Homework 1

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Due date: Septmber 20

1. Let T be a positive random variable, show $E(T) = \int_0^\infty S(t)dt$.

2. e

3. Consider a survival time random variable with hazard $\lambda(t) = \frac{1}{10-x}$ in $[0, 10)$.

    a. Plot the hazard function.
    b. Plot the survival function.

4. Consider a survival time random variable with constant hazard $\lambda = 0.1$ in $[0, 5)$, and $\lambda = 0.2$ in $[5, \infty)$. This is known as a piecewise constand hazard.

    a. Plot the hazard function.
    b. Plot the survival function.

5. e