# Answer on Question #73683 – Math – Statistics and Probability

## Question

If three persons, on an average, come to a company for job interview per day, then determine the probability that less than three people have come for an interview on a given day.

## Solution

Poisson Distribution

$$P(x; m) = e^{-m} \frac{m^x}{x!}$$

The mean for Poisson random variable is $m = 3$.

$P(x < 3; 3) = P(0; 3) + P(1; 3) + P(2; 3)$

$P(0; 3) = e^{-3} \dfrac{3^0}{0!} = e^{-3}$

$P(1; 3) = e^{-3} \dfrac{3^1}{1!} = 3e^{-3}$

$P(2; 3) = e^{-3} \dfrac{3^2}{2!} = 4.5e^{-3}$

Then

$P(x < 3; 3) = e^{-3} + 3e^{-3} + 4.5e^{-3} = 8.5e^{-3} \approx 0.423190.$

**Answer:** 0.423190.