Binomial and Geometric Distributions HW/Quiz #2 Math 153

1. **Lefties**. Assume that 18% of people are left handed. If we select 9 people at random, find the following probabilities.

1. There are at least two lefties among the 9 people.
2. There are exactly 4 lefties in the group.
3. There are no more than 3 lefties in the group.

2. **Colorblindness.** About 8% of males are colorblind. A researcher needs some colorblind subjects for and experiment and begins checking potential subjects.

a) What is the probability that exactly 3 people out of the first 20 checked are colorblind?

b) What is the probability that there are at least 4 people out of the first 50 checked who are colorblind?

3. **Athletes.** Major universities claim that 84% of the senior athletes graduate that year. Fifty senior athletes attending major universities are randomly selected whether or not they graduate is recorded in the order of selection.

 a) What is the probability that exactly 44 senior athletes graduated that year?

 b) What is the probability that exactly 38 or 39 senior athletes graduated that year?

 c) What is the probability that fewer than 41 senior athletes graduated that year?

 d) What is the probability that 42 or more senior athletes graduated that year?