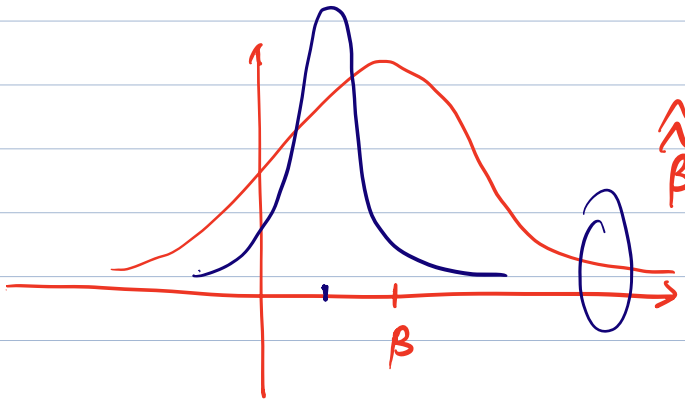
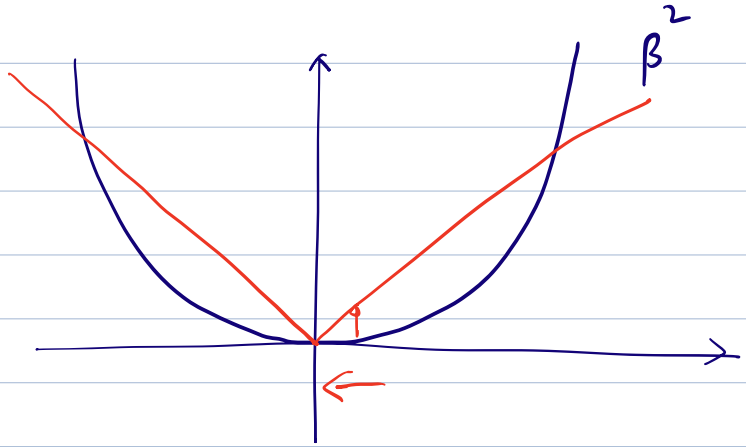
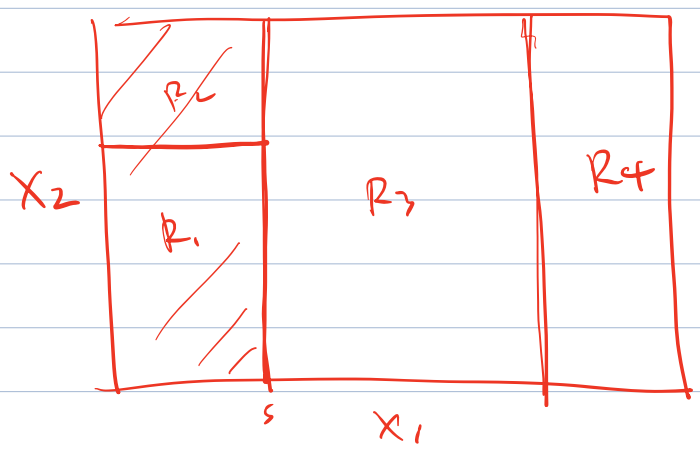
$y_i = \beta x_i + \varepsilon_i$ $\quad \hat{\beta}$

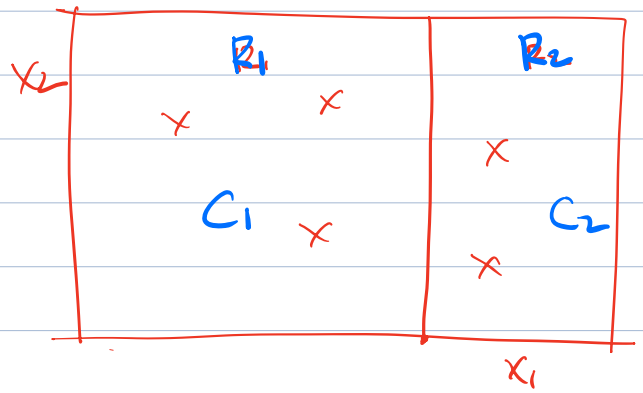
$E[\hat{\beta}] = \beta$

$\hat{\hat{\beta}} = \frac{1}{2}\hat{\beta}$









$$\sum_{i=1}^{n} (y_i - c)^2$$

$$\sum_{i \in R_1} (y_i - c_1)^2 + \sum_{i \in R_2} (y_i - c_2)^2$$