

Vocabulary: Cat and Mouse (Modeling with Linear Systems)

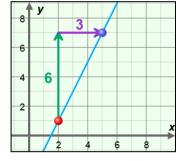


Vocabulary

- Slope a measure of the steepness of a line.
 - o For two points on a line, (x_1, y_1) and (x_2, y_2) , slope is defined as:

slope =
$$\frac{\text{rise}}{\text{run}} = \frac{\text{changein } y}{\text{changein } x} = \frac{y_2 - y_1}{x_2 - x_1}$$
.

For example, the slope of the line through the points
(2, 1) and (5, 7) as shown to the right is:



$$\frac{7-1}{5-2}=\frac{6}{3}=2.$$

- Slope is a measure of the rate of change of a quantity. The greater the slope, the faster the y-value is changing, with respect to x.
- <u>y-intercept</u> the y-coordinate of a point where a graph intersects the y-axis.
 - o In general, the *y*-intercept is the value of *y* when x = 0.