

STAT 713 hw 1

Sufficiency, minimality, ancillarity, completeness

Do problems 6.7, 6.9 (a)(b)(c), 6.13, 6.14, 6.15, 6.20, 6.21, 6.22 from CB. In addition:

1. Let $X_1, \dots, X_n \stackrel{\text{ind}}{\sim} \text{Uniform}(\theta - 1, \theta + 1)$, $\theta \in \mathbb{R}$.
 - (a) Show that $T(\mathbf{X}) = (X_{(1)}, X_{(n)})$ is a minimum sufficient statistic for θ .
 - (b) Show that $T(\mathbf{X}) = (X_{(1)}, X_{(n)})$ is not complete.
2. (Optional) Additional problems from CB: 6.9 (d)(e), 6.23.