# 3. Exercise: LMS and LLMS

## Exercise: LMS and LLMS

2/2 points (graded)

Suppose that the random variables $\Theta$ and $X$ are not independent, but $\mathbf{E}[\Theta \mid X = x] = 3$ for all $x$. Then the LLMS estimator of $\Theta$ based on $X$ is of the form $aX + b$, with

$a =$ 0 ✔ **Answer:** 0

$b =$ 3 ✔ **Answer:** 3

**Solution:**

The LMS estimator of $\Theta$ based on $X$ is of the form $\mathbf{E}[\Theta \mid X] = 3$. This is already linear in $X$ (with $a = 0$ and $b = 3$), and therefore it is also the LLMS estimator.

提交 You have used 1 of 3 attempts

Answers are displayed within the problem

## 讨论

显示讨论

**Topic:** Unit 7 / Lec. 17 / 3. Exercise: LMS and LLMS