Chapter 11: Understanding Randomness

Simulation Steps
1. Identify the _______________ to be repeated.
2. Explain how you will model the _______________.
3. Explain how you will simulate the _______________.
4. State clearly what the _______________ variable is.
5. Run several _______________.
6. Analyze the _______________ variable.
7. State your _______________ (in the _______________ of the problem, as always).

1. Suppose a basketball player has an 80% free throw success rate. How can we use random numbers to simulate whether or not she makes a foul shot? How many shots might she be able to make in a row without missing? Conduct 20 trials.
   
   Component:
   Outcomes:
   Trial:
   
   Response variable:
   Results:
   
   Statistic:
   Conclusion:

2. How would our simulation procedure change if her success rate were only 72%?

   Component:
   Outcomes:
   Trial:
   Response variable:
   Results:
   Statistic:
   Conclusion:
3. How would a trial and our response variable change if we wanted to know how many shots she might make out of 5 chances she gets at a crucial point in the game?

   Component:
   Outcomes:
   Trial:

   Response variable:
   Results:
   Statistic:
   Conclusion:

4. How would a trial and our response variable change if we want to know her chances of hitting both shots when she goes to the line to shoot two?

   Component:
   Outcomes:
   Trial:

   Response variable:
   Results:
   Statistic:
   Conclusion:

5. How would the simulation change if we want to know her score in a 1-and-1 situation. (Here she gets to try the second shot only if the first shot is successful.)

   Component:
   Outcomes:
   Trial:

   Response variable:
   Results:
   Statistic:
   Conclusion: