

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: