

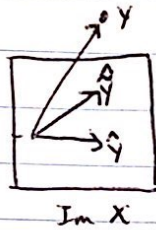
3.

$$f_j = z_j^2$$

$$\frac{(RSS(\hat{\tilde{\beta}}) - RSS(\hat{\beta})) / (p - \tilde{p})}{RSS(\hat{\beta}) / (N - p - 1)} = \left(\frac{\hat{\beta}_j}{\hat{\sigma} \sqrt{v_j}} \right)^2$$

$$\frac{(RSS(\hat{\tilde{\beta}}) - RSS(\hat{\beta}))}{\hat{\sigma}^2} = \frac{\hat{\beta}_j^2}{\hat{\sigma}^2 v_j}$$

$$(RSS(\hat{\tilde{\beta}}) - RSS(\hat{\beta})) = \frac{\hat{\beta}_j^2}{((X^T X)^{-1})_{jj}}$$



$$\|\hat{\tilde{y}} - \hat{y}\|^2 = \frac{\hat{\beta}_j^2}{((X^T X)^{-1})_{jj}}$$

$$A = X(X^T X)^{-1}$$

$$X^T A = I_{p+1}$$

?