Math 262 Reading Guide

Section 3.1 NAME

Read Section 3.1 and answer the following questions. *Hand in this worksheet at the the next class.*

1. What is the definition of a **continuous** random variable?

2. What is the definition of the **probability density function (pdf)** of a continuous random variable?

3. What is the pdf of a random variable with a **uniform distribution**? Sketch the graph of such a pdf.

4. In Example 3.5, how is $P(X \leq 5)$ computed? How about $P(X = 5)$?

5. What is the definition of the **cumulative distribution function (cdf)** of a continuous random variable?

6. Suppose you know the cdf $F(x)$ of a random variable X, but you have no other information about X. Given two numbers $a < b$, how could you find $P(a \leq X \leq b)$?