# ENEE2307 Online Quiz Ch2

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Correct

Mark 5.00 out of 5.00

Flag question

Let  $f_X(x)$  be the probability density function of the random variable X.

$$f(x) = \begin{cases} (2/6^2) x, & 0 \le x \le 6; \\ 0, & \text{otherwise.} \end{cases}$$

Compute  $F_X(2.7)$ 

Answer:

0.2025

The correct answer is: 0.20250

Correct

Mark 5.00 out of 5.00

Flag question

Let  $f_X(x)$  be the probability density function of the random variable X.

$$f(x) = \begin{cases} \frac{3}{(4)^3 - (-3)^3} x^2, & -3 \le x \le 4; \\ 0, & \text{otherwise.} \end{cases}$$

Determine the mean of X.

Answer:

1.4423

The correct answer is: 1.44231

Correct

Mark 5.00 out of 5.00

Flag question

Let  $f_X(x)$  be the probability density function of the random variable X.

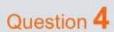
$$f(x) = \begin{cases} (2/10^2) x, & 0 \le x \le 10; \\ 0, & \text{otherwise.} \end{cases}$$

Find the mode of the distribution of X.

Answer:

10

The correct answer is: 10.00000



Incorrect

Mark 0.00 out of 5.00

Flag question

The lifetime X of a certain electronic component is an exponential random variable with a mean of 9 hours. Assuming 2 of these components operate independently in a device. The device operates if all components operate. Find the probability that the device operates for at least 3 hours.

#### Answer:

0.11969

The correct answer is: 0.513417

Incorrect

Mark 0.00 out of 5.00

Flag question

A multiple-choice exam contains 52 questions, each with 4 options (one is the correct answer). Assume that a student, who did not study well on the exam, decided to just guess on each answer. To pass the exam, a student must answer at least 22 questions correctly. Use the normal approximation to find the probability that a student will pass the exam?

Answer:

0.00275

The correct answer is: 0.001961

Correct

Mark 5.00 out of 5.00

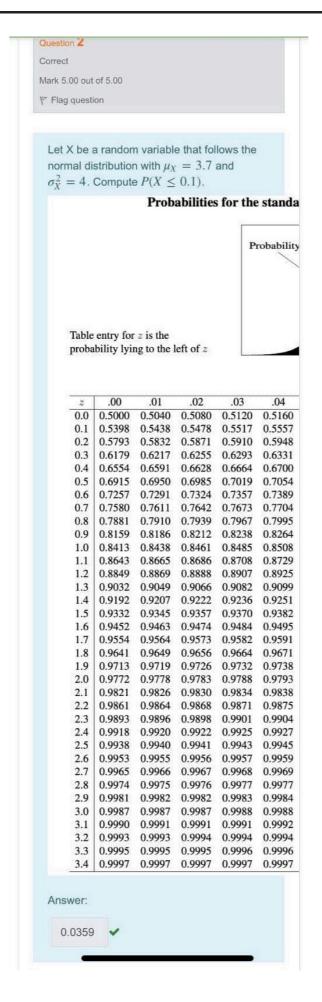
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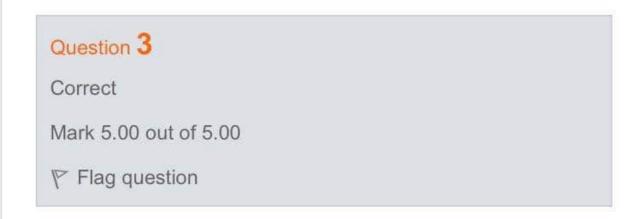
Let X be a random variable with a uniform distribution over the interval [-5, 3]. Determine the variance of X.

Answer:

5.33333 🕶

The correct answer is: 5.333333





Let X be a random variable that follows the normal distribution with a mean of 3.9 and a standard deviation of 3. Compute  $E\{x^2\}$ .

Answer:

The correct answer is: 24.210000