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Discrete Structures II

Problem Set #5

1. The probability density function of the continuous random variable X is;
   1. What is the numerical value of the constant k?
   2. What are the values of:
   3. Using (b), What is the variance and standard deviation?
2. A discrete random variable X has the probability distribution function, , has a moment generating function,. What is the mean and variance of the f(x)?

Bonus: Show why

1. The number of driver’s licenses issued during the month of June is a (discrete) random variable with and . Using Chebyshev’s Theorem, with what probability can you say between 64 and 184 driver licenses were issued during June?