1 Q) A card is drawn at random from the pack of playing cards, the probability of getting a face card is

$\frac{4}{13}$

$\frac{12}{13}$

$\frac{3}{13}$

$\frac{2}{13}$

If a coin is tossed two times, the probability of getting at most one head is

$\frac{1}{4}$

$\frac{3}{4}$

$\frac{1}{2}$

$\frac{1}{5}$

An urn contains 5 red balls and 5 black balls. In the first draw one ball is picked at random and discarded without noticing its color. The probability to get a red ball in the second draw is

$\frac{4}{9}$

$\frac{5}{9}$

$\frac{2}{3}$

$\frac{1}{2}$

Three fair cubical dice are thrown simultaneously. The probability that all three dice have the same number of dots on the faces showing up is

$\frac{5}{216}$

$\frac{10}{216}$

$\frac{2}{35}$

$\frac{1}{36}$

The probability of not getting a 7 or 11 total on either of two tosses of a pair of fair dice

$\frac{5}{9}$

$\frac{7}{9}$

$\frac{3}{7}$

$\frac{11}{36}$

A shelf has 6 mathematics books and 4 physics books. The probability that 3 particular mathematics books will be together

$\frac{1}{15}$

$\frac{3}{18}$

$\frac{1}{9}$

$\frac{2}{5}$

If A and B are two events such that $P(A)=\frac{1}{2}$, $P(B)=\frac{1}{3}$ and $P(A\cap B)=\frac{1}{4}$. What will be $P(A/B)=$

$\frac{1}{4}$

$\frac{1}{2}$

$\frac{1}{3}$

None of these

Sangeetha speaks truth in 20% cases and Jaseena speaks truth in 90% cases. What is the probability that they will contradict each other in a particular issue?

$\frac{1}{4}$

$\frac{1}{2}$

$\frac{1}{3}$

None of these

If A and B are independent events, what is P (A/B)?

P (B/A) P (A) P(B) None of these

If A and B are independent events, then which of the following statement is true

A and B^c are independent

A^c And B^c are independent

A^c And B are independent

All are correct

At Cornell school, all first year student must take chemistry and math. Suppose 25% fail in chemistry, 18% fail in math, and 9% fail in both. Suppose a first year student is selected at random, what is the probability that student selected failed at least one of the course

0.22 0.34 0.45 None of these

A pack contains 4 blue, 2 red and 3 black pens. If 2 pens are drawn at random from the pack, not replaced and then another pen is drawn. What is the probability of drawing 2 blue pens and 1 black pen?

$\frac{1}{14}$

$\frac{2}{14}$

$\frac{3}{14}$

$\frac{5}{14}$

If a coin is tossed five times then what is the probability that you observe at least one tail

$\frac{5}{14}$

$\frac{15}{32}$

$\frac{23}{32}$

$\frac{31}{32}$

Which of the following statement is correct?

The probability of rain today is -10%

The probability of rain today is 23%

The probability of rain today is 120%

The probability of rain or no rain today is 80%

Out of all the 2-digit integers between 1 and 100, a 2-digit number has to be selected at random. What is the probability that the selected number is not divisible by 7?

$\frac{13}{90}$

$\frac{12}{90}$

$\frac{78}{90}$

$\frac{77}{90}$

A box contains 20 defective items and 80 non-defective items. If two items are selected at random without replacement, what is the probability that both items are defective?

$\frac{1}{5}$

$\frac{1}{25}$

$\frac{20}{99}$

$\frac{19}{495}$

Probability lies between:

-1 and 1

0 and 1

0 and n

0 and ∞

For the three events A, B and C the expression for the occurrence of only C is

$A \cap B \cap C$

$A \cup B^C \cup C^C$

$A^C \cap B^C \cap C$

$A \cap B^C \cap C$

A letter is chosen at random from the word “Statistics”. The probability of getting a vowel is

$\frac{1}{10}$

$\frac{2}{10}$

$\frac{3}{10}$

$\frac{4}{10}$

What is the formula of odds in the favor of an event? Where m represents favorable number of cases and n represents total number of cases

m:n n-m:m m:n-m m:m+n

1 Q) E (2X+5) =

4 E(X)   2 E(X) +25   2 E(X) + 5   none of these

2 Q) Var (4X-1) =

4 Var (X)   4 Var (X)-1   16 Var (X) + 1   16 Var (X)

For the following p.m.f, the value of constant k:

X	0	1	2
P(X)	k	2k	3k

1   6 $\frac{1}{3}$ $\frac{1}{6}$

4 Q) If a random variable X is the number of heads in a toss of two coins then X can take values:

1, 2

0, 1

0, 1, 2

0, 1, 2, 3

If $P(x) = \begin{cases} \frac{x}{15}; & x = 1,2,3,4,5 \\ 0; & otherwise \end{cases}$ then $P\left\{\frac{1}{2} < x < \frac{5}{2} \mid x > 1\right\} =$

$\frac{2}{7}$

$\frac{1}{7}$

$\frac{3}{7}$

$\frac{4}{7}$

If the probability density function f(x) is defined in [a, b] and M is the median of the distribution then the value of $\int_a^M f(x)\,dx =$

$\frac{1}{2}$

$\frac{3}{4}$

$\frac{1}{4}$

$\frac{2}{5}$

A continuous random variable X has a p.d.f $f(x) = 3x^2 \quad 0 \le x \le 1$ then the value of a such that $P(X \le a) = P(X > a)$ is

$\left(\frac{3}{4}\right)^{\frac{1}{3}}$

$\left(\frac{2}{3}\right)^{\frac{1}{3}}$

$\left(\frac{1}{2}\right)^{\frac{1}{3}}$

$\left(\frac{1}{5}\right)^{\frac{1}{3}}$

A continuous random variable X has a p.d.f $f(x) = \begin{cases} ax; & 0 \le x \le 1 \\ a; & 1 \le x \le 2 \\ -ax + 3a; & 2 \le x \le 3 \\ 0 & elsewhere \end{cases}$ then a=

$\frac{1}{5}$ $\frac{1}{2}$ $\frac{1}{10}$ $\frac{1}{20}$

A continuous random variable X has a p.d.f $f(x) = \begin{cases} ax; & 0 \le x \le 1 \\ a; & 1 \le x \le 2 \\ -ax + 3a; & 2 \le x \le 3 \\ 0 & elsewhere \end{cases}$ then $P(x \le 1.25) =$

$\frac{3}{8}$ $\frac{4}{7}$ $\frac{2}{5}$ $\frac{5}{7}$

A probability curve y=f(x) has a range from 0 to ∞. If $f(x) = e^{-x}$ then $\mu_8'(8^{th}\ moment\ about\ the\ origin)$ is

7! 4! 8! 10!

If X and Y are independent random variable then the value of Cov (X, Y)=

0.6 0 0.7 0.1

Let X be a random variable with the following probability distribution

X	-3	6	9
P(X)	$\frac{1}{6}$	$\frac{1}{2}$	$\frac{1}{3}$

400.5 410.5 409.5 418.5

Let X be a random variable with the following probability distribution

X	0	1	2
P(X)	p	1-2p	p

Where $0 \le p \le \frac{1}{2}$. For what value of p is the Var (X) = $\frac{1}{2}$

$\frac{1}{5}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{6}$

If $M_x(t) = \frac{pe^t}{1-qe^t}$ then Var (X)=

$\frac{1}{p^2}$ $\frac{1}{qp^2}$ $\frac{q}{p}$ $\frac{q}{p^2}$

If $M_X(t) = 1 + \theta t + \frac{3\theta^2 t^2}{2!} + ...\infty$ then Var (X) =

θ $2\theta^2$ $3\theta^2$ $4\theta^2$

The moment generating function of the random variable whose moments are?

$\mu_r^{'} = 2^r \qquad r = 0,1,2...\infty$

e^t $e^{\frac{t}{2}}$ e^{2t} e^{t^2}

If $M_X(t) = (1-2t)^{-2}$ then $\mu_3^{'}$ is equal to

124 192 200 210

If the moment of a variate X are defined by $E(X^r) = 0.6; \quad r = 1,2,3.....$

Then which of the following if the m.g.f

$0.2 + 0.8e^t$

$0.7 + 0.3e^t$

$0.4 + 0.6e^t$

$0.6 + 0.4e^t$

Var (2005) =

2005	1002.5	0	2006

μ_3 (i.e. moment about mean)=

$\mu_3^{'}$

$\mu_3^{'} - \mu_2^{'} \mu_1^{'}$

$\mu_3^{'} - 3\mu_2^{'}\mu_1^{'} + 2\mu_1^{'2}$

$\mu_3^{'} - 3\mu_2^{'}\mu_1^{'} + 2\mu_1^{'3}$

What is the expected value of the binomial distribution where n=16 and p=0.85

6 7.4 12.4 13.6

If in the binomial distribution P(X=5) = 2 P(X=4) then the value of q=

$\frac{1}{8}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$

The mean and the variance of the binomial distribution are 4 and $\frac{4}{3}$ respectively then what is the value of n?

5 6 7 8

What is the formula of the S.D of the binomial distribution?

np npq $\sqrt{npq}$ $\sqrt{np}$

If the M.g.f of the binomial distribution is $(0.1+0.9e^{t})^{10}$ then which of the following is the variance of the distribution?

1.2 0.9 0.3 0.008

If X is a Bernoulli variate which takes value 1 and 0 with their respective probabilities p and q then which of the following is the M.g.f of the distribution

$q+pe^{\frac{t}{2}}$

$q+pe^{2t}$

$(q+pe^{t})^{n}$

$q+pe^{t}$

If X is a binomial variate then X cannot take which of the following value

1 0 $\frac{1}{2}$ 3

For Poisson distribution P(3), the M.g.f $M_X(t) =$

$\exp(3(e^{-t}-1))$

$\exp(3(e^{t}-2))$

$\exp(3(e^{t}-1))$

$\exp(-3(e^{t}-1))$

If X_1 follows P (2) and X_2 follows P (3) and X_3 follows P (4) then $X_1+X_2+X_3$ follows P (λ) then what is the value of λ

6 7 8 9

Six coins are tossed 64 times using Poisson distribution, what is the probability of getting six heads x times

$\frac{e}{x!}$

$\frac{e^{-1}}{(x+1)!}$

$\frac{e^{-1}}{(x)!}$

$\frac{e}{(x+1)!}$

In a book of 400 pages, 200 typographical error occurred. Assuming Poisson law for the number of errors per page, what is the probability that a random sample of 4 pages will contain no error?

e^{-1} e^{-2} e^{-3} e^{-4}

If X is a Poisson variate such that P(X=2)=9 P(X=4)+90 P(X=6) then what is the value of λ ?

$\frac{1}{2}$ 2 3 1

If X follows P (2) and Y follows P (3) then the variance of X-2Y is equal to

12 13 14 15

If mean of the Poisson distribution is 4, what is the value of the half of the S.D

1 2 3 4

If X follows $N(\mu, \sigma^2)$ and $Z = \frac{X - \mu}{\sigma}$ then Var (Z)=

μ σ 1 σ^2

Which of the following is the M.g,f of the Normal distribution if X follows $N(\mu, \sigma^2)$

$e^{\mu t}$

$e^{\mu t + \frac{1}{2} t^2 \sigma}$

$e^{-\mu t - \frac{1}{2} t^2}$

$e^{\mu t + \frac{1}{2} t^2 \sigma^2}$

If $Z = \frac{X - \mu}{\sigma}$ is a standard normal variate the P (Z$\geq$ 0) $=$

0.65 0.5 0.35 0.40

If X follows $N(\mu, \sigma^2)$, then $Z = \frac{X - \mu}{\sigma}$ follows :

N(1, 0) N(0,1) N(μ, 0) N(0, σ^2)

If X follows $N(100, 64)$, then standard deviation $\sigma\ is$:

100 64 8 36

The total area of the normal probability density function is equal to

0 0.5 1 0.25

If T is an estimate of the parameter θ then T is called an unbiased estimate of θ if

(a) E (T)$\neq \theta$
(b) E (T)$> \theta$

(c)E (T)$< \theta$

(d)E (T)$= \theta$

If $x_1, x_2, ..., x_n$ is a random sample from a normal population $N(\mu, 4)$, then $t = \sum_{i=1}^{n} x_i^2$ is an unbiased estimator of

(a) μ
(b) $\mu^2 + 1$

(c) $\mu^2 + 2$

(d) $\mu^2 + 4$

If T is an unbiased estimator for θ then T^2 is

(a) Negatively biased estimator of θ^2
(b) Positively biased estimator of θ^2

(c)Unbiased estimator of θ^2

(d)None of these

If X_1, X_2 *and* X_3 is a random sample of size 3 from a population with mean μ and variance σ^2

For what value of λ the estimator $T = \dfrac{\lambda X_1 + X_2 + X_3}{3}$ is an unbiased estimator of μ.

(a) 0 (b) 1 (c) 2 (d) 3

If X_1, X_2 *and* X_3 is a random sample of size 3 from a population with mean μ and variance σ^2

Then which of the following is true about T_1 and T_2

if $T_1 = X_1 + X_2 - X_3$ and $T_2 = 2X_1 + 3X_3 - 4X_2$

(a)Both T_1 and T_2 are biased estimator of μ

(b) T_1 is biased and T_2 is unbiased estimator of μ

(c) T_1 is unbiased and T_2 is biased estimator of μ

(d)Both T_1 and T_2 are unbiased estimator of μ

If $X_1, X_2, ..., X_5$ is a random sample of size 5 from a population with mean μ and variance σ^2 then which of the following is the best estimator of μ

$$T_1 = \frac{X_1 + X_2 + ... + X_5}{5}$$

$$T_2 = \frac{X_1 + X_2}{2} + X_3$$

$$T_3 = \frac{2X_1 + X_2}{3}$$

$$T_4 = 2X_1 + 3X_3 - 4X_2$$

(a) T_1 (b) T_2 (c) T_3 (d) T_4

If $\overline{X}$ and Md (Median) are two estimator of μ then which of the following is true

(a)Both $\overline{X}$ and Md are not consistent estimator of μ

(b) $\overline{X}$ is a consistent estimator of μ but Md is not consistent estimator of μ

(c) $\overline{X}$ is not a consistent estimator of μ but Md is a consistent estimator of μ

(d) Both $\overline{X}$ and Md are consistent estimator of μ

$Var(Md) =$

(a) $\frac{\sigma^2}{n}$ (b) σ^2 (c) $\frac{\Pi\sigma^2}{4n}$ (d) $\frac{\Pi\sigma^2}{2n}$

$$E = \frac{Var(\overline{X})}{Var(Md)} =$$

(a)0.5 (b) 0.523 (c) 0.637 (d) 0.87

In a random sampling from Normal population $N(\mu, \sigma^2)$ the estimate $\overline{X}$ and s^2 are

Biased

Unbiased

Unbiased for mean and biased for variance

Biased for mean and unbiased for variance

In a random sampling from Normal population $N(\mu, \sigma^2)$ the maximum likelihood estimator for σ^2 is

$$\sigma^2 = \frac{1}{n}\sum_{i=1}^{n}(x_i - \mu)^2$$

$$\sigma^2 = \frac{1}{n^2}\sum_{i=1}^{n}(x_i - \mu)^2$$

$$\sigma^2 = \sum_{i=1}^{n}(x_i - \mu)^2$$

$$\sigma^2 = \frac{1}{n-1}\sum_{i=1}^{n}(x_i - \mu)^2$$

The estimate of the MLE (α) of a population having density function $\frac{2(\alpha - x)}{\alpha^2}$ $0 < \alpha < x$ is

(a)Unbiased estimate of α

(b)Not an unbiased estimate of α

(c)Unbiased estimate of α^2

(d)All of these

The equation of maximum likelihood estimator is given by

$\frac{\partial(\log L)}{\partial\theta} < 0$

$\frac{\partial(\log L)}{\partial\theta} > 0$

$\frac{\partial(\log L)}{\partial\theta} = 0$

All of these

If T is the consistent estimator of θ and $\psi(\theta)$ is one to one function of θ, then $\psi(T)$ is the consistent estimator of $\psi(\theta)$. This is known as:

Unbiased property

Efficient property

Normality property

Invariance property of consistent estimator

If $x_1, x_2, ..., x_n$ is a random sample of size n from a density function $f(x, \theta)$. A statistic $T = t(x_1, x_2, ..., x_n)$ is said to be sufficient statistic if the condition distribution of $x_1, x_2, ..., x_n$ given T

(a) Independent of T
(b) Dependent of T

(c)Independent of θ

(d)Dependent of θ

If $x_1, x_2, ..., x_n$ is a random sample of size n from $N(\mu, \sigma^2)$ population then the sufficient estimator for μ is

$$n\sum_{i=1}^{n} x_i$$

$$\sum_{i=1}^{n} x_i$$

$$\frac{1}{n}\sum_{i=1}^{n} x_i$$

Question doesn't provide the sufficient data

If $x_1, x_2, ..., x_n$ is a random sample of size n from $N(\mu, \sigma^2)$ population then the sufficient estimator for σ^2 is

$$n\sum_{i=1}^{n} x_i^2$$

$$\sum_{i=1}^{n} x_i^2$$

$$\frac{1}{n}\sum_{i=1}^{n} x_i^2$$

Data is not sufficient

If a statistic $T = t(x_1, x_2, ..., x_n)$ provides as much as information as the random variable $T = x_1, x_2, ..., x_n$ could provide, then T is called_______________ statistic

Sufficient

Consistent

Unbiased

Efficient

Efficiency of Estimator T_2 w.r.t T_1 is given by

E= $T_1 * T_2$

E= $\frac{T_2}{T_1}$

E= $\frac{T_1}{T_2}$

E= $T_1 + T_2$

If $x_1, x_2, ..., x_n$ are random observation on a Bernoulli variate X taking the value 1 with probability p and the value 0 with probability 1-p then $\overline{X}$ (1- $\overline{X}$) is consistent estimator of

(a) p (b) p (1+p) (c) p(1-p) (d) $p^2(1+p^2)$

A random sample of 20 observation produced a sample mean $\bar{x}$ =92.4 and s=25.8 what is the value of the standard error of $\bar{x}$

9.2 15.5 5.8 2.5

The probability of Type-I error is referred as

1-α β α 1- β

The range of Level of significance lies between

-∞ to 0

-∞ to ∞

0 to ∞

1 to 0

What is the relationship between s^2 *and* S^2?

$s^2 = nS^2$

$s^2 = \frac{1}{n}S^2$

$s^2 = \left(1+\frac{1}{n}\right)S^2$

$s^2 = \left(1-\frac{1}{n}\right)S^2$

If X follows $N(\mu,\sigma^2)$ then $Z^2 = \left(\frac{X-\mu}{\sigma}\right)^2$ is a chi-square variate with

2 d.f. 1 d.f. 3 d.f. 5 d.f.

From the table

$\frac{(O-E)^2}{E}$	1.6	0.72	1.00	1.44	2.00	0.40

Then the value of chi-square=

6.26 7.16 8.06 2.15

If $\mu = 0.700$, $\overline{X}$ =0.742 and s=0.040 and n=10 then the value of t statistic=

3.15 2.10 3.4 4.2

If $\sum(X-\overline{X})^2 = 1833.60$ then $S^2 =$

200.50 203.73 306.50 500.6

If p=0.54 and P=0.50 and n=1000 then what is the value of Z statistic

2.532 1.342 1.78 4.532

If $p_1 = 0.80$ and $p_2 = 0.67$, $P = \frac{16}{22}$ $n_1 = 1000$ and $n_2 = 1200$ then what is the value of Z statistic

7.442 6.842 5.432 4.156

$S^2 =$

$\sum_{i=1}^{n}(x-\bar{x})^2$

$\frac{1}{n}\sum_{i=1}^{n}(x-\bar{x})^2$

$n\sum_{i=1}^{n}(x-\bar{x})^2$

$\frac{1}{n-1}\sum_{i=1}^{n}(x-\bar{x})^2$

Which of the following is the correct formula of Z- statistic

$Z = \bar{X} - \mu$

$Z = \frac{\bar{X}-\mu}{\frac{\sigma}{n^2}}$

$Z = \frac{\bar{X}-\mu}{\frac{\sigma}{\sqrt{n}}}$

$Z = \frac{\bar{X}-\mu}{\frac{\sigma^2}{n^2}}$

If n=900, $\bar{X} = 3.4$ $\sigma = 2.61$ and $\mu = 3.25$ then what is Z- statistic

2.5 1.73 1.81 1.92

If in chi-square distribution 6 frequencies are given, then the degree of freedom is

4 5 6 7

If $X_i\ (i=1,2,\ldots,n)$ are n independent normal variates with mean μ_i and variance σ_i^2 then chi-square= $\sum_{i=1}^{n}\left(\frac{X_i-\mu_i}{\sigma_i}\right)^2$ is a chi-square variate with

1 d.f (n-1) d.f n d.f (n+1) d.f

If $S_1^2=10$ and $S_2^2=9.82$ then the value of F statistic is

2.123 1.018 2.525 1.568

If $\sum(X_1-\overline{X_1})^2=90$ and $\sum(X_2-\overline{X_2})^2=108$ then $S_1^2+S_2^2=$

19.25 19.27 19.82 19.50

If $n_1=11$ and $n_2=12$ then what is the d.f in case of F-test

F(11,12) F(9,10) F(11,11) F(10,11)

If $\sum(X_1-\overline{X_1})^2=90$ and $\sum(X_2-\overline{X_2})^2=108$ and $n_1=10$ and $n_2=12$ then using the formula

$$S^2=\frac{1}{n_1+n_2-2}\left[\sum(X_1-\overline{X_1})^2+\sum(X_2-\overline{X_2})^2\right]$$ then S=

2.113 3.124 3.146 2.413

If the null- hypothesis H_0 is false but we accept null- hypothesis H_0 then it is called

Type-II error

Type-I error

No error

None of these

If $b_{yx} = 5$ and $r^2 = \frac{1}{5}$ then $b_{xy} =$

(a) $\frac{1}{20}$ (b) $\frac{1}{25}$ (c) $\frac{1}{15}$ (d) $\frac{1}{30}$

If $r = \frac{1}{2}$ $\sigma_x = 1$ $\sigma_y = 2$ and $\overline{X} = 1, \overline{Y} = 1$ then regression line Y on X is

(a)3X-Y=3

(b)X=Y

(c)2X-3Y=8

(d)2X+3Y=8

If Var(X)=16 and Var(Y)=36 and r=0.5 then b_{yx} =

(a)0.6 (b) 0.65 (c) 0.70 (d) 0.75

If cov(X,Y)=5 and $\sigma_x = \sqrt{5}$ $\sigma_y = \sqrt{5}$ then the correct value of r=

(a)4 (b)2 (c) 1 (d) 0.25

The coefficient of correlation between X and Y is 0.6 and their covariance is 4.8. The variance of X is 9 then S.D. of Y is

(a) $\frac{4.8}{3\times 0.6}$ (b) $\frac{0.6}{4.8\times 3}$ (c) $\frac{3}{0.6\times 4.8}$ (d) $\frac{4.8}{9\times 0.6}$

The value of correlation coefficient r always lies in the interval

(a)[-1, 1) (b) [-1,1] (c) (-1,1) (d) (-1,1]

If two lines of regression are

8X-10Y+66=0

40X-18Y=214 then $\overline{X} =$

(a)17 (b) 15 (c) 13 (d) 11

If two lines of regression are

8X-10Y+66=0

40X-18Y=214 then r=

(a)0.4 (b) 0.6 (c) 0.8 (d)1

The correlation coefficient is the ___________________________ between two regression coefficients

Arithmetic mean

Geometric mean

Harmonic mean

Median

If $b_{yx} = 5$ then which of the following is the possible value of b_{xy}

3 2 -4 0.25

If θ is the angle between two regression lines then θ is given by

$\tan^{-1}\left[(1-r^2)\frac{\sigma_x}{\sigma_x+\sigma_y}\right]$

$\tan^{-1}\left[\frac{(1-r^2)}{r}\frac{\sigma_x\sigma_y}{\sigma_x+\sigma_y}\right]$

$\tan^{-1}\left[\frac{(1-r^2)}{r^2}\frac{\sigma_x^2+\sigma_y^2}{\sigma_x\sigma_y}\right]$

$\tan^{-1}\left[\frac{(1-r^2)}{r}\frac{\sigma_x\sigma_y}{\sigma_x^2+\sigma_y^2}\right]$

If r=0 then the angle between two regression lines is

$\frac{\Pi}{6}$ $\frac{\Pi}{4}$ $\frac{\Pi}{2}$ $\frac{\Pi}{8}$

If the correlation coefficient r is positive then

b_{xy} is positive and b_{yx} is negative.

b_{xy} is positive and b_{yx} is positive

b_{xy} is negitive and b_{yx} is negative

b_{xy} is negitive and b_{yx} is positive.

If $\sum X = 321$, $\sum Y = 73$, $\sum XY = 321$, $\sum Y^2 = 14111$, $\sum X^2 = 713$ r=

0.76 0.778 0.886 0.924

If n=10, $\sum d^2 = 200$, then what is the value of $\rho =$

$\frac{-2}{33}$ $\frac{-5}{33}$ $\frac{-4}{33}$ $\frac{-7}{33}$

If the data given in the table is arranged in descending order then what is the rank of 75 in the rank correlation problem

X	68	64	75	50	64	80	75	40	55	64

2 3 3.5 2.5

If the data given in the table is arranged in descending order then what is the rank of 75 in the rank correlation problem

Y	62	58	68	45	81	60	68	48	50	70

3 4 3.5 4.5

If $\sum XY = 520$, n=25, $\overline{X} = 5$, $\overline{Y} = 4$ then what is the value of COV(X,Y)

$\frac{4}{5}$ $\frac{4}{3}$ $\frac{4}{7}$ $\frac{4}{9}$

If $\sum X^2 = 650$, n=25, $\overline{X} = 5$,then what is the value of σ_x^2

2 3 1 0.5

If $\sum Y^2 = 436$, n=25, $\overline{Y} = 4$,then what is the value of σ_y^2

$\frac{16}{25}$ $\frac{36}{25}$ $\frac{41}{25}$ $\frac{47}{25}$