

Quiz for Week 10

⚠ This is a preview of the published version of the quiz

Started: 28 Oct at 18:26

Quiz instructions

Quiz time is from 17.15 to 18.00 of October 25, 2023.

Question 1

1 pts

Suppose $X \sim \text{Exp}(\lambda)$ with $\lambda > 0$. Which of the following is **INCORRECT**?

- ☐ For any real numbers $x_2 > x_1 > 0$, we must have $P(X > x_2 | X > x_1) = P(X > x_2 - x_1)$.
- ☐ For any real numbers $x_2 > x_1 > 0$, we must have $P(X > x_1) > P(X > x_2) > 0$.
- ☒ For any real numbers $x_2 > x_1 > 0$, we must have $P(X > x_2) - P(X > x_1) = P(X > x_2 - x_1)$.
- ☐ None of the given options.

Question 2

1 pts

Let X and Y be independent random variables. Which of the following is **INCORRECT**?

- ☐ If $X \sim \text{Bin}(10, 0.5)$ and $Y \sim \text{Bin}(10, 0.5)$, then $X + Y \sim \text{Bin}(20, 0.5)$.
- ☐ If $X \sim \text{Poisson}(2)$ and $Y \sim \text{Poisson}(4)$, then $X + Y \sim \text{Poisson}(6)$.
- ☒ If $X \sim \text{Exp}(2)$ and $Y \sim \text{Exp}(4)$, then $X + Y \sim \text{Exp}(6)$.
- ☐ None of the given options.

Question 3

1 pts

Assume $X \sim N(10, 25)$. Then $P(0 \leq X \leq 25) = ?$

Note: $\Phi(3) = 0.99865$; $\Phi(2) = 0.97725$; $\Phi(0.6) = 0.72574$; $\Phi(0.4) = 0.65542$.

- ☐ 0.9973
- ☒ 0.9759
- ☐ 0.9545
- ☐ 0.3812

Saved at 18:27

Submit quiz

