STAT 340

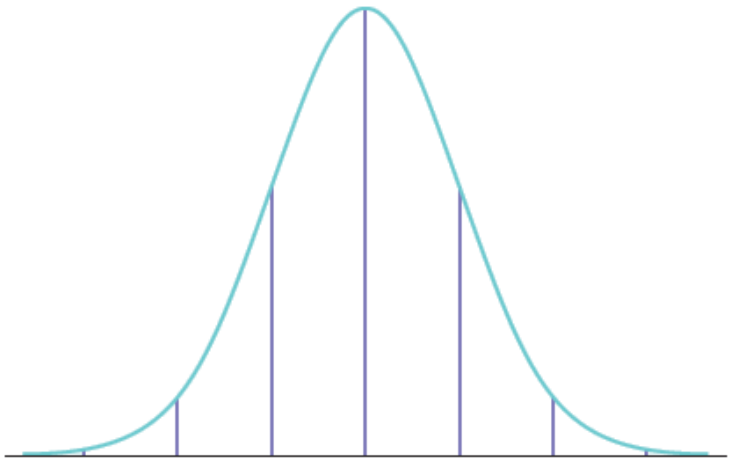
Chapter 11 – Practice Questions

Part I

1. Heights of women aged 18 – 24 years old is normally distributed with a mean of 64.5 inches and with a standard deviation of 2.5 inches.

   $X =$

   $\mu =$ and $\sigma =$



   a. $P(X < 64.5) =$

   b. $P(57 < X < 72) =$

   c. $P(X > 59.5) =$

   d. $P(62 < X < 72) =$

   e. $P(X < 57 \text{ or } X > 72) =$

2. The IQ of students is normally distributed with a mean of 100 and with a standard deviation of 16. Calculate z-scores for

   a. IQ = 124

   b. IQ = 96

3. Find the following probabilities using the standard normal table.

   a. $Z \sim N(0,1)$

      $P(Z > 1) =$

   b. $Y \sim N(10,20)$

      $P(Y < 30) =$

4. The weight of potato chips bags filled by an automated machine follows the Normal Distribution with a mean of 24 oz and with a standard Deviation of 0.6 oz. If you purchase a chips bag filled by this machine, what is the probability the weight is between 23.7 oz and 24.3 oz?