Additional Home Work Exercises for Section 6.1

1. Based upon the following information, choose the better of the two point estimates for the parameter $\theta$ and explain your reasoning.

   \[
   E(\hat{\theta}_1) = \theta, \quad V(\hat{\theta}_1) = 2.35 \\
   E(\hat{\theta}_2) = \theta, \quad V(\hat{\theta}_2) = 1.86
   \]

2. Based upon the following information, choose the better of the two point estimates for the parameter $\theta$ and explain your reasoning.

   \[
   E(\hat{\theta}_1) = \theta, \quad V(\hat{\theta}_1) = 2.72 \\
   E(\hat{\theta}_2) = \frac{n-1}{n} \theta, \quad V(\hat{\theta}_2) = 2.72
   \]

Answers are on the following page.
Answers

1. You would want to choose $\hat{\theta}_2$ because it has the smaller variance of the two.

2. You would want to choose $\hat{\theta}_1$ because it is unbiased.