Learning Objectives:

The Normal Distribution:

1. Explain that the normal distribution is a model for a bell-shaped histogram.
2. List the key characteristics of the normal distribution.
3. Given a mean and standard deviation, use the 68-95-99.7 rule to find the percentage of the normal distribution within one, two, or three standard deviations of the mean.
4. Given a mean $\mu$, standard deviation $\sigma$, and observed value $x$, calculate the standardized value (z-score). Describe the characteristics of a standard score.
5. Given a z-score, use a normal table to find the corresponding probability.
6. Given a mean $\mu$ and standard deviation $\sigma$, find a specified percentile of the normal distribution. (e.g. Given a probability find the corresponding value of $x$.)

Relevant Readings:

Chapter 2 pgs 49, 52-55
Chapter 8 pgs 302-311

Suggested Practice Problems:

2.76, 2.78, 2.86, 8.49, 8.50, 8.53, 8.55, 8.57, 8.59, 8.60, 8.63, 8.78