1. Suppose a character is picked at random from the sentence, "Stat 20 is super fun!" (not including punctuation marks). We then determine if it is a vowel, a consonant, or a number. Make a table for this probability distribution - the chances of picking each type of character (vowel, consonant, or number).

Consider a box with four balls in it, two of which are red and two are blue. The balls are identical, except for their color. Now suppose we draw *three* balls at random from this box. For each of the following scenarios, list all the possible outcomes, and make a table showing the probability distribution of these outcomes.

2. We draw *with* replacement.

3. We draw *without* replacement.

4. Consider tossing a fair coin *four* times. Sketch a probability histogram for the number of heads in the four tosses. Make sure to label and title your plot (How many total equally likely outcomes are there in four tosses of a coin? Make sure you get your probabilities correct!)

A test consists of 20 multiple choice questions. Each question has 4 answer choices, of which only one is correct, and three are incorrect. You haven't studied at all for this test, and decide to answer all the questions by picking one of the four answer choices at random. What is the probability that

5. you answer eight questions correctly?

6. you answer more than two questions correctly?

A committee of *three* is to be selected from among five teachers and ten students (a total of fifteen people).

7. What is the probability that the committee consists of only teachers?

8. What is the probability that the committee has at least one student?

9. What is the probability that the committee has exactly one student?

Let's suppose we pick 5 cards from a standard, 52-card deck. You may use last week's problem set as a reference!

10. How many ways can we select 5 cards that are all red?

11. What is the probability that the hand of 5 cards contains a pair of aces?