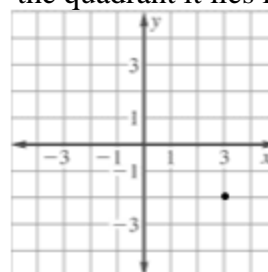


Chapter 4: Solving Linear Equations Study Guide

4.1: Plot Points in the Coordinate Plane

- Identify/graph ordered pairs
- Identify the 4 quadrants

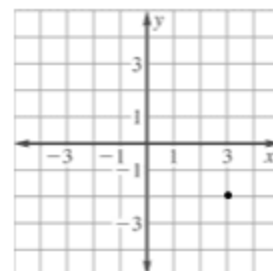
Ex: Write the coordinates of point graphed and identify the quadrant it lies in.



4.2: Graph Linear Equations

- Graph an equation using a table (choose appropriate values for x)

Ex: Graph $2x - 4y = 8$



- Identify domain and range of a function

Ex: You are transferring photos from your digital camera to a CD. Each photo on the camera takes up 2 megabytes of space. The number p photos that will fit onto a CD is given by the function $s = 2p$ where s is the amount of space on the CD. One CD can store up to 700 megabytes of data. Identify the domain and range of the function.

4.3: Graph Linear Functions Using x and y intercepts

- Find x and y intercepts from an equation
- Identify x and y intercepts from a graph
- Interpret the meaning of x and y intercepts as they apply to real-world problems

Ex: Find the x and y intercepts of the equation $0.2y - 0.3x = 0.6$

Ex: Graph $4x - 2y = -16$ using intercepts.

Ex: You earn \$20 an hour mowing lawns and \$10 an hour washing windows. You want to make \$500 in one week.

- Write an equation to represent the situation
- Graph the equation using x and y intercepts.
- What do the intercepts mean in this situation?
- What are three possible numbers of hours you can work at each job?
- If you work 30 hours washing windows, how many hours do you have to work mowing lawns?

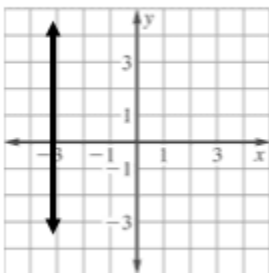
4.4: Slope and Rate of Change

- Find slope of a line that passes through two points
- Find slope of a line that is graphed
- Identify zero slope and undefined slope
- Find rate of change

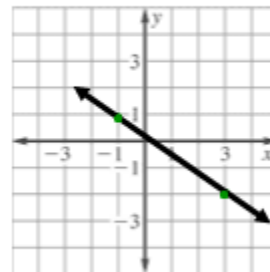
Ex: Find the slope of the line that passes through the points $(6, -4)$, $(-5, -8)$

Ex: Find the slope of the line that passes through the points $(-5, 5)$, $(2, 5)$

Ex: Find the slope of the line



Ex: Find the slope of the line



Ex: At 12:20 P.M. a parachutist is 6200 feet above the ground. At 12:27, the parachutist is 1100 feet above the ground. Find the average rate of change in feet per minute.

4.5: Graphing Lines Using Slope-Intercept Form

- Identify slope and y-intercept of a line by looking at the equation
- Write equations in slope intercept form
- Use equations in slope-intercept form to graph a line
- Identify parallel lines

Ex: Identify the slope and y-intercept

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

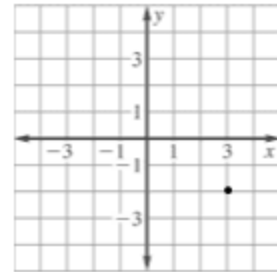
Ex: Write the following equation in slope-intercept form then identify

slope and y intercept

$$4x - 9y = 18$$

Ex: Graph the following equation using slope-intercept form:

$$4x - 3y = -6$$



Ex: Tell whether the graphs of the two equations are parallel lines without graphing the lines:

$$4x - 8y = 8 \text{ and } y = 0.5x - 1$$

4.7: Linear Functions

- Evaluate a function for a given value of x
- Find x for the given value of a function

Ex: Evaluate the function when $x = -2$

$$f(x) = -5x - 8$$

Ex: Find the value of x so $f(x) = -1$

$$f(x) = -2x + 5$$