# REVIEW EXERCISE 17

1. In a pet store, there are 6 puppies, 9 kittens, 4 gerbils, and 7 parakeets. If a pet is chosen at random, what is the probability of choosing a puppy or a parakeet?

2. In a basketball tournament, three of the participating teams, Knicks, Blazers, and Magic, have the probabilities $\frac{1}{5}$, $\frac{2}{15}$, and $\frac{3}{20}$ respectively of winning the tournament. Find the probability that
   (a) Magic will not win the tournament,
   (b) Knicks or Blazers will win the tournament,
   (c) neither Knicks nor Blazers will win the tournament,
   (d) none of these three teams will win the tournament.

3. Samuel has a deck of 52 playing cards and a bag containing one red marble, one black marble, and one white marble. He draws, at random, a marble from the bag and a card from the deck of playing cards. Find the probability that the two items drawn are
   (a) both red,
   (b) both black,
   (c) both red or both black,
   (d) of different colors.

4. A survey found that 47% of teenagers hold a part-time job and 78% plan to attend college. If a teenager is chosen at random, what is the probability that the teenager holds a part-time job and plans to attend college?

5. There are 10 blue hats and 8 black hats in a drawer. Two hats are taken out from the drawer at random. Find the probability that
   (a) both hats are black,
   (b) the two hats are of different colors.
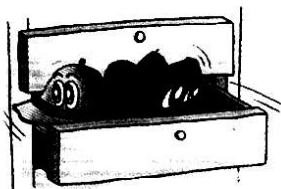
6. In a city, 80% of the drivers fasten their seat belts. If three drivers are checked at random, find the probability that
   (a) none of the three drivers fastens his seat belt,
   (b) all three drivers fasten their seat belts,
   (c) at least one of the three drivers fastens his seat belt.

7. The dot plot shows the age distribution of a sample of students. If two students are selected at random from the sample, find the probability that
   (a) both their ages are 15,
   (b) the sum of their ages is more than 30.

   Dot Plot for the Ages of Students

   Age (Years)
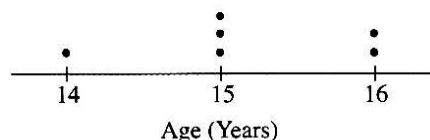
8. John either walks or cycles to school every morning. The probability that he walks to school is $\frac{4}{9}$. When he walks, the probability that he is late for school is $\frac{5}{8}$. When he cycles, the probability that he is late for school is $\frac{3}{10}$. Find the probability that on a particular morning
   (a) he walks and is not late for school,
   (b) he is late for school.

9. Mr. Carter has 4 dimes, 10 quarters, and 2 half-dollars in his pocket. He takes two coins at random from his pocket, one after the other without replacement.
   (a) Draw a tree diagram to show all the possible outcomes.
   (b) Find the probability that
      (i) the first coin has a lower value than the second coin,
      (ii) the second coin he takes out from his pocket is a dime,
      (iii) the total value of the two coins is more than 60 cents.