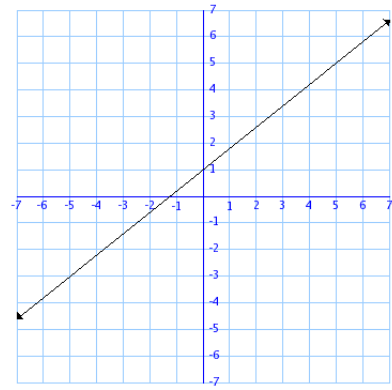
Graph the equation:



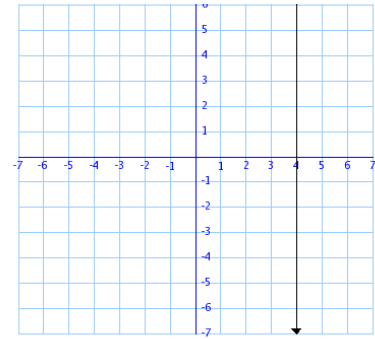
Slope of a Line:

Match the slope to the graph

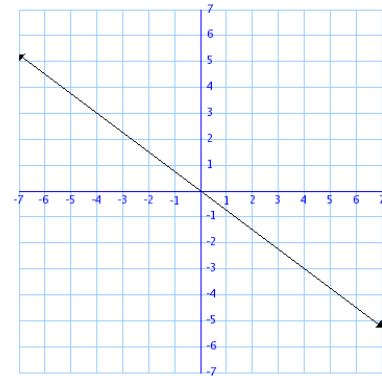
Positive Slope



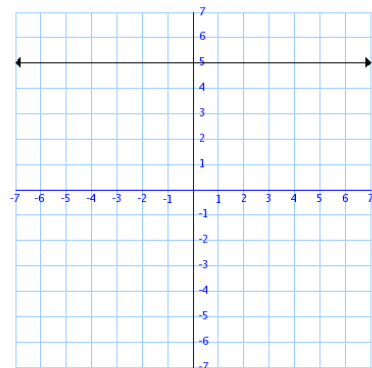
Negative Slope



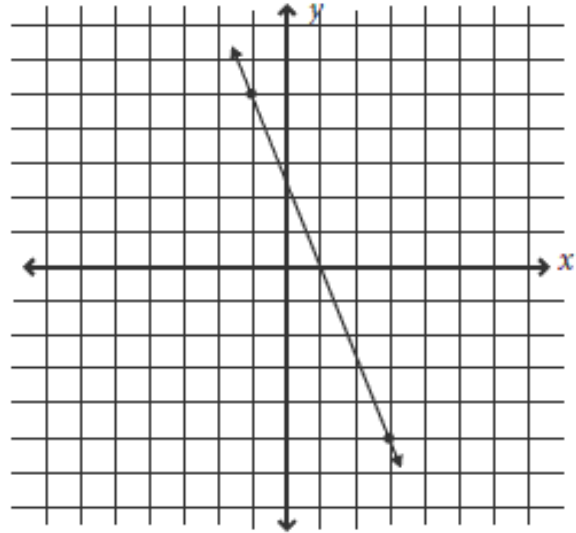
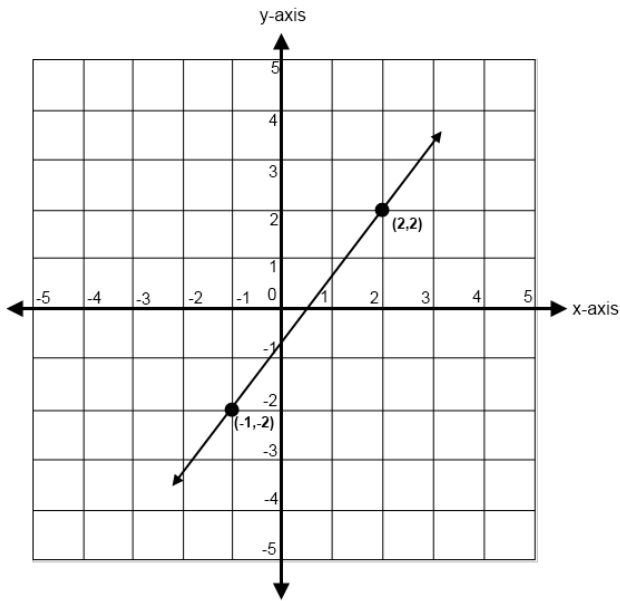
Undefined Slope



Zero Slope



Find the slope of each line



Find the slope of the line that passes through the points.

$(3, 2)$ $(-4, 3)$

Finding a rate of change: $\frac{\Delta y}{\Delta x}$

Written as a unit rate.

The table shows the cost of renting skates at a skating rink. Find the rate of change in cost with respect to time.

<i>Time</i>	<i>2</i>	<i>4</i>	<i>6</i>	<i>8</i>
<i>Dollars</i>	<i>5</i>	<i>10</i>	<i>15</i>	<i>20</i>

Slope Intercept Form

$$3x + y = 4$$

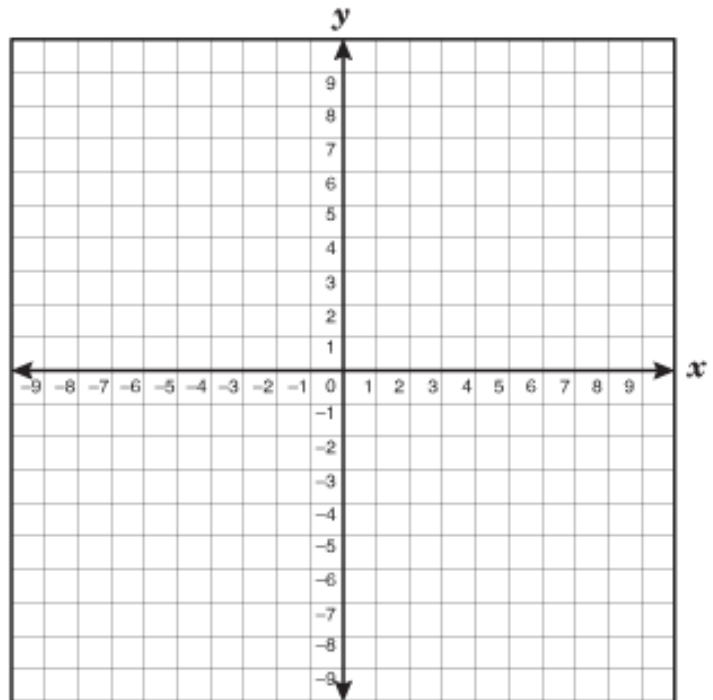
Write in slope-intercept form

Identify m and b

Plot the y -intercept

Use the slope to find the second point

Connect the points



Which lines are parallel?

Line A (-2,3) (0,2)

Line B (1,0) (3, -1)

Line C (4,5) (2,6)

Tell whether the graphs of the two equations are parallel lines.

$$2x + 3y = 6$$

$$2y + 8 = 3x$$

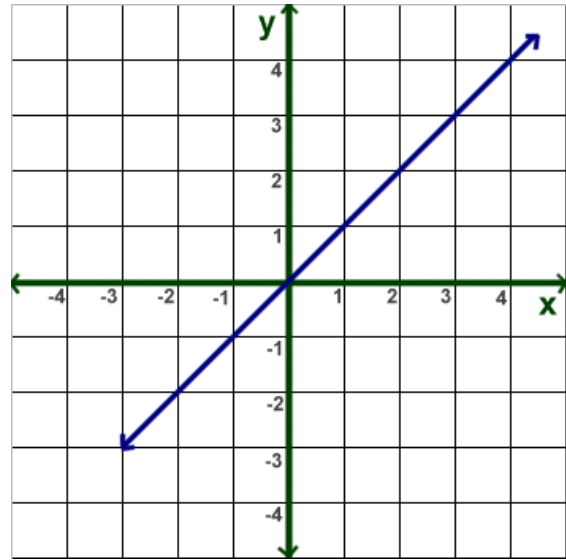
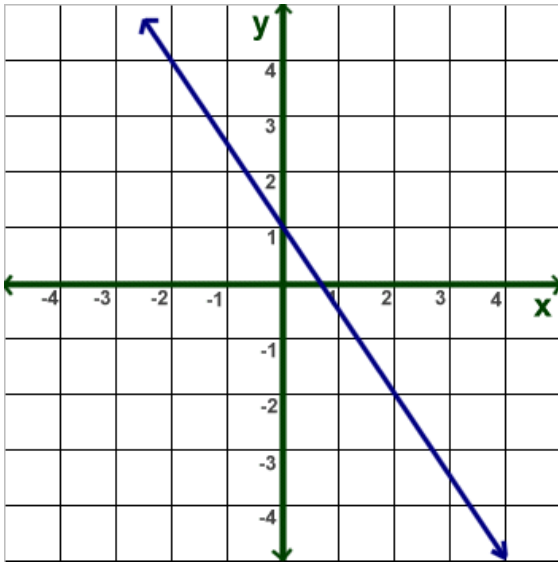
Write an equation whose graph is parallel to the line $2x = 4y + 10$

Tell whether the equation represents direct variation. If so, identify the constant of variation.

$$2x - 3y = 0$$

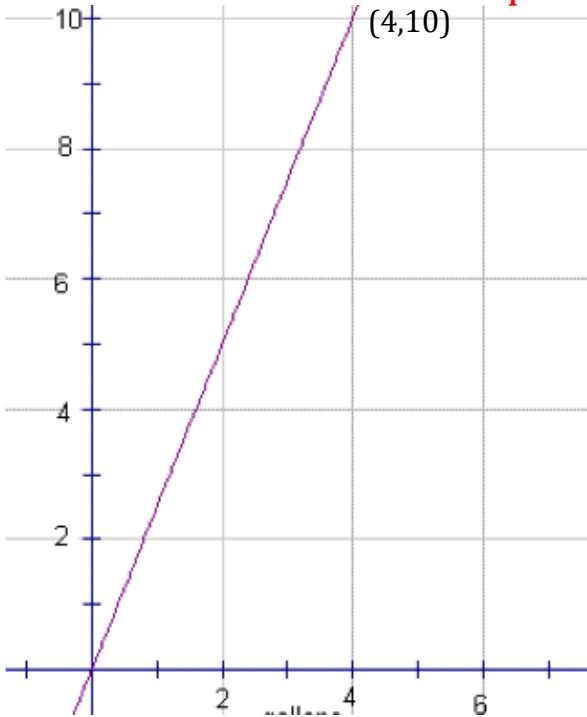
$$-x + y = 4$$

Which is the graph of a direct variation equation?



Write the direct variation equation: $y =$

Write the direct variation equation for the graph:



Given that y varies directly with x , use the specified values to write a direct variation equation that relates x and y .

$$x = 3$$

$$y = 9$$

What is the value of the function $f(x) = 3x - 5$ when $x = -3$

For the function $f(x) = 2x - 8$, find the value of x so that $f(x) = 5$