Section 4.3: Graphing Linear Equations in Slope-Intercept Form

Objectives

- Interpret the slope of a line as a rate of change.

- Find the slope of a line given two points.

- Find the slopes of and graph horizontal and vertical lines.

- Find the slopes and y-intercepts of lines and then graph the lines.

- Write the equations of lines given the slopes and y-intercepts.

Instruct

1.   Write P sub 2 using algebraic notation: _____.

2.   Slope is given by the ratio $\dfrac{rise}{run}$. What is the formula we use to find the slope if given two ordered pairs?

3.   Slide 7 allows for experimentation with slope. "Play" with the slope by changing the placement of the two points. Describe what happens to slope when the points are placed to form a) a horizontal line and b) a vertical line.

4.   At the bottom of the graph on slide 7 displays the equation of the line as the points change location. What is the equation of the line for a) the horizontal line and b) the vertical line you plotted above?

5. When graphed, the equation y = 4 is a _____
   line. Graph y=4 on the graph and label the line with y=4.

6. When graphed, the equation x = -2 is a
   _____ line. Graph x=-2 on the same grid as
   #3. Label the line with x=-2.
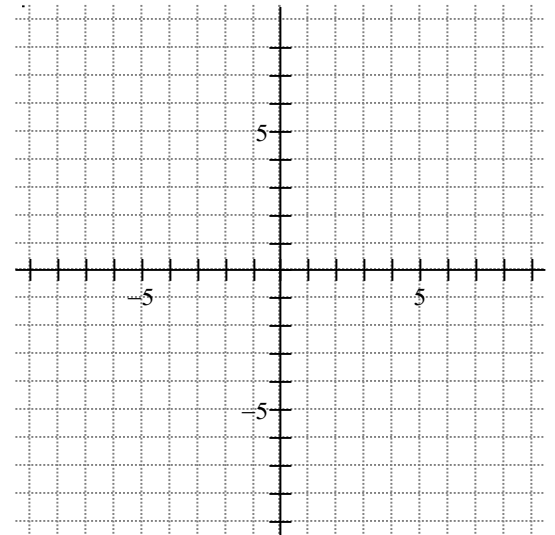
7. For any horizontal line, all of the _____ will be the same. The formula for slope will
   always have _____ in the numerator. Therefore, the _____ of every
   horizontal line is _____.

8. If two points have the same _____, then the line through these two points will
   vertical.

9. Copy the two general statements for horizontal and vertical lines below:

10. In the equation for the Slope-Intercept form: y = mx + b

    a) What does the letter **m** represent?

    b) What does the letter **b** represent?