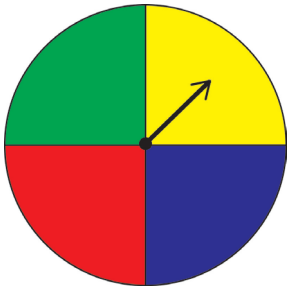
Practice – Part 1

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers under the Solutions tab in Moodle.

1. Yannick has a spinner that is divided into four equal parts. He performed an experiment and spun the spinner 60 times. He recorded his results in the table below.

Outcome	Frequency
green	19
yellow	16
red	10
blue	15
total	60



   a. Calculate the theoretical probability of the spinner landing on green.
   b. Calculate the theoretical probability of the spinner landing on each of the other colours.
   c. Calculate the experimental probability of the spinner landing on green. How does the experimental probability compare to the theoretical probability?
   d. Calculate the experimental probability of the spinner landing on blue. How does the experimental probability compare to the theoretical probability?

2. A bag of hard candy has a total of 12 candies: 2 grape, 3 orange, 3 lemon, and 4 watermelon.

   a. Calculate the theoretical probability of choosing a watermelon candy.
   b. Calculate the theoretical probability of choosing a watermelon candy or an orange candy.
   c. One candy was randomly chosen from the bag of candies and then put back in the bag. A total of 40 trials were completed. The data was recorded in the table below.

Outcome	Frequency
grape	7
orange	8
lemon	14
watermelon	11
total	40

   Calculate the experimental probability of choosing a watermelon candy.

d. The experiment is continued until 400 trials were performed.

Outcome	Frequency
grape	65
orange	198
lemon	102
watermelon	135
total	400

Calculate the experimental probability of choosing a watermelon candy after 400 trials.

e. When would the theoretical probability be expected to be equal to the experimental probability?