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

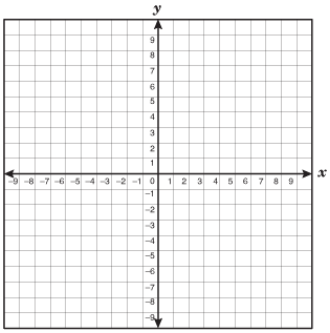
4.3 Graph Using Intercepts
- Finding the x and y intercepts
- Graph using the intercepts
- Using the intercepts to find the solutions to a problem

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

4.7 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?

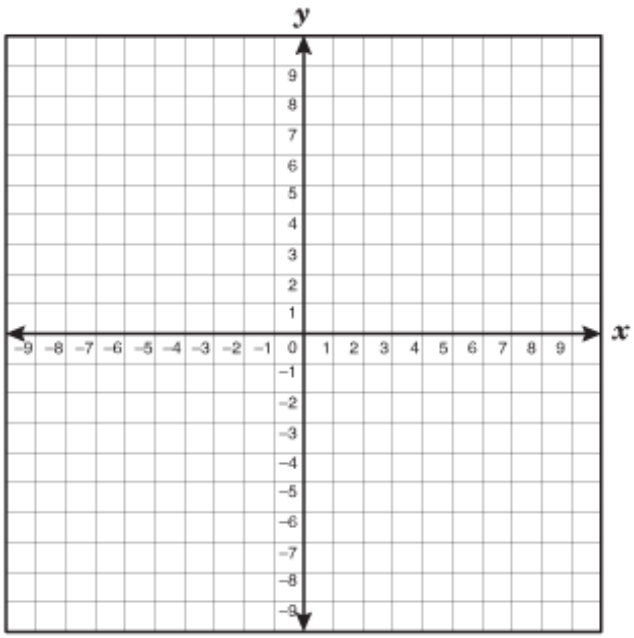
$(3,4)$ or $(1, -4)$ $3x - y = 7$

Graphing

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

No restriction. Use $-2, -1, 0, 1, 2$

x					
y					

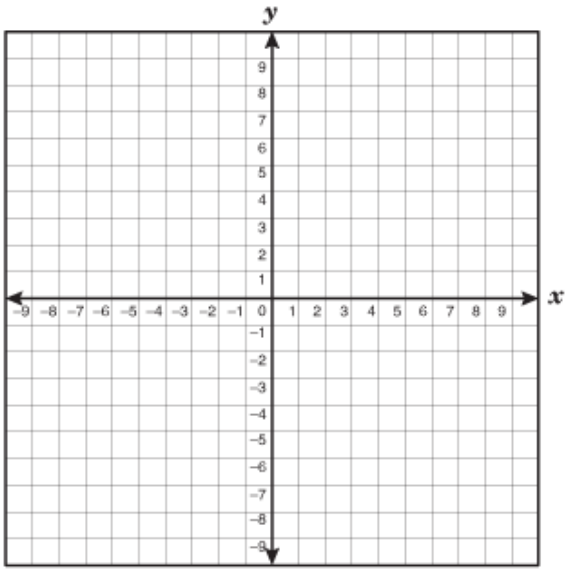


Graph the equation $y = -3 + 2x$ with domain $0 \leq x$ by making a table

Restriction: Use the values:

x					
y					

Range:

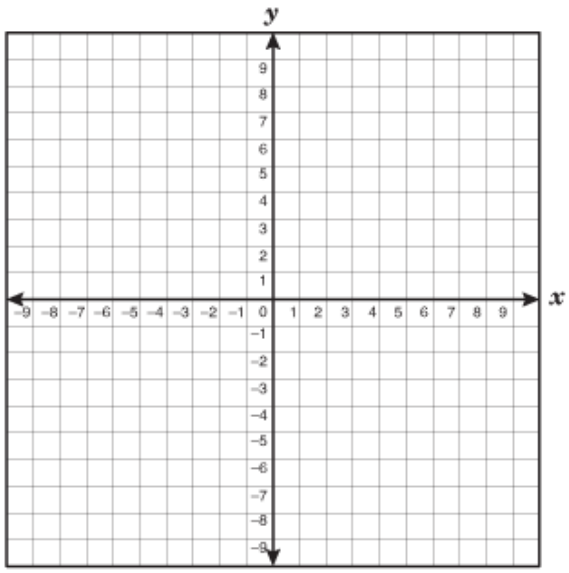


Graph the equation $y = 2x + 1$ with domain $0 \leq x \leq 4$ by making a table

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:

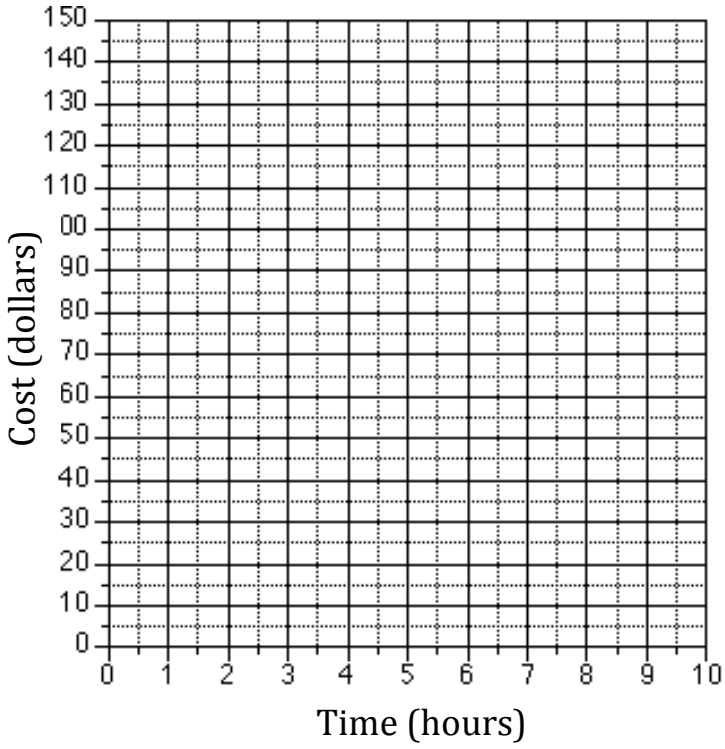
x					
y					

Graph the function

Identify the domain and

Domain:

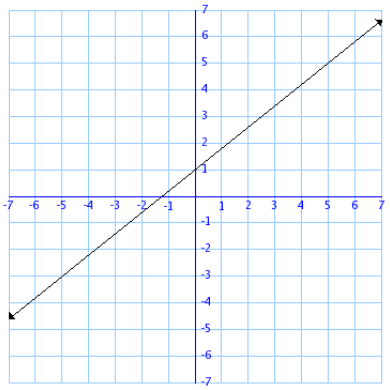
Range:



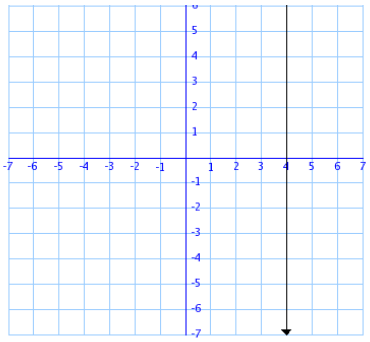
Slope of a Line:

Match the slope to the graph

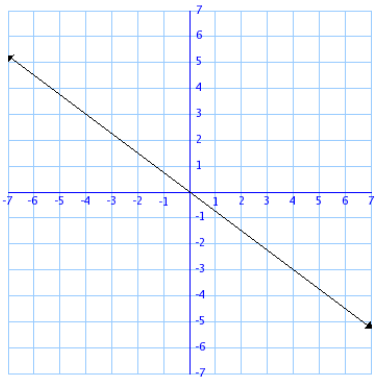
Positive Slope



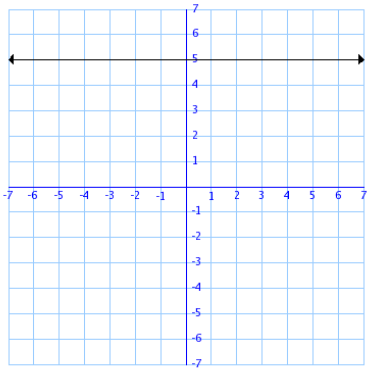
Negative Slope



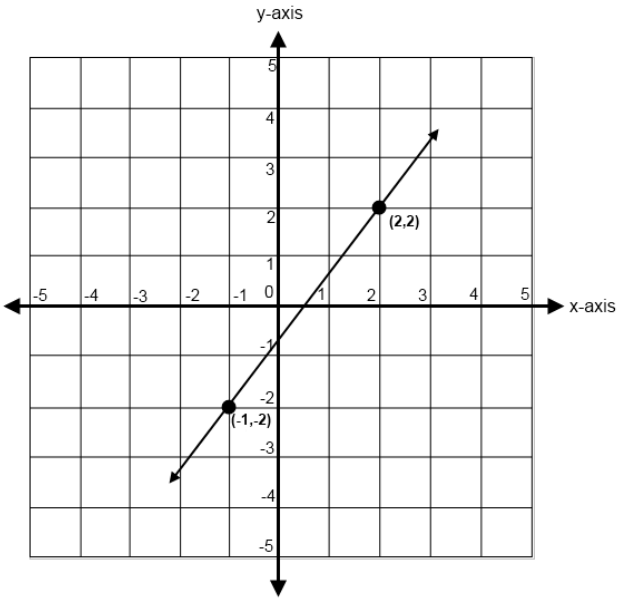
Undefined Slope

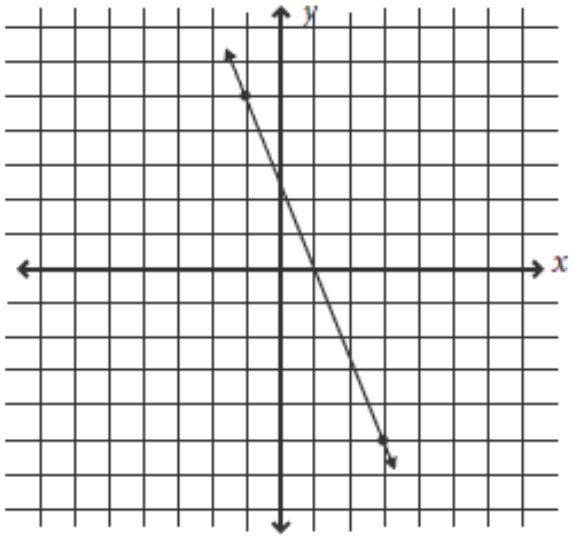


Zero Slope



Find the slope of each line





Slope Intercept Form

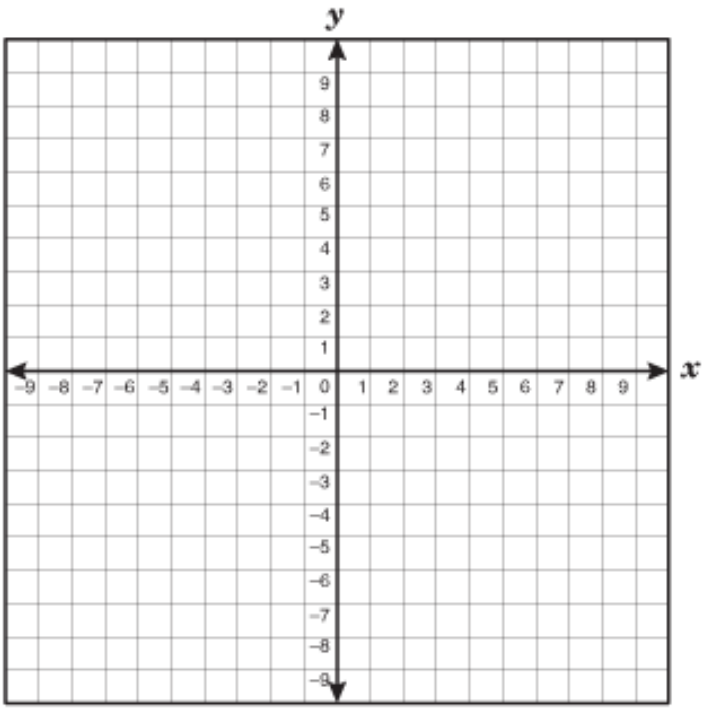
$$y = 2x - 5$$

Identify m and b

Plot the y-intercept

Use the slope to find the second point

Connect the points



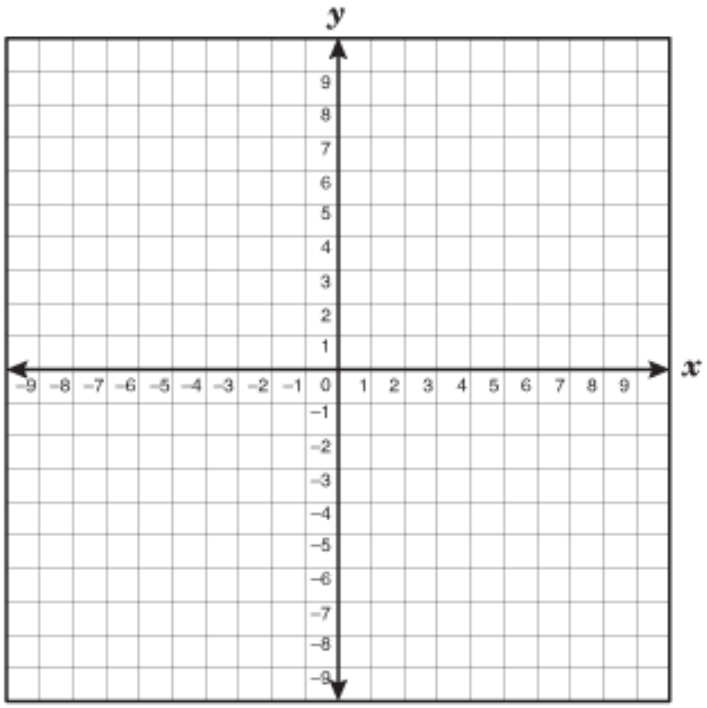
$$y = -\frac{2}{3}x + 3$$

Identify m and b

Plot the y-intercept

Use the slope to find the second point

Connect the points



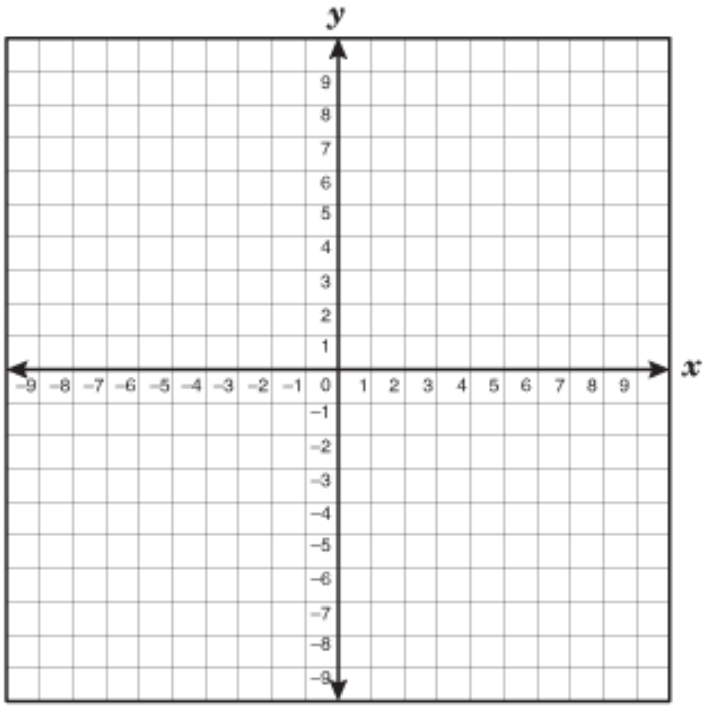
$$y = -4 + \frac{1}{3}x$$

Identify m and b

Plot the y-intercept

Use the slope to find the second point

Connect the points



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

$y = 2x - 6$ $\qquad\qquad$ $-3 + 2x = y$

Slope: $\qquad\qquad$ Slope:

Write an equation whose graph is parallel to the line $y = \frac{1}{4}x + 2$

Slope:

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

Challenge:

For the function $f(x) = 2x - 8$, find the value of x so that $f(x) = 4$

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: