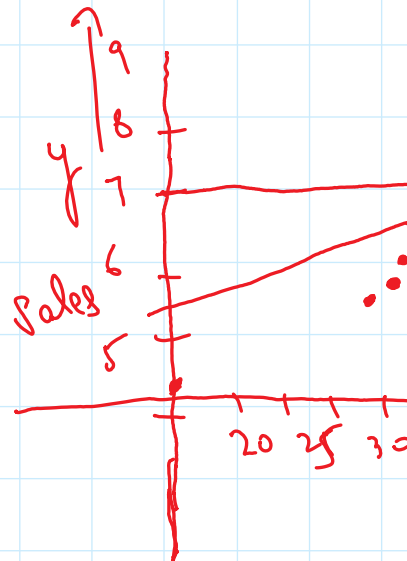


x y
+ Sales

x → features
y → target label

33	
35	K6
38	6.8K
29	8.5K
32	
	5.8
37	7K
36	??
<hr/>	
\bar{x}	\bar{y}



$$y = mx + c$$

$$m = \frac{\text{change in } y}{\text{change in } x} = \frac{(x_2 - x_1)}{(y_2 - y_1)}$$

$$X = [x_0, x_1, x_2, x_3]$$

$$\hat{y} = \beta \cdot X$$

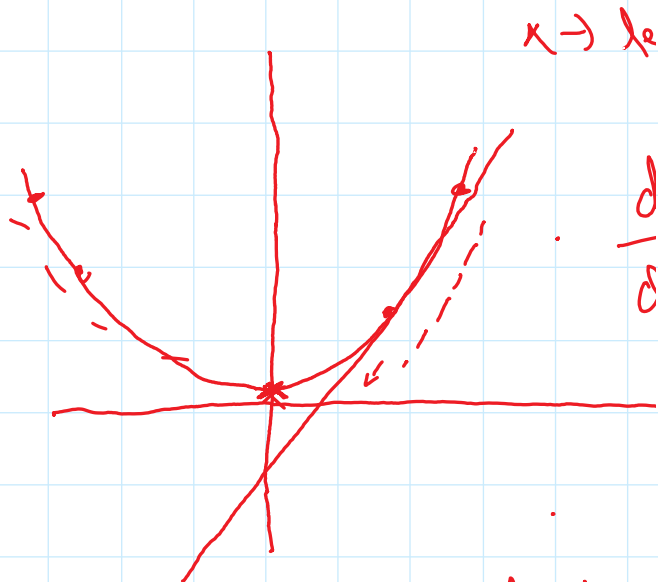
Mean Squared Error

$$\mathcal{E} = \sum \frac{(\hat{y}_i - y_i)^2}{n}$$

→ derivative

↓
Cost function / β function

$$y = x^2$$



gradient = 4

\Rightarrow power rule

$$= \frac{2}{n} \sum (x \cdot \theta)$$

$$= \frac{2}{n} \sum (x \cdot \theta)$$

One half mean
square error

$$\Rightarrow \frac{1}{2n} \sum (i)$$

$$\Rightarrow \frac{2}{2n} \sum (j)$$

$$\boxed{\Rightarrow \frac{1}{n} \sum (x \cdot i)}$$