1. The mean residual life function (MRL) defined by is as important in reliability engineering as the hazard rate function
2. Construct an empirical estimator for the function and then calculate its values at and when the observed failure times are 14, 6, 8, 11, and 9 months.
3. Let denote the reliability function of the failure-time random variable . Prove the equation
4. Assume that the failure-time random variable has a probability density function , and let denote the reliability function of . Prove the equation
5. Calculate the mean residual life function of the exponential random variable with the rate parameter , that is, its reliability function is for all .