Quiz 3 Results for Ali Asad

Score for this quiz: **8.5** out of 10
Submitted Mar 10 at 12:28pm
This attempt took 13 minutes.

Question 1

1.5 / 1.5 pts

A fair 6-sided die is rolled four times. What is the probability that all the rolls result in an odd number.

1) 1/16

2) 1/2

3) 4/6

4) 1/32

Correct!

- [x] 1
- [ ] 3
- [ ] 4
- [ ] 2

Question 2

1.5 / 1.5 pts

A household consists of 4 adults and 3 kids. How many 3-member subsets can be created from members of the household.

1) $\frac{7!}{4!}$

2) $\frac{3!}{7!}$

3) $\frac{7!}{4!3!}$

4) $\frac{7!}{3!}$

Correct!

- [x] 3
- [ ] 1
- [ ] 4
- [ ] 2

Question 3

1.5 / 1.5 pts

On a certain day, assume that there are 400 students on campus at 2pm. For each student, let 0.1 be the probability that the student will need to use the ATM on campus at 2 pm. Assume that whether one student needs to use the ATM is independent of any other student needing to use the ATM. Consider the following random variable:

X = Number of students that will need to use the ATM at 2 PM

What is the correct expression for the PMF of X?

1) $p_X(k) = (0.1)^k(0.9)^{400-k}$

2) $p_X(k) = \frac{400!}{(400-k)!k!}(0.9)^k(0.1)^{400-k}$

3) $p_X(k) = \frac{400!}{(400-k)!k!}(0.1)^k(0.9)^{400-k}$

4) $p_X(k) = \frac{400!}{400!k!}(0.1)^k(0.9)^{400-k}$

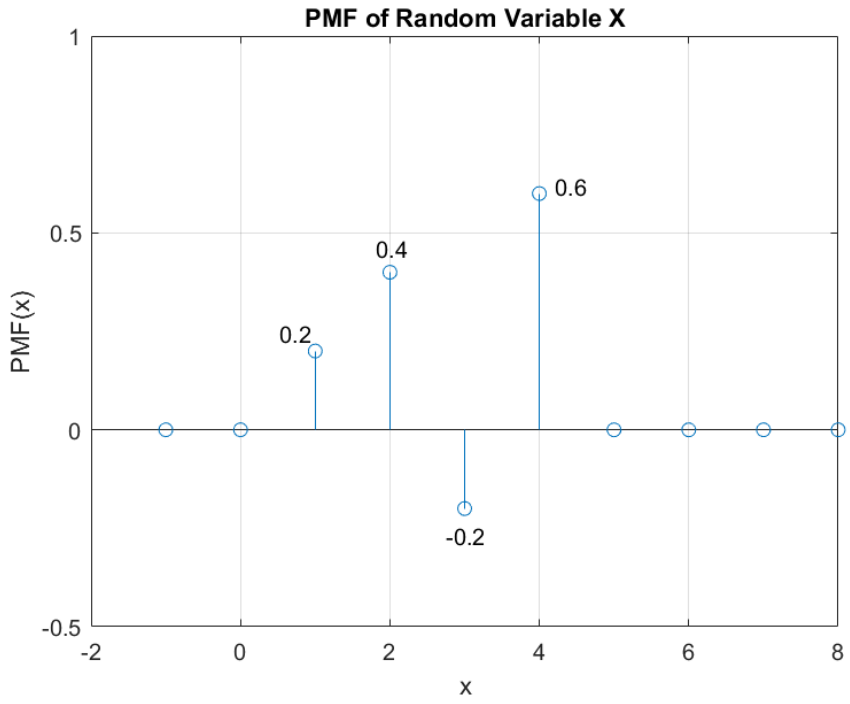
Correct!

- [x] 3
- [ ] 1
- [ ] 4
- [ ] 2

Question 4

1 / 1 pts

For a random variable X, does the following figure depict a legitimate Probability Mass Function (PMF):



Correct!

- (selected) No
- Yes

Question 5

1 / 1 pts

For a Bernoulli random variable X, the PMF value at 0 (denoted by $p_X(0)$) is always 0.5.

- True

Correct!

- (selected) False

Question 6

1 / 1 pts

For a discrete random variable X, it is possible that $p_X(2) = 1.2$

- True
- False

Correct!

Question 7

1 / 1 pts

Mean of a Discrete Uniform Random Variable can be negative.

Correct!

- True
- False

Question 8

0 / 1.5 pts

Consider two random variables X and Z, where

$Z = 1 + X^2$

The PMF of X is given below:

What is $p_Z(1)$? (Enter your answer in A.BCD format e.g. 3.115)

ou Answered

0.75

orrect Answers

0.125 (with margin: 0)
Between 0.124 and 0.126

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