In Exercises 9–12, develop a simulation using a TI-83/84 Plus calculator, STATDISK, Minitab, Excel, or any other suitable calculator or computer software program.

9. Simulating Brand Recognition Study Refer to Exercise 5, which required a description of a simulation.

a. Conduct the simulation and record the number of consumers who recognize the brand name of McDonald's. If possible, obtain a printed copy of the results. Is the proportion of those who recognize McDonald's reasonably close to the value of 0.95?

b. Repeat the simulation until it has been conducted a total of 10 times. In each of the 10 trials, record the proportion of those who recognize McDonald's. Based on the results, do the proportions appear to be very consistent or do they vary widely? Based on the results, would it be *unlikely* to randomly select 50 consumers and find that about half of them recognize McDonald's?

10. Simulating Left-Handedness Refer to Exercise 6, which required a description of a simulation.

a. Conduct the simulation and record the number of left-handed people. Is the percentage of left-handed people from the simulation reasonably close to the value of 10%?

b. Repeat the simulation until it has been conducted a total of 10 times. Record the numbers of left-handed people in each case. Based on the results, would it be *unlikely* to randomly select 15 people and find that none of them is left-handed?

11. Simulating the Shaq Refer to Exercise 7, which required a description of a simulated free throw by basketball player Shaquille O'Neal.

a. Repeat the simulation five times and record the number of times that the free throw was made. Is the percentage of successful free throws from the simulation reasonably close to the value of 0.528?

b. Repeat part (a) until it has been conducted a total of 10 times. Record the proportion of successful free throws in each case. Based on the results, would it be *unlikely* for Shaquille O'Neal to make all of five free throws in a game?

12. Simulating Hybridization Refer to Exercise 8, which required a description of a hybridization simulation.

a. Conduct the simulation and record the number of yellow peas. If possible, obtain a printed copy of the results. Is the percentage of yellow peas from the simulation reasonably close to the value of 25%?

b. Repeat the simulation until it has been conducted a total of 10 times. Record the numbers of peas with yellow pods in each case. Based on the results, do the numbers of peas with yellow pods appear to be very consistent? Based on the results, would it be *unlikely* to randomly select 20 such offspring peas and find that none of them has yellow pods?

13. Probability of a Run of Three Use a simulation approach to find the probability that when five consecutive babies are born, there is a run of at least three babies of the same sex. Describe the simulation procedure used, and determine whether such runs are *unlikely*.

14. Probability of a Run of Four Use a simulation approach to find the probability that when six consecutive babies are born, there is a run of at least four babies of the same sex. Describe the simulation procedure used, and determine whether such runs are *unlikely*.