Stats (2)

Problem statement-1

Soln:- Applying Binomial distribution :-

$P(x) = {}^{n}C_{x}\, p^{x} q^{n-x}$; x = 0, 1, 2, ... n

From problem statement we have found that, $n = 20$

$x = 5$

$p = 1/4$, $q = 1 - p = 1 - 1/4 = 3/4$

$$P = {}^{20}C_{5} \cdot (1/4)^{5} \cdot (3/4)^{15} = 0.202$$

~~= 15504 x~~

Problem statement-2

Soln:- Here also we will apply Binomial probability distribution formula :-

$n = 50$

$x = 5$

$p = 1/5$ & $q = 4/5$

$$P = {}^{50}C_{5} \cdot (1/5)^{5} \cdot (4/5)^{45}$$

$$= 0.00953$$