

Practice 84

FOR USE WITH SECTION 13.2

Suppose a card is drawn at random from a standard deck of 52 playing cards. The card is put back in the deck, and a card is again drawn at random. Find the probability of each event.

1. The first card is a heart and the second card is a black card.
2. The first card is a red face card or the ace of clubs.
3. Both cards are diamonds.
4. The first card is a diamond and the second card is not a diamond.
5. At least one of the two cards is a face card.
6. Exactly one of the two cards is a face card.
7. The first card is a 10 or the second card is a spade.

In a public opinion survey, 48% of the population of a town supported building a new sewage treatment plant, and 65% of the population supported the construction of a new school. Find the probability that a randomly chosen citizen of the town holds each opinion.

8. Supports building the sewage treatment plant and does not support building the school.
9. Supports both projects.
10. Supports at least one of the projects.
11. Supports exactly one of the projects.
12. A multiple choice quiz had 6 questions, each with 4 choices. Find the probability of getting all 6 questions right by guessing the answers randomly.
13. At Central High School, there are 10 different senior English classes, and seniors are randomly distributed among them. Agustina, Kikuyo, and Cardiss are trying to determine the probability that they will be in the same class. What is the probability that
 - a. they will all be in different classes?
 - b. at least two of them will be in the same class?
 - c. all three of them will be in the same class?