The Probability of Mutually Exclusive and Inclusive Events

For questions 1-12, determine whether the events are mutually exclusive. Then, find each probability.

1. There are 3 literature books, 4 algebra books, and 2 biology books on a shelf. If a book is randomly selected, what is the probability of selecting a literature book or an algebra book?

2. A die is rolled. What is the probability of rolling a 5 or a number greater than 3?

3. In the Math Club, 7 of the 20 girls are seniors, and 4 of the 14 boys are seniors. What is the probability of randomly selecting a boy or a senior to represent the Math Club at a statewide math contest?

4. A card is drawn from a standard deck of cards. What is the probability of drawing an ace or a face card? (Hint: A face cards is a jack, queen, or king).

5. One tile with each letter of the alphabet is placed in a bag, and one is drawn at random. What is the probability of selecting a vowel or a letter from the word *equation*?

6. Each of the numbers from 1 to 30 is written on a card and placed in a bag. If one card is drawn at random, what is the probability that the number is a multiple of 2 or a multiple of 3?

7. Keisha has a stack of 8 baseball cards, 5 basketball cards, and 6 soccer cards. If she selects a card at random from the stack, what is the probability that it is a baseball or a soccer card?

8. There are 8 girls and 8 boys on the student senate. Three of the students are seniors. What is the probability that a person selected from the student senate is not a senior?

9. A card is drawn from a standard deck of cards. What is the probability of drawing a 6 or a king?

10. A die is rolled. What is the probability of rolling a 2 or a 6?

11. Sylvia has a stack of playing cards consisting of 10 hearts, 8 spades, and 7 clubs. If she selects a card at random from this stack, what is the probability that it is a heart or a club?

12. A card is drawn from a standard deck of cards. What is the probability of drawing a queen or a spade?