

Related Problem with Solution :

Q) The mean and variance of a binomial distribution are 4 and 3 respectively. Fix the distribution and find $P(X \geq 1)$.

Soln :

Observe the following :

Given $np = 4$ and $npq = 3$

So, $q = 3/4$

$\Rightarrow p = 1 - q = 1/4$

Thus $n=16$

Hence $P(X \geq 1) = 1 - P(X = 0)$

$$= 1 - {}^{16}C_0(p^0)(q^{16})$$

$$= 1 - (3/4)^{16}$$