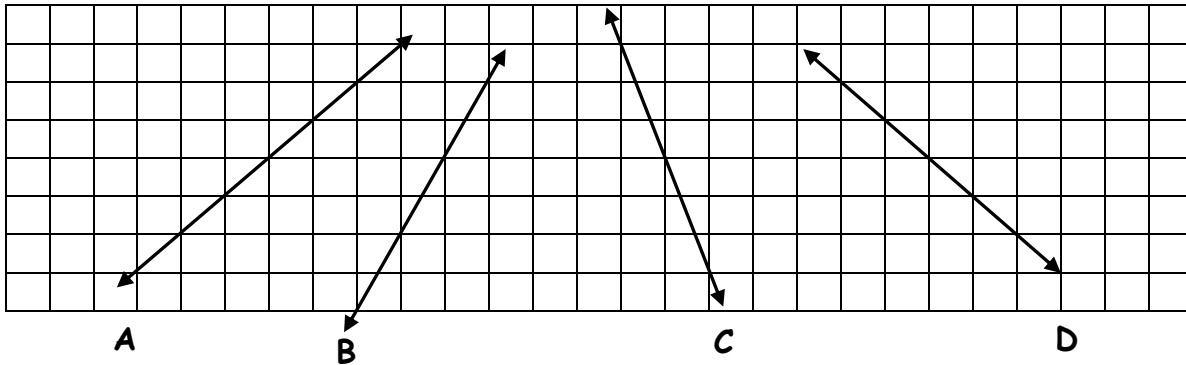


Essential Question: How do we determine the slope of a linear function?

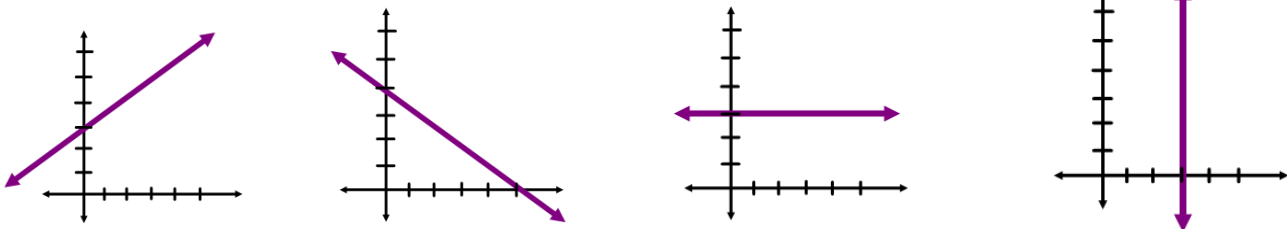
Do Now: Consider the graphs of the linear functions below. Order the graphs from *most steep* to *least steep* by writing the letters on the line below. Be ready to justify your response.



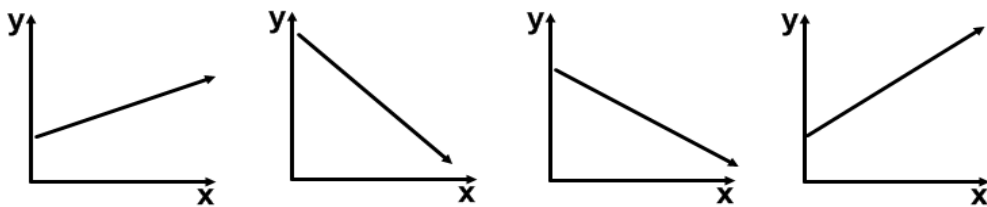
Linear Functions and Slope

Slope is a number (*ratio*) that describes the _____ or _____ of a line. It is the constant _____.

Types of Slope



Classify the following slopes as **POSITIVE** or **NEGATIVE**.

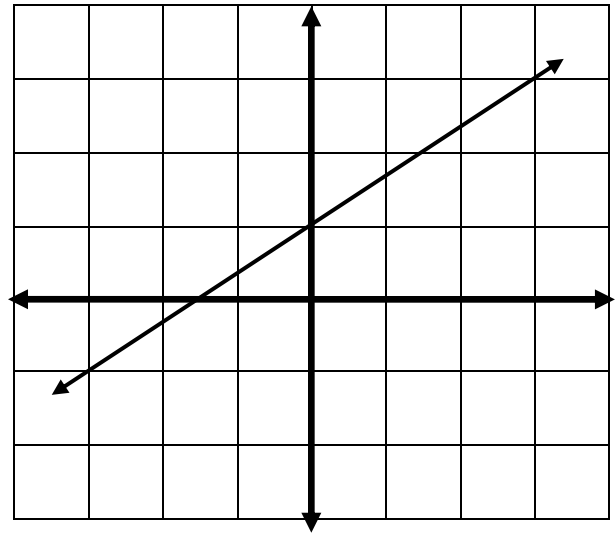


Think about...

Is the function increasing or decreasing?

How can we calculate the slope from a graph?

- 1) Determine if the function is increasing or decreasing.
- 2) Locate any two points on the line.
- 3) Calculate the Rise (Δy) and Run (Δx) between the two points.
- 4) Create a ratio ($\frac{\text{rise}}{\text{run}}$).

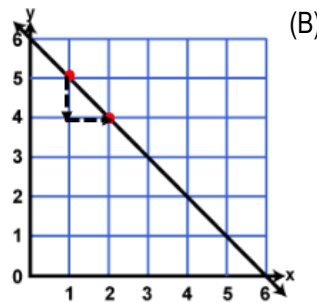
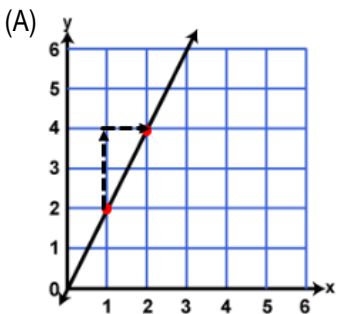


How can we find the slope of a line from two points on the line?

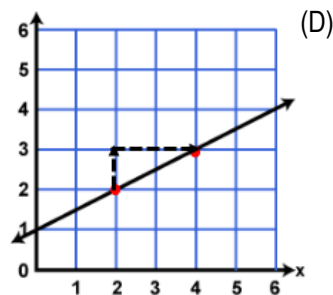
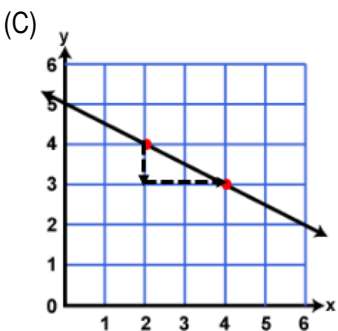
- 1) Choose any two points on the line.
- 2) Calculate the slope using the slope formula:

$$\text{Slope Formula} = \frac{\Delta y}{\Delta x} = \frac{\text{difference in } y\text{-values}}{\text{difference in } x\text{-values}}$$

Find the slope of each line.



Choose one of the graphs pictured to the left and using the slope formula, verify that you calculated the correct rate of change for the linear relationship.



The TAKEAWAY

The **constant rate of change** of a linear relationship is known as the _____ of the line.

The **slope** is the ratio of _____ to _____ for any two points on the line.

The **slope formula** is _____