

# Exercise for Week 5

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

Started: 8 Sep at 14:15

## Quiz instructions

Quiz time is from 09:15am to 10:30am of September 6.

### Question 1

1 pts

Rolling an unfair die,  $X$  = number obtained. Assume that

$$P(X = 1) = P(X = 2) = P(X = 3) = P(X = 6) = 0.2;$$

$$P(X = 4) = P(X = 5) = 0.1;$$

then  $E(X) = ?$

☐ 3.0

☐ 3.3

☐ 3.5

☐ 2.8

### Question 2

1 pts

Which of the following is **INCORRECT**?

☒ Let  $f_X(x)$  be the probability function of random variable  $X$ , then we must have  $0 \leq f_X(x) \leq 1$ .

☐ Let  $F_X(x)$  be the cumulative distribution function of random variable  $X$ , then we must have  $0 \leq F_X(x) \leq 1$ ;

☐ Let  $X$  be a discrete random variable. Then we must have  $E(X^2) \geq [E(X)]^2$ .

☐ All are correct.

**Question 3****1 pts**

The probability function for a random variable  $X$  is given below:

$$f_X(x) = \begin{cases} \frac{1}{8}x, & 0 \leq x \leq 4 \\ 0, & \text{elsewhere} \end{cases}$$

Then  $E(X^2) = ?$

☐ 4

☐ 64/9

☐ 8

☐ None of the given options

No new data to save. Last checked at 14:15

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