**Assignment 1**

**Prob A:** Delta Airlines quotes a flight time of 2 hours and 5 minutes for its flight from Syracuse to Chicago. Suppose we believe that actual flight times are uniformly distributed between 2 hours & 2 hours and 20 minutes.

**What is the probability that the flight will be no more than 5 minutes late?**

The normal flight time quoted by the Airlines is 2 hours 5 minutes or 125 minutes. The probability that the flight time will not be greater than five minutes late means that the flight time is up to 130 minutes. Therefore, the cumulative distribution function can be used to find the probability as:

**What is the probability that the flight will be more than 10 minutes late?**

The normal flight time quoted by the Airlines is 2 hours 5 minutes or 125 minutes. The probability that the flight time be greater than ten minutes late means that the flight time is up to 135 minutes. Therefore, the cumulative distribution function can be used to find the probability as

**Prob B:** General Hospital’s patient account division has complied data on the age of accounts receivables. The data collected indicate that the age of the accounts follows a normal distribution with a mean of 33 and a standard deviation of 5 days.

**What portion of the accounts is between 28 to 39 days old**?

**The hospital administrator is interested in sending reminder letters to the oldest 15% of accounts. How many days old should an account be before a reminder letter is sent?**

**The hospital administrators want to give a discount to those accounts that pay their balance by the 25th day. What percentage of the accounts will receive the discount?**