

Assignment 6
(Due Next Friday)

6 (page 137); 7 (page 137);

Problem 3: Consider the linear model $Y = X\beta + \epsilon$, $\text{Var}(\epsilon) = \sigma^2V$, where V is a known positive definite matrix.

(a) Show that $(X'V^{-1}X)\beta$ is estimable.

(b) Show that $c'\beta$ is estimable if $c'(X'V^{-1}X)^-(X'V^{-1}X) = c'$.

(c) Obtain simultaneous confidence intervals for all $c'\beta$ that are estimable, using Scheffe's S-method.

(d) Obtain simultaneous prediction bands for two unknown locations.

8a.4 (page 196), 8a.5 (page 196).