Question #8293 Kp cafeteria is very popular. On average, it sold 10 cups of coffee per hour. Find the probability that in an hour more than 3 cups of coffee are sold.
Solution. The problem is weird, because the distribution of number of sold cups N is not given. I believe that it has Poisson distribution with parameter 10(we all know that if $N \simeq \mathcal{P}(\lambda)$ then $EN = \lambda$, in our case $EN = 10$, thus $\lambda = 10$). However, this assumption is not natural, because it is stated that cafeteria is very popular, on the other hand Poisson distribution describes the occurring of rare events. We are to find $\mathsf{P}(N > 3) = 1 - \mathsf{P}(N = 0) - \mathsf{P}(N = 1) - \mathsf{P}(N = 2) - \mathsf{P}(N = 3) \approxeq 0.99$.
Answer. 0.99.