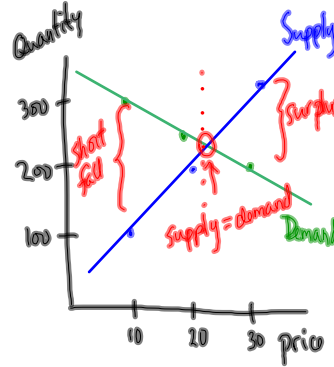


Supply + Demand

Local Band makes a CD

Price	Demand	Supply
\$10	300	100
\$20	250	200
\$30	200	300



Surplus is when the supply is greater than the demand.

Shortfall (deficit) is when the supply is less than the demand.

Demand Equation

(10, 300)
(20, 250)
(x, y)

$$m = \frac{\Delta y}{\Delta x}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

let x be the price
y be the quantity

$$m = \frac{250 - 300}{20 - 10}$$

$$m = \frac{-50}{10}$$

$$m = -5$$

$$y = mx + b$$

$$300 = (-5)(10) + b$$

$$300 = -50 + b$$

$$b = 350$$

$$y = -5x + 350$$

Demand

Supply Equation

(10, 100)
(20, 200)

$$m = \frac{\Delta y}{\Delta x}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{200 - 100}{20 - 10}$$

$$m = \frac{100}{10}$$

$$m = 10$$

$$y = mx + b$$

$$100 = 10(10) + b$$

$$100 = 100 + b$$

$$b = 0$$

$$y = 10x$$

Supply

Demand: $y = -5x + 350$

Supply: $y = 10x$

$$-5x + 350 = 10x$$

$$\frac{350}{15} = \frac{15x}{15}$$

$$x = \frac{350}{15}$$

$$x = \$23.33$$

this is the intersection point on the graph.

(\$23.33, 233)

Supply = demand.

$$y = 10x$$

$$y = 10(23.33) = 233$$

To DO

- ① Finish HW from last week (Linear modelling)
- ② Supply + Demand Sheet .
- ③ Concept Check on Wed (Linear Modelling)