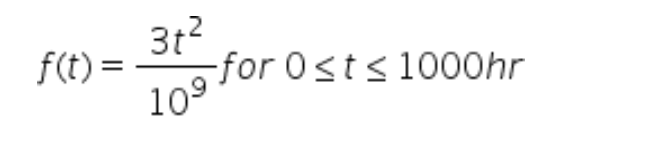
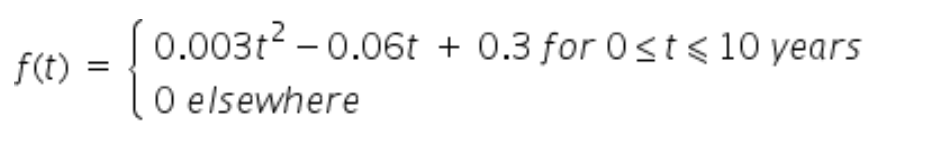
1. A Porsche GT3 Cup car’s engine has a mean time between failures of 250 hours, where the failure rate is constant. Suppose that a certain race requires failure-free operation of the engine for 20 hours. What is the probability that the engine will complete the race without failure? Please round your answer to 2 decimals.
2. The hazard function of a product is given by λ = λt where λ > 0. Suppose we subject the product to the burn-in period T0. Will the conditional reliability R (t|T0 ) increase or decrease as the burn-in period T0 increase?
3. The failure distribution is given by the function below. What is the MTTF (in hours).



1. The time to failure of a typical household refrigerator has the following pdf: What is the reliability of the refrigerator for the first year? Please round your answer to 2 decimals



1. Pick three contributing factors for observing an IFR hazard.

Hint: These factors can typically be addressed using preventative maintenance.

