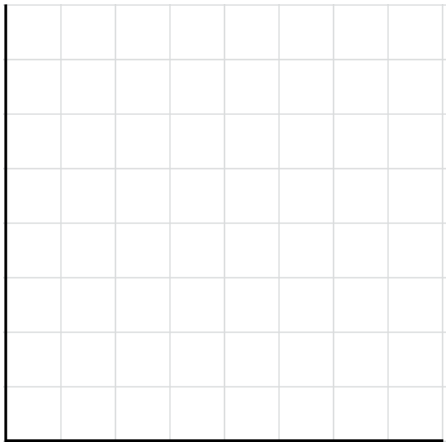
TOPIC: GRAPHING REVIEW

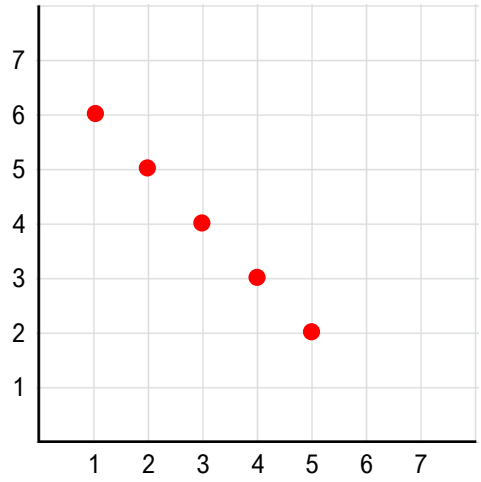
The two-variable graph:

- i.e. Demand Curve



Demand Schedule	
Price ($)	Quantity
6	1
5	2
4	3
3	4
2	5

Drawing curves and shifting curves:

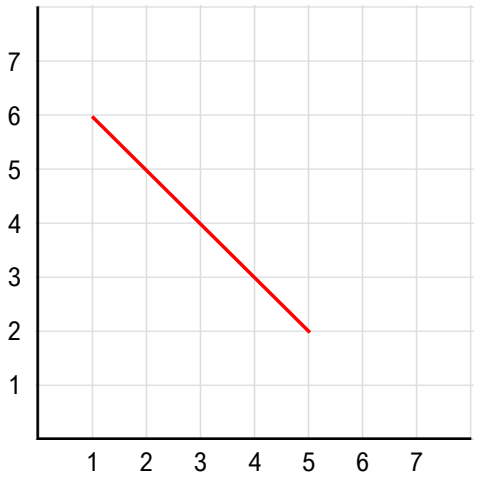


Shifting Curves (visually)

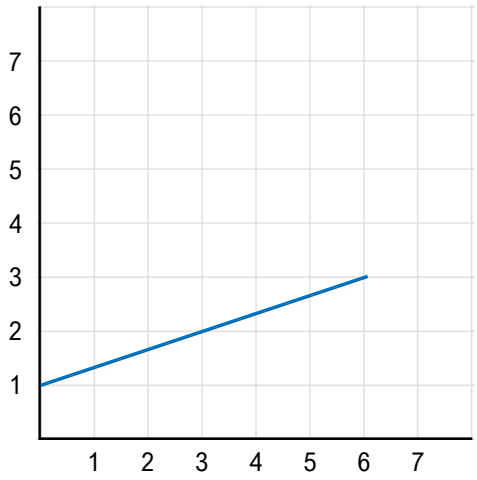
Calculating Slope of a Straight Line:

$$Slope = \frac{Rise}{Run} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{change\ in\ value\ on\ vertical\ axis}{change\ in\ value\ on\ horizontal\ axis}$$

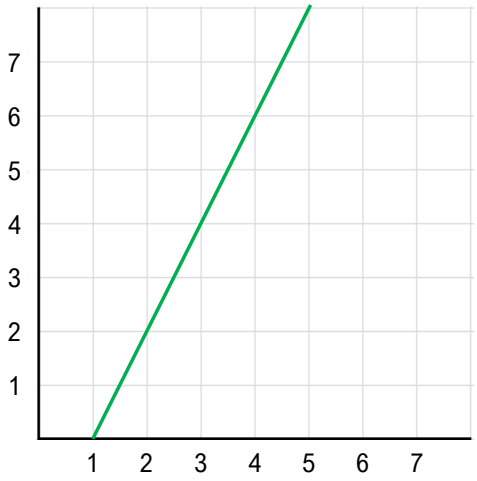
a)



b)



c)

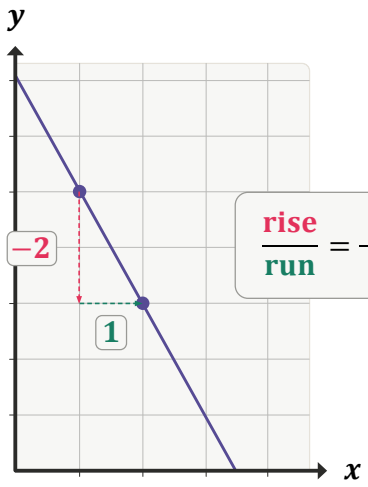


Rate of Change

Recall:

$$Slope = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x} = \frac{\text{Change in y}}{\text{Change in } x}$$

- The _____ of a line, $\frac{\text{rise}}{\text{run}}$, shows how much y changes for every one unit increase in x.



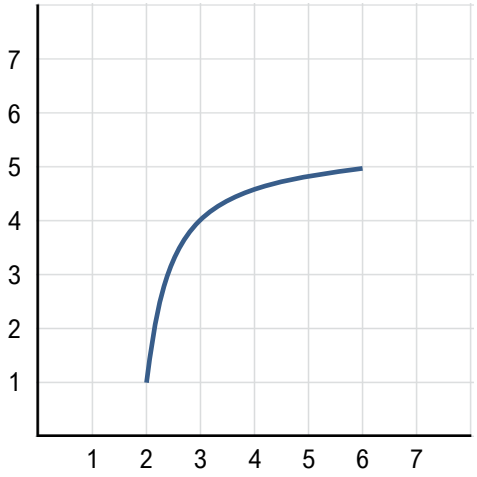
$\frac{\text{rise}}{\text{run}} = \text{—} =$

- The inverse, $\frac{\text{run}}{\text{rise}}$, shows how much x changes for every one unit increase in y.

$\frac{\text{run}}{\text{rise}} = \text{—} =$

Calculating Slope of a Curve:

- Point Method



Instructions:

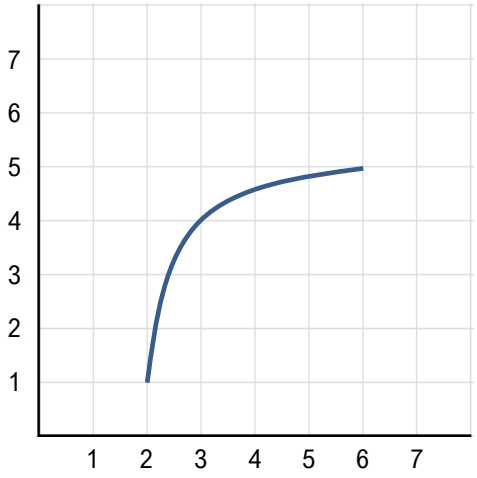
1. Draw a tangent line at the selected point.

A ***tangent line*** touches the curve at only one point

2. Calculate the slope of the tangent line.

Calculating Slope of a Curve:

- Arc Method

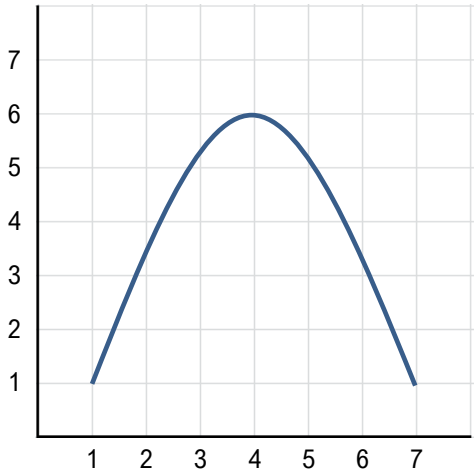


Instructions:

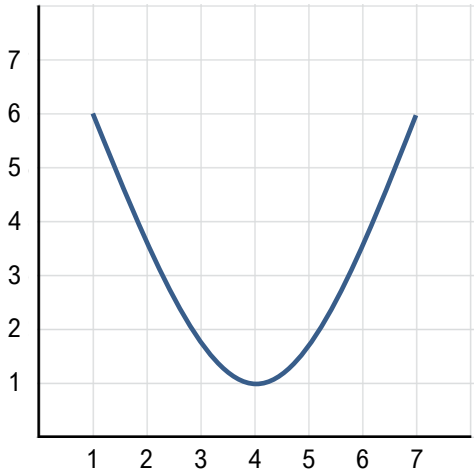
1. Draw a line connecting the ends of the arc.
2. Calculate the slope of the connecting line.

This is the _____ slope over the arc.

Finding the Maximum Point:



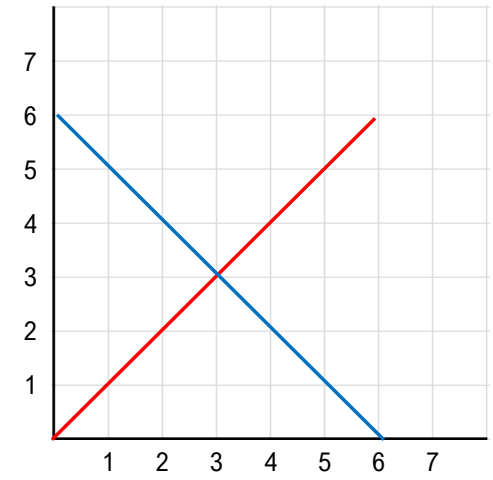
Finding the Minimum Point:



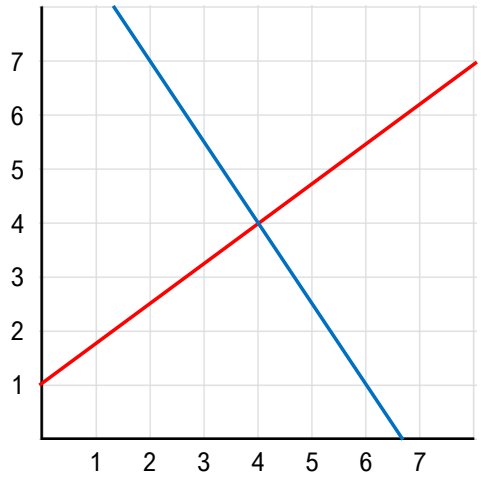
Calculating Area of a Triangle:

$$Area\ of\ a\ triangle = \frac{1}{2} * base * height$$

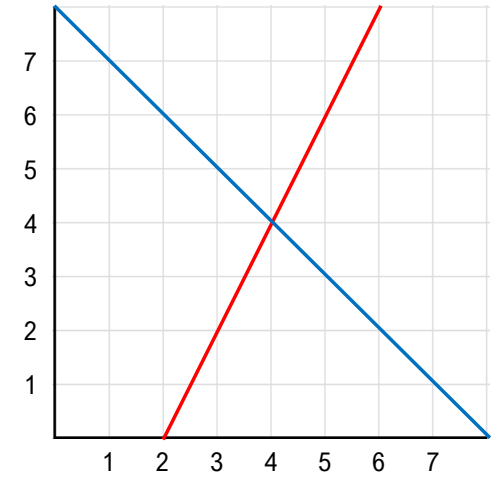
a)



b)

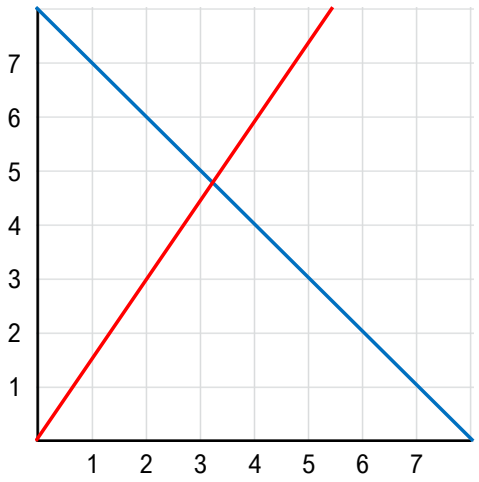


c)

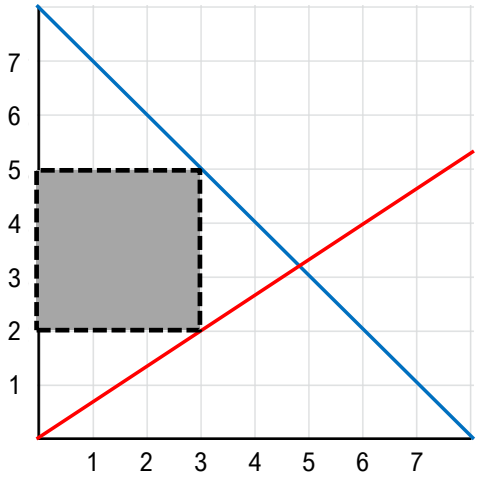


Calculating Area of a Rectangle:

$$Area\ of\ a\ rectangle = length * width = base * height$$



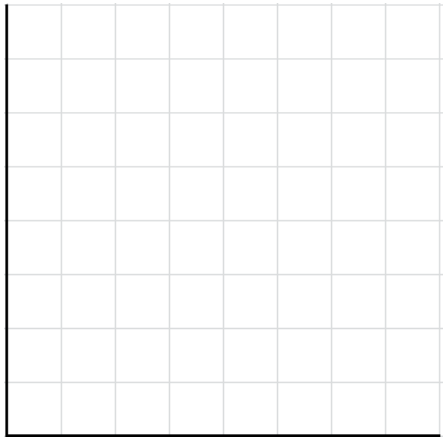
PRACTICE: Calculate the area of the shaded region



Interpreting Graphs:

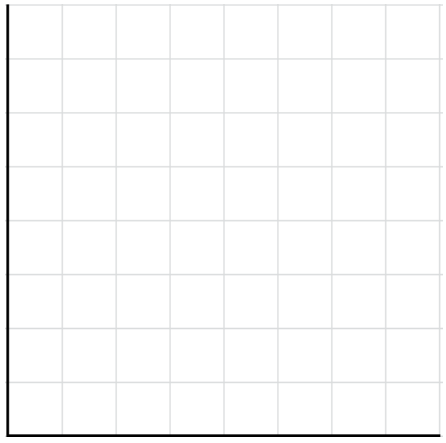
- ***Correlation*** is a relationship between two variables that allows us to _____ outcomes.
- ***Causation*** is a relationship where one event triggers another one.

Ice Cream Sales



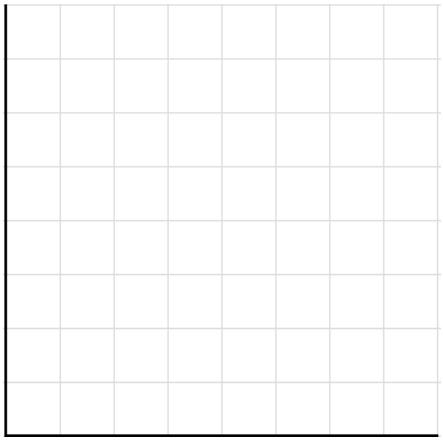
Outside Temperature

Wages



Education

Crime



Police Officers