1. A single die is rolled. Find the probabilities of the following events.

   (a) Rolling a 2

   (b) Rolling an odd number

   (c) Rolling a number less than 5

   (d) Rolling a number greater than 3

2. A card is drawn from a well-shuffled deck of 52 cards. Find the probability of drawing each of the following.

   (a) A 9

   (b) The 9 of hearts

   (c) A heart

   (d) A black 9

   (e) A red card

   (f) A face card

3. The operator of a concession stand at a park keeps track of the kinds of drinks children buy. His records show the following:

DRINK	NUMBER OF CHILDREN
Coca-Cola	150
Fruit Juice	75
Lemonade	275

   What is the probability that a child will buy lemonade?

4. The following table summarizes the responses to the question, "Do you personally know anyone, living or dead, who has been infected with AIDS?"

	YES	NO	TOTALS
Male	245	201	446
Female	228	356	684
Totals	473	557	1,030

   What is the probability that a person in the survey

   (a) is a female?

   (b) is a male who does not know anyone infected with AIDS?

5. During practice, a basketball player shoots 3 free throws that he either hits, (H) or misses (M).

   (a) Draw the tree diagram.

   (b) List the elements in the sample space.

   (c) Find the probability that

      i. he misses the third shot.

      ii. makes at least one free shot.

6. The letters in the word CAR are each written on a tile and placed in a hat. An experiment consists of reaching into the hat, pulling out one tile, and noting the letter. The experiment continues until all the tiles are drawn.

   (a) Draw the tree diagram.

   (b) List the elements in the sample space S.

   (c) Find the probability that
       i. the letter 'A' is selected second.

       ii. CAR is the outcome.

7. Suppose that 40 balls numbered 1 to 40 are placed in a box. After mixing, one ball is selected at random from the box. Find the probability that the number on the ball is divisible by 5.

8. A coin is tossed three times.

   (a) Draw the tree for this experiment.

   (b) List the elements in the sample space S.

   (c) What is the probability:
       i. exactly two heads will show up?

       ii. three tails will show?

       iii. a head will appear on the first flip?

       iv. at least one tail will show?

9. What is the probability you will be dealt 2 aces from a standard 52-card deck?