

# Finding the k-th probability

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June 28, 2012

## Abstract

Expressing the term in Kile/Latex.

## 1 Expression

I want to compute the integration and assign it to as a function of k.  $c(k)$  is the probability of having k number of customers in the system. I am able to evaluate it for a specific value of k which has to be specified in the beginning of the program. The problem arises when I am trying to generalize for k.

$$c(k) = \int_0^\infty \sum_{j=0}^k \int_0^t \xi e^{-\xi x} \frac{\eta x^j}{j!} e^{-\eta x} \frac{[\mu(t-x)]^{k-j}}{(k-j)!} e^{-\mu(t-x)} dx dA(t)$$