

San Francisco : $(x_1 = 80, y_1 = 30)$

San Jose : $(x_2 = 50, y_2 = 50)$

$$m = \frac{\Delta y}{\Delta x} = \frac{y_1 - y_2}{x_1 - x_2} = \frac{30 - 50}{80 - 50} = \frac{-20}{30} = -\frac{2}{3}$$

$$y = mx + b \Rightarrow y = -\frac{2}{3}x + b$$

$$(50, 50) \text{ into } y = -\frac{2}{3}x + b$$

$$50 = -\frac{2}{3} \times 50 + b$$

$$150 = -100 + 3b$$

$$250 = 3b$$

$$b = \frac{250}{3}$$

Los Angeles : $(x_3 = 65, y_3)$

$$\text{into } y = -\frac{2}{3}x + \frac{250}{3}$$

$$y_3 = -\frac{2}{3} \times 65 + \frac{250}{3}$$

$$3y_3 = -130 + 250$$

$$3y_3 = 120$$

$$y_3 = 40$$

