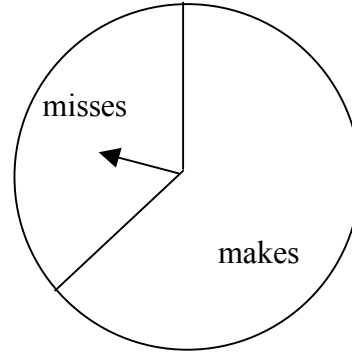
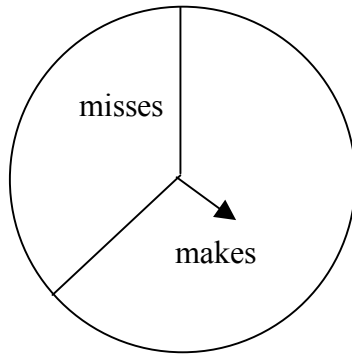


Probability- Foundation 1 CABS 2

Gen 119

1. In a college playoff basketball game, a player was fouled at the final buzzer, with her team down by one point. The player has a 0.60 average from the free throw line. What is the probability that she will make both shots to win the game?

Design two spinners like the two that are shown, and conduct an experiment (collect data from 50 “trials”) to find the probability that she will make both shots to win the game.



Make a chart to record your data. The result of your 50 trials is as follows:

Makes both shots: _____

Does not make both shots: _____

What would be the theoretical probability? Explain how it would be calculated.

How did the result from your 50-trial simulation compare to the theoretical value?

2. What is the probability that a family with four children has three girls and one boy?

Model this problem by flipping four coins, letting a head represent a girl and a tail represent a boy. Therefore, a single trial is represented by flipping four coins and a success is represented by three heads and 1 tail (for example: HHTH). Conduct 50 trials and record your results below.

Trial 1 _____

Trial 26 _____

Trial 2 _____

Trial 27 _____

Trial 3 _____

Trial 28 _____

Trial 4 _____

Trial 29 _____

Trial 5 _____

Trial 30 _____

Trial 6 _____

Trial 31 _____

Trial 7 _____

Trial 32 _____

Trial 8 _____

Trial 33 _____

Trial 9 _____

Trial 34 _____

Trial 10 _____

Trial 35 _____

Trial 11 _____

Trial 36 _____

Trial 12 _____

Trial 37 _____

Trial 13 _____

Trial 38 _____

Trial 14 _____

Trial 39 _____

Trial 15 _____

Trial 40 _____

Trial 16 _____

Trial 41 _____

Trial 17 _____

Trial 42 _____

Trial 18 _____

Trial 43 _____

Trial 19 _____

Trial 44 _____

Trial 20 _____

Trial 45 _____

Trial 21 _____

Trial 46 _____

Trial 22 _____

Trial 47 _____

Trial 23 _____

Trial 48 _____

Trial 24 _____

Trial 49 _____

Trial 25 _____

Trial 50 _____

After 50 trials, there were _____ successes. Thus, we can conclude that the probability is about _____ or _____. Show your answer as a fraction and as a decimal.

Extension: What is the probability that a four-child family has two boys and two girls?

3. A restaurant is giving away six different toy figures with children's meals. What is the probability of getting all six figures when purchasing ten meals?

Discuss how you could simulate this experiment. (Hint: a die or dice might be helpful.) Include in your discussion what a trial consists of and what a success is represented by.

4. In a group of coaches, there are 8 track coaches, 3 soccer coaches and 1 football coach. If three coaches are selected at random to be on the central athletic committee, what is the probability of selecting at least one soccer coach?

Explain how you could simulate and solve this problem.