L7 Sept. 14, 2020 HW: page 119: #’s 67, 70,

**The Binomial Probability Distribution** (section 3.4)

 mean  variance 

1. (hard) Smith and Jones each take the same multiple choice. The test has 5 questions, and each question has 5 answers with exactly one correct answer.
   1. Assuming that your answers are random guesses, give the probability distribution, table and graph for the number of correct answers for the test.
   2. What is the expected value and variance for this distribution?
   3. Find the probability that Smith and Jones get the same number of answers correct.

**Section 3.5; The Geometric Probability Distribution**

**Review of series:**

Suppose that 0 < *r < 1,* what is the sum of the series  ?

What is: ?

1. Let *X* = the number of tosses of a fair die until the first “1” appears. What is *E(X)?*

**Def.**  A random variable *Y* is said to have a geometric probability distribution if and only if



Mean  Variance 

1. What is the probability that you will not get a “1” in the first 4 tosses?

Proof for finding the mean and variance for the Geometric Distribution.