

Q1. If A and B are two independent events such that $P(A) = 0.2$ and $P(B) = 0.5$,
Then what is $P(B/A)$?

0.1

0.2

0.5

1

Q2. If 4 books are picked at random from a shelf containing 4 mathematics and 3 physics books, calculate the probability that 2 mathematics and 2 physics books are selected.

$15/20$

$18/35$

$2/5$

$2/7$

Q3. For what value of 'k' $f(x) = kx$, $x = 1, 2, 3, 4$ will be a valid probability mass function.

Q9. $f(x)=1/2$, $x=-1,1$. $f(x)=0$, elsewhere. Calculate $\text{Var}(x)$

- 0
- 0.5
- 1
- 2

[Clear selection](#)

Q10. X is a discrete random variable such that $\text{Var}(X)=2$. Then $\text{Var}(-2X-1)=$

- 2
- 4
- 6
- 8

[Clear selection](#)

Q7. On average a student misses 5 classes in a month. What is the probability that in a given month the student will miss exactly 4 classes (use poison's distribution)?

- 0.52
- 0.44
- 0.41
- 0.17

[Clear selection](#)

Q8. In flipping a coin twice, let $X = \text{no heads}$. Then $E(X) =$

- 0
- 1
- 2
- 3

[Clear selection](#)

Q9. $f(x) = 1/2$, $x = -1, 1$. $f(x) = 0$, elsewhere. Calculate $\text{Var}(x)$

Q5. $f(x)=1/4$, $x=1,2,3,4$. then $P(X>1) =$

- 1
- 1/4
- 3/4
- 1/2

[Clear selection](#)

Q6. If probability of hitting the target is 0.8 and 5 shots are fired, what is the probability of hitting the target at most 3 times.

- 0.15
- 0.26
- 0.77
- 0.85

[Clear selection](#)

Q3. For what value of 'k' $f(x) = kx$, $x=1,2,3,4$ will be a valid probability mass function.

- 1
- 1/2
- 1/5
- 1/10

[Clear selection](#)

Q4. Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/4$, $F(1)=1/2$, $F(2)=1$ then probability mass function $f(1) =$

- 1/4
- 1/5
- 1/10
- 1/15

[Clear selection](#)

Q2. If 4 books are picked at random from a shelf containing 4 mathematics and 3 physics books, calculate the probability that 2 mathematics and 2 physics books are selected.

- 15/20
- 18/35
- 2/5
- 2/7

[Clear selection](#)

Q1. 2. Let T follows T-distribution . Then find $P(T < 2.365)$ with degree of freedom 7

0.975

Q2. Find a 95% confidence interval for the mean of a normal distribution with sample variance 2.8, using a sample of 7 values with sample mean 148..

146.456 <mean< 149.544

Q3. A random sample of size 12 has a mean 20 and variance 0.28. Assuming the sample to be normally distributed , Construct a 99% confidence interval for variance

0.115<variance< 1.183

Q4. If X is uniform random variable on the interval $[0,5]$, what is $E(X)$.

1

Q5. The mean of exponential distribution with $\beta=2$ is...

2

Q6. Find the 10% Trimmed mean of the data set 5,7,3,6,2, 8, 9,11

6.33

Q7. Let X be a continuous random variable. Then the Jacobian (J) of the transformation $Y=X+3$ is....

1

Q8. If Z is standard normal random variable then find c such that $P(Z=c)=0.5$

0

Q8. If Z is standard normal random variable then find c such that $P(Z=c)=0.5$

0

Q9. Find the probability that a person flipping a coin gets 1st head in the 4th flip

0.0625

Q10. Find the t value with degree of freedom 7 that leaves an area of 0.025 to the right

2.365