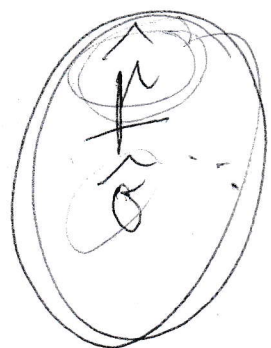
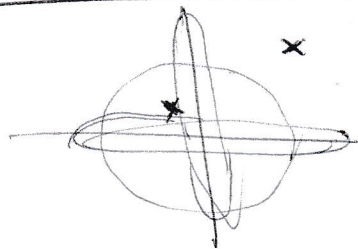
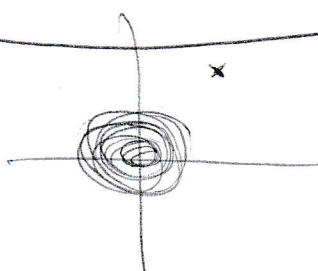


$$\sum_{i=1}^n \|y - x_i\|^2 = \sum_{i=1}^n \|(\cancel{y - \bar{x}}) - (x_i - \bar{x})\|^2$$

$$= \sum_{i=1}^n \|y - \bar{x}\|^2 + \sum_{i=1}^n \|x_i - \bar{x}\|^2 - 2 \underbrace{\sum_{i=1}^n (y - \bar{x})^T (x_i - \bar{x})}_0$$



~~$$\sum_{i=1}^n \|y - x_i\|$$~~ 
$$\min (y - x_i)$$

