Math 262 Reading Guide

Section 3.7
NAME

Read Section 3.7 and answer the following questions. *Hand in this worksheet at the next class.*

1. In Example 3.36, the pdf of X is known, but the pdf of $Y = 60X$ is initially not known.

   (a) What function of y is computed first?

   (b) How is $f_Y(y)$ obtained from the function that is computed first?

2. The **Transformation Theorem** applies to $Y = g(X)$, where g is a function with what property?

3. Compare Example 3.37 to Example 3.36. How does the Transformation Theorem simplify the solution?

4. Consider Example 3.38.

   (a) Why is the set of possible values of Y the interval $0 \leq y \leq 2$?

   (b) How does Figure 3.36 illustrate the transformation described in this example?