

# Math 262 Reading Guide

Section 2.6.1

NAME \_\_\_\_\_

Read Section 2.6.1 and answer the following questions. *Hand in this worksheet at the next class.*

1. Consider the assumptions leading to the **hypergeometric distribution**. How are these similar to the assumptions leading to the binomial distribution? How are they different?
  
  
  
  
  
  
  
  
  
  
2. The hypergeometric distribution requires three parameters, which the text denotes  $N$ ,  $M$ , and  $n$ . What do these parameters represent?
  
  
  
  
  
  
  
  
  
  
3. In Example 2.39, explain in your own words why  $P(X = 2) = \frac{\binom{12}{2}\binom{8}{3}}{\binom{20}{5}}$ .
  
  
  
  
  
  
  
  
  
  
4. Let  $X$  have a hypergeometric distribution with parameters  $N$ ,  $M$ , and  $n$ .
  - (a) What is the formula for  $P(X = x)$ ?
  
  
  
  
  
  
  
  
  
  
  - (b) What are the possible values of  $x$ ? (i.e. values that have nonzero probabilities)
  
  
  
  
  
  
  
  
  
  
  - (c) What are  $E(X)$  and  $\text{Var}(X)$ ?