For section 7.3 we will practice the odd numbered exercises from the textbook. Below are a selection of problems, but I encourage you to practice the rest at home.

5. In a class 16 people live on campus and 8 live off-campus. If we were to draw one student’s name from a hat, what is the probability that the student is living off-campus?

11. Determine the probability of the prince ending up in Room A and Room B in the given scenario.

17. Consider the following game for two people: A player rolls two standard dice and makes a proper fraction with the two numbers.

- If the fraction is in simplest form, the person who rolled wins.
- If the fraction is not in simplest form the other person wins.
- If the two numbers are identical the other person wins.

Is this a fair game? Why or why not?

21. If we spin the spinners below, what is the probability of getting different numbers?

25. In each of game below, explain whether or not it is a fair game. If it is not a fair game modify it so that it becomes fair.

(a) Two players take turns rolling two dice and adding the numbers. Player A wins if the number is even, player B wins if the number is odd.
(b) Two players take turns rolling two dice and multiplying the numbers. Player A wins if the number is even, player B wins if the number is odd.

(c) Two players take turns rolling three dice and adding the numbers. Player A wins if the number is even, Player B wins if the number is odd.

33. If you flip a coin 10 times, what is the probability it is at least 4 heads?

37. Consider a pair of triangular pyramid-shaped dice (has four sides with numbers from 1 through 4). If you roll two dices at a time, what is the most likely sum and what is the probability of that sum?

39. In the board game Monopoly, if you roll three doubles in a row you go to jail.

(a) What is the probability of rolling three doubles in a row?

(b) Describe three ways in which you could represent this probability.

(c) Say you are writing a news article and want to pick the most understandable representation for the general population. Which one would you choose and why?

Reflection: What were some of the big ideas or strategies that you used to solve the problems?