



<u>Course</u> > <u>Unit 7:</u>... > <u>Lec. 14:</u>... > 6. Exer...

## 6. Exercise: Estimates and estimators

Exercises due Apr 8, 2020 05:29 IST Completed

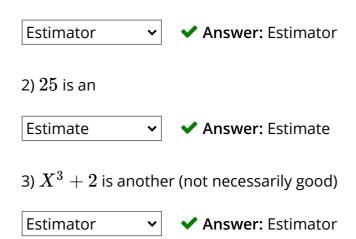
Exercise: Estimates and estimators

3/3 points (graded)

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

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

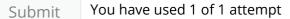
1)  $X^2$  is an



## **Solution:**

In the first and the third cases, we have a random variable  $g\left(X\right)$ , 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.

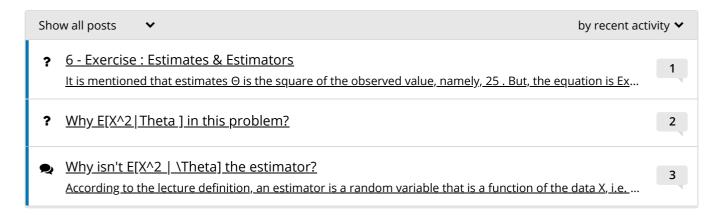


**1** Answers are displayed within the problem

## Discussion

**Hide Discussion** 

**Topic:** Unit 7: Bayesian inference:Lec. 14: Introduction to Bayesian inference / 6. Exercise: Estimates and estimators



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