

Statistics 538
Homework 1
Due: January 13

1. Derive

$$h(t) = \frac{f(t)}{S(t)}$$

using basic definitions of conditional probabilities.

2. Given the hazard function

$$h(t) = c$$

derive the survivor function, $S(t)$, and the probability density function, $f(t)$.

3. Given the survivor function

$$S(t) = \exp(-t^\gamma)$$

derive the probability density function and the hazard function.