

CIE
Further Probability & Statistics
分类真题
2020-2022 册

A Level Clouds 出品

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Chapter 1

Continuous Random Variables

Q1: 9231/41/S20

3 The continuous random variable X has probability density function f given by

$$f(x) = \begin{cases} \frac{3}{16}(2 - \sqrt{x}) & 0 \leq x < 1, \\ \frac{3}{16\sqrt{x}} & 1 \leq x \leq 9, \\ 0 & \text{otherwise.} \end{cases}$$

(a) Find $E(X)$.

[3]

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Q2: 9231/43/S20

- 3 The continuous random variable X has probability density function f given by

$$f(x) = \begin{cases} \frac{1}{5}x & 0 \leq x < 2, \\ \frac{2}{15}(5-x) & 2 \leq x \leq 5, \\ 0 & \text{otherwise.} \end{cases}$$

- (a) Find the cumulative distribution function of X .

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- (b) Find the median value of X .

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(c) Find $E(X^2)$.

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(d) Find $P(1 \leq X \leq 3)$.

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