

Determine the sample space.

1. A coin and a six-sided die are tossed.
2. A six-sided die is tossed twice and the sum of the points is recorded.
3. A taste tester has to rank three varieties of yogurt, A, B, and C, according to preference.
4. Two marbles are selected from a sack containing two red marbles, two blue marbles, and one black marble. The color of each marble is recorded.
5. Two county supervisors are selected from five supervisors, A, B, C, D, and E, to study a recycling plan.
6. A sales representative makes a presentation about a product in three homes per day. In each home there may be a sale (denote by S) or there may be no sale (denote by F).

Heads or Tails In exercises 7 – 10 find the probability in the experiment of tossing a coin three times. Use the sample space $S = \{HHH, HHT, HTH, HTT, THH, THT, TTH, TTT\}$.

7. The probability of getting exactly one tail.
8. The probability of getting a head on the first toss.
9. The probability of getting at least one head.
10. The probability of getting at least two heads.

Drawing a Card In exercises 11 – 14, find the probability in the experiment of selecting one card from a standard deck of 52 playing cards.

11. The card is a face card.
12. The card is not a face card.
13. The card is a red face card.
14. The card is a 6 or less.

Tossing a Die In exercises 15 – 20, find the probability in the experiment of tossing a six-sided die twice.

15. The sum is 4.

16. The sum is at least 7.

17. The sum is less than 11.

18. The sum is 2, 3, or 12.

19. The sum is odd or no more than 7.

20. The sum is odd or prime.

In exercises 21 and 22, you are given the probability that an event will happen. Find the probability that the event will not happen.

21. $p = 0.7$

22. $p = 0.36$

In exercises 23 and 24, you are given the probability that an event will not happen. Find the probability that the event will happen.

23. $p = 0.15$

24. $p = 0.84$