## Math 262 Reading Guide

Section 4.4

Read Section 4.4 and answer the following questions. Hand in this worksheet at the next class.

1. What are the definitions of the conditional probability mass/density functions of Y given X = x?

2. In Example 4.24, what is the conditional distribution of Y, given that X = 250?

3. What are the definitions of the conditional expectation and conditional variance of Y given X = x?

4. How is the conditional distribution of Y given X = 250 used in Example 4.26?

5. What is the **Law of Total Expectation**?

6. What is the Law of Total Variance?