

- 2.5-15.** One of four different prizes was randomly put into each box of a cereal. If a family decided to buy this cereal until it obtained at least one of each of the four different prizes, what is the expected number of boxes of cereal that must be purchased?
- 2.5-16.** Suppose an airport metal detector catches a person with metal 99% of the time. That is, it misses detecting a person with metal 1% of the time. Assume independence of people carrying metal. What is the probability that the first person missed (not detected) is among the first 50 persons scanned?
- 2.5-17.** In 2006, Red Rose tea randomly began placing 1 of 10 English porcelain miniature animals in a 100-bag box of the tea, selecting from 10 "Pet Shop Friends."
- (a) On the average, how many boxes of tea must be purchased by a customer to obtain a complete collection consisting of 10 different animals?