Homework 5, ISyE 2027
Due June 17, Wednesday

1. Suppose X is an exponential random varibale with parameter λ. Compute its median.

2. The probability density function of X is given by

$$f(x) = \begin{cases} \frac{x^{-1/2}}{2} & \text{for } 0 < x < 1 \\ 0 & \text{otherwise} \end{cases}$$

(a) What is the cumulative distribution function of X?

(b) What is the median of X?

3. Suppose $P(X = x) = x/21$ for $x = 1, 2, 3, 4, 5, 6$. Find the median of X.