Suran.s
19BCS4107

10. $\mu = 95$

$\sigma = 20$

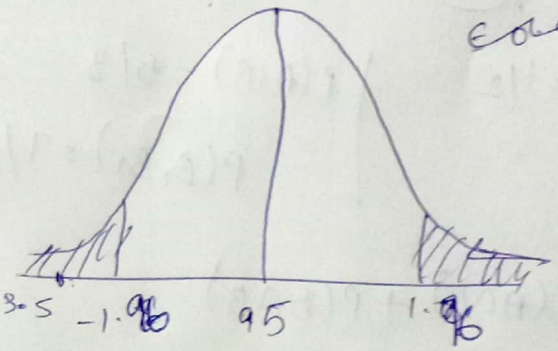
$xi = 25$.

H_0 = The protien supplies will affect

H_1 = The protien supplies will not affect

2. score = $\frac{xi - M}{\sigma} = \frac{25 - 95}{20}$

$= -3.5$



$= Z_{\alpha/2} =$

0.475

: The protien supplies will not affect

1808

1.8

$= 0.025$

$N = 0.05$

$1 - 0.025$

$= 0.975$

H_0 = The protiens supplies will affect

H_1 = the protiens supplies will not affect

Pvalue = -3.5

level of significance $\alpha = 0.05$

confidence interval = 95%.

critical region boundary are = -1.96 to 1.96

Conclusion: reject the null Hypothesis and accept the alternate Hypotheses

$\frac{75}{100}(n+1)$

(1) $= P(\text{diamond}) \times P(\text{the cat}) \times P(\text{spade})$

$= \frac{13}{52} \times \frac{13}{51} \times \frac{13}{50} = \frac{13 \times 13 \times 3 \times 2 \times 1}{52 \times 51 \times 50} = \frac{1014}{10,200}$

(3) BAG A [3R 5B] [4W 7B] Bag B

$P(A) = P(B) = 1/2$ | $P(A,B) = 5/8$

$P(B_1, B_1) = 7/11$

$P(\text{Black}) = P(A \cap B) + P(B \cap B)$

(or)

$P(B_1) = P(A \cap B) / A[P(B \cap B_1)$

$1/2 \times \frac{5}{8} + 1/2 \times \frac{7}{11}$

$2 1/2 \left[\frac{5}{8} + 7/11\right] = 1/2 \left[\frac{55+56}{88}\right]$

$= 1/2 \left[\frac{111}{88}\right]$

$P(B/B_1) = \frac{P(B \cap B_1)}{P(B_1)}$ $\frac{2 1/2 \times \frac{7}{11}}{1/2 \times \frac{111}{88}} = \frac{7}{11} \times \frac{8}{111} = \frac{56}{111}$

4) a) $X = \frac{450}{60} = \frac{15}{2}$

$\lambda = \frac{15}{2}$, $x = 10$

$P(x=x) = \frac{e^{-15/2} \cdot (15/2)^{10}}{10!}$

$= 0.0858$

b) $X = \frac{450}{60} = \frac{15}{4}$

$\lambda = \frac{15}{4}$, $x = 17$

$P(x=x) = \frac{e^{-15/4} \cdot (15/4)^{17}}{17!}$

$= 0.6321$

6) Percentile value = Average + (2 x S.D)

= 350870 + (0.67 x 12405)

= 350870 + 8311.35

= 359181.35 ₹.

75th percentile value.

2) action movies = 42 %.

comedy movies = 54 %.

horror movies = 12 %.

drama movies = 36 %.

Total = 144

P(action or drama) = P(action) + P(drama)

$= \frac{42}{144} + \frac{36}{144} = \frac{78}{144}$

P(action or drama) = 0.5416

P(comedy or horror)

$= \frac{54}{144} + \frac{12}{144}$

$= \frac{66}{144}$

= 0.4585

(4). cards = 52

diamond = 13

heart = 13

spade = 13

$= \frac{^{13}C_1 \times {}^{13}C_1 \times {}^{13}C_1}{^{52}C_3}$

$= \frac{13 \times 13 \times 13}{52 \times 51 \times 50} = \frac{2197}{132600}$

Probability = 0.0165

(8) group 1

$$z = \frac{6 - 44.5}{5} = -7.7$$

=

group 2

$$z = \frac{6 - 42}{5} = -7.2$$

group 3

$$z = \frac{6 - 46.5}{8} = -5.0625$$