1. (8 points, 2 points each) True or false.

   T   F   An event is a list of possible outcomes from a random experiment.

   T   F   A permutation is a way to choose items from a list without keeping track of order.

   T   F   A probability is a number between 0 and 1 that represents how likely an outcome
            from a random experiment is.

   T   F   A 4-to-1 chance of something happening is the same as a 20% probability of it happening.

2. (3 points) We have the following random experiment: We have a jar filled with black, red, and green marbles in some proportion. We stick our hand in the jar and pull out a marble at random. Write down the sample space for this experiment.

3. (3 points) How many ways are there to choose 3 people out of 7 without keeping track of any order?

4. (3 points) I have a fair coin and I flip it 19 times in a row, and I get heads every time. What is the chance that on the 20th flip I get heads again?

5. (3 points) A deck of tarot cards has 4 suits of 14 cards each (swords, staves, cups, and coins) and 22 extra "trump" cards. What is the probability of not choosing a trump card?

6. (5 points) We have a special die where, instead of having having faces with the numbers 1 through 6, we have 1 face with the number 1 on it, 2 faces with the number 2 on them, and 3 faces with the number 3 on them. If we roll the die twice, what is the probability that numbers add up to 5?