③

BAG A

| | |
|---|---|
| 3 | Red |
| 5 | Black |

BAG B

| | |
|---|---|
| 4 | white |
| 7 | Black |

$P(A) = 1/2$

$P(B) = 1/2$

$$P\left(\frac{\text{Black}}{A}\right) = \frac{5}{8}$$

$$P\left(\frac{\text{Black}}{B}\right) = \frac{7}{11}$$

$$P\left(\frac{B}{\text{Black}}\right) = \frac{P(B) \times P\left(\frac{\text{Black}}{B}\right)}{P(A) \times P\left(\frac{\text{Black}}{A}\right) + P(B) \times P\left(\frac{\text{Black}}{B}\right)}$$

$$= \frac{\frac{1}{2} \times \frac{7}{11}}{\left(\frac{1}{2} \times \frac{5}{8}\right) + \left(\frac{1}{2} \times \frac{7}{11}\right)}$$

$$= \frac{7}{11} \times \frac{88^{8}}{111}$$

$$= \frac{56}{111}$$

10.

$M = 95$

$T = 20$

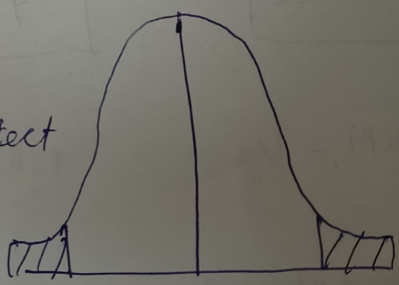
$x_i = 25$

$$z\text{-score} = \frac{x_i - M}{T} = \frac{25 - 95}{20}$$

$$= -3.5$$

$H_0$: The protien supplier will affect

$H_1$: The protien supplier will not affect.




value = -3.5

level of significance $\alpha = 0.05$

confidence interval = 95%

critical region boundary are = -1.96 to 1.96

solu:-

reject the null hypothisis and accept the alternate hypothesis.

4)

a)

$$x = \frac{450}{60}$$

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

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

$$= 0.0858$$

b)

$$x = \frac{450}{60}$$

$$x = \frac{15}{2}, \quad x = 17$$

$$P(X = x) = e^{-15/2} \cdot (15/4)^{17}$$

$$= 0.6321$$

8)

Group 1

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

Group 2

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

Group 3

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

6) percentile value = average + (2 × S.D)

= 350870 + 10.67 × 12405

= 350870 + 8311.35

75th percentile = 359181.35 //

2)

Action movies = 42 %.

comedy movies = 54 %.

horror movies = 12 %.

Drama movies = 36 %.

total = 144

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

$= \frac{42}{144} + \frac{36}{144} = \frac{78}{144} = 0.5416$

P(comedy or) horror) $= \frac{54}{144} + \frac{12}{144}$

$= \frac{66}{144} = 0.4585$

3)

cards = 52

diamond = 13

Heart = 13

Spade = 13

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

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

$= \frac{2197}{132600}$ ~~probability 0.0165~~ //