

Homework 9

Section 5.3 in Casella and Berger Book

Book problems: 5.10 (use Stein's lemma for a), 5.11, 5.15, 5.17, 5.18a,b,e (~~use version of Sterling's formula given in 5.35b~~) Do not do 5.18 c.

Additional Problem: $X_i \sim \text{iid } N(\mu, \sigma^2)$. a) show that $\text{Cov}(X_1 - \bar{X}, \bar{X}) = 0$; b) use (a) to show that \bar{X} is independent of S^2 .

Section 5.4 in Casella and Berger Book

Book problems: 5.21, 5.22, 5.24, 5.27