## Introduction to Probability

**CREDIT**: The questions on this document were written by Erik Packard, PhD, Associate Professor of Mathematics at Colorado Mesa University.

- Problem 3
    - Go to http://www.random.org/playing-cards/ and draw 10 cards from one deck with no jokers. Use experimental probability to estimate the probability that you will get at least five cards of the same suit. Use 40 trials.

- Problem 7
    - A party host gives a door prize to one guest chosen at random. There are 52 men and 42 women at the party. What is the probability the prize will go to a woman?

- Problem 11
    - There are six different colors of milk chocolate M&M candy. The probabilities for 5 of the colors are given below.

| Color: | Yellow | Red | Orange | Brown | Green | Blue |
|---|---|---|---|---|---|---|
| Probability: | 0.14 | 0.13 | 0.20 | 0.13 | 0.16 | ? |

        - What must be the probability of drawing a blue one?
        - What is the probability that if you draw a candy at random it will not be brown?
        - What is the probability that if you draw a candy at random it will either be yellow, orange, or red?

- Problem 16
    - Let the random number $Y$ be any number between 0 and 2.
        - Draw the density curve.
        - Find the probability that one value of $Y$ will be between 0.5 and 1.3.
        - Find the probability that one value of $Y$ will be 1.5.
        - Find the probability that one value of $Y$ will be higher than 0.8.