Chapter Problem

Collecting Cards

The Big K cereal company has randomly placed seven different collector cards of the world's great mathematicians into its Krakked Korn cereal boxes. Each box contains one card and each card is equally likely.

1. If you buy seven boxes of the cereal, what is the probability that you will get all seven different cards?

2. What is the probability that you will get seven copies of the same card?

3. Estimate the number of boxes you would have to buy to have a 50% chance of getting a complete set of the cards.

4. Design a simulation to estimate how many boxes of Krakked Korn you would have to buy to be reasonably sure of collecting an entire set of cards.

In this chapter, you will learn how to use probability distributions to calculate precise answers to questions like these.