6. Exercise: Estimates and estimators

Exercise: Estimates and estimators

3/3 points (graded)

Valerie wants to find an estimator for an unknown random variable Θ. She can observe a random variable X whose distribution satisfies $\mathbf{E}[X^2 \mid \Theta] = \Theta$. She goes ahead and observes that X took a numerical value of 5. She then estimates Θ as the square of the observed value, namely, 25.

For each of the following questions, choose the most appropriate answer.

1) X^2 is an

Estimator ▾ ✔ **Answer:** Estimator

2) 25 is an

Estimate ▾ ✔ **Answer:** Estimate

3) $X^3 + 2$ is another (not necessarily good)

Estimator ▾ ✔ **Answer:** Estimator

Solution:

In the first and the third cases, we have a random variable $g(X)$, which is determined as a function of the observation X. Such a random variable is called an estimator.

In the second case, we are dealing with the realized numerical value of an estimator, which we call an estimate.

提交 You have used 1 of 1 attempt

ℹ Answers are displayed within the problem

讨论

显示讨论