

Lesson 9-2

Problem

MARKETING Each box of Warm-up Waffle Mix contains one of 6 different classic baseball cards. Assuming that the company has evenly distributed the cards among the boxes, describe a simulation that would help you determine the probability that you would have all 6 cards after buying 12 boxes of Warm-up?

Solution

Use 6 slips of paper numbered 1-6; each slip represents a box of cereal. Place the slips in a paper bag. Then draw one slip of paper from the bag, record its number, and place it back in the bag. Repeat the process until you have drawn and recorded 12 slips of paper. If you have drawn each of the 6 numbers at least once, consider the outcome of your experiment to be successful. If you have not drawn every number, the outcome is unsuccessful.

Repeat the experiment 50 times, recording all results in a table. Indicate which trials are successful. Then write a ratio comparing successful outcomes to the total number of outcomes. This ratio will be an estimate of the probability of getting every card in the set when you buy 12 boxes of cereal.