



Vocabulary: Cat and Mouse (Modeling with Linear Systems)



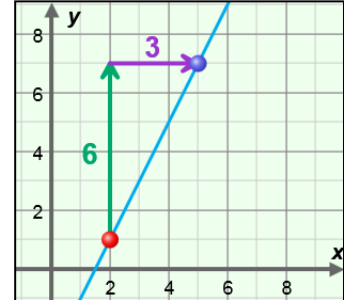
Vocabulary

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

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

- 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 .

- **y-intercept** – the y -coordinate of a point where a graph intersects the y -axis.
 - In general, the y -intercept is the value of y when $x = 0$.

