

10. Exercise: A mixed random variable

Exercise: A mixed random variable

1/1 point (graded)

A lightbulb is installed. With probability $\frac{1}{3}$, it burns out immediately when it is first installed. With probability $\frac{2}{3}$, it burns out after an amount of time that is uniformly distributed on $[0, 3]$. The expected value of the time until the lightbulb burns out is

✓ Answer: 1

Solution:

The expected value of a uniform on $[0, 3]$ is $\frac{3}{2}$. Using the definition of expectation of mixed random variables, the expected value is $\frac{1}{3} \cdot 0 + \frac{2}{3} \cdot \frac{3}{2} = 1$.

提交

You have used 1 of 3 attempts

❗ Answers are displayed within the problem

讨论

显示讨论

Topic: Unit 5 / Lec. 9 / 10. Exercise: A mixed random variable

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