Lesson 3.1

Quiz, 10 questions

1 point

1.
When using random variable notation, big X denotes _____.

- a random variable
- a conditional probability
- distributed as
- a realization of a random variable
- the expectation of a random variable
- approximately equal to

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1 point

2.
When using random variable notation, little x denotes _____.

- a random variable
- a conditional probability
- distributed as
- a realization of a random variable
- the expectation of a random variable

- approximately equal to

---

1 point

3.

When using random variable notation, X ~ denotes _____.

- a random variable
- a conditional probability
- distributed as
- a realization of a random variable
- the expectation of a random variable
- approximately equal to

---

1 point

4.

What is the value of $f(x) = -5I_{\{x>2\}}(x) + xI_{\{x<-1\}}(x)$ when $x = 3$?

Enter answer here

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1 point

5.

What is the value of $f(x) = -5I_{\{x>2\}}(x) + xI_{\{x<-1\}}(x)$ when $x = 0$?

Enter answer here

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1 point

6.

Which of the following scenarios could we appropriately model using a Bernoulli random variable?

- Predicting the weight of a typical hockey player
- Predicting the number of wins in a series of three games against a single opponent (ties count as losses)
- Predicting the number of goals scored in a hockey match
- Predicting whether your hockey team wins its next game (tie counts as a loss)

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1 point

7.

Calculate the expected value of the following random variable: X takes on values $\{0, 1, 2, 3\}$ with corresponding probabilities $\{0.5, 0.2, 0.2, 0.1\}$. Round your answer to one decimal place.

Enter answer here

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1 point

8.

Which of the following scenarios could we appropriately model using a binomial random variable (with n > 1)?

- Predicting the number of wins in a series of three games against a single opponent (ties count as losses)
- Predicting the number of goals scored in a hockey match
- Predicting the weight of a typical hockey player

Predicting whether your hockey team wins its next game (tie counts as a loss)

1 point

9.

Suppose $X \sim \text{Binomial}(3, 0.2)$. Calculate $P(X = 0)$. Round your answer to two decimal places.

Enter answer here

1 point

10.

Suppose $X \sim \text{Binomial}(3, 0.2)$. Calculate $P(X \leq 2)$. Round your answer to two decimal places.

Enter answer here

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