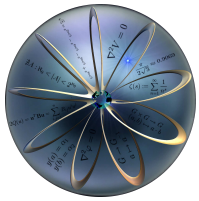

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Expectation of a non negative random variable

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For any non negative continuous random variable having distribution function $F(X)$ we have the followings:

1. $E[X] = \int_0^\infty Pr[X > t]dt$
2. $E[X^r] = r\int_0^\infty t^{r-1}Pr[X > t]dt$
3. $E[\min(X, T)] = T - \int_0^\infty F(T)dt$
4. $E[X|X < T] = T - \frac{1}{T}\int_0^T F(t)dt$ where T is a constant.