Name_____ Date_____

5.4 Practice B

In Exercises 1 and 2, events *A* and *B* are disjoint. Find *P*(*A* or *B*).

1. $P(A) = 0.375,\ P(B) = 0.2$

2. $P(A) = \frac{1}{4},\ P(B) = \frac{1}{5}$

3. You are performing an experiment to determine how well pineapple plants grow in different soils. Out of the 40 pineapple plants, 16 are planted in sandy soil, 18 are planted in potting soil, and 7 are planted in a mixture of sandy soil and potting soil. What is the probability that a pineapple plant in the experiment is planted in sandy soil or potting soil?

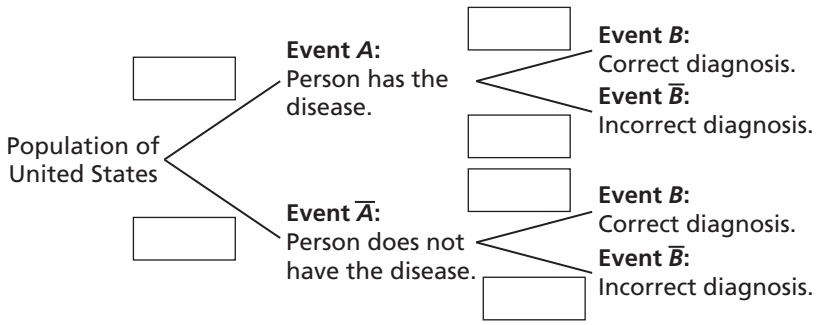
In Exercises 4 and 5, you roll a six-sided die. Find *P*(*A* or *B*).

4. **Event *A*:** Roll a prime number.
Event *B*: Roll a number greater than 2.

5. **Event *A*:** Roll an even number.
Event *B*: Roll an odd number.

6. An Educational Advisor estimates that there is a 90% probability that a freshman college student will take either a mathematics class or an English class, with an 80% probability that the student will take a mathematics class and a 75% probability that the student will take an English class. What is the probability that a freshman college student will take both a mathematics class and an English class?

7. A test diagnoses a disease correctly 92% of the time when a person has the disease and 80% of the time when the person does not have the disease. Approximately 4% of people in the United States have the disease. Fill in the probabilities along the branches of the probability tree diagram and then determine the probability that a randomly selected person is correctly diagnosed by the test.



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