

LESSON 172 Review: Probability

1. A spinner with 10 equal sections marked 1 through 10 is spun. What is the theoretical probability of landing on a multiple of 3?
2. Logan hit a baseball on 15 out of 25 tries during practice. What is the experimental probability that he will hit the ball on his next try?
3. A coin is tossed three times. Use the complement rule to find the probability of tossing at least one heads.
4. A quiz consists of 4 true-false questions. If you choose answers randomly, what is the probability of getting all 4 questions correct?
5. Two marbles are drawn from a bag of 4 white and 6 clear marbles. What is the probability that both are clear if the marble is replaced after each draw?
6. A die is rolled twice. What is the probability that the second roll is the same as the first?
7. Two balls are drawn from a bag of 4 white and 6 clear balls. What is the probability that both are clear if the ball is not replaced after each draw?

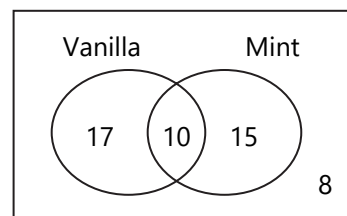
8. A standard deck of 52 cards consists of 4 suits: hearts, diamonds, clubs, and spades. Each suit has 13 cards: 9 number cards (2 through 10), 3 face cards (jack, queen, and king), and an ace.

Two cards are drawn without replacing them. What is the probability of drawing two clubs?

9. A card is drawn from a deck of 52 cards. What is the probability that the card is a heart or a face card?
10. In a group of 40 gym members, 22 take a swimming class, 19 take a rock-climbing class, and 7 take both classes.

A member is randomly selected from the group. What is the probability that the member takes either a swimming class or a rock-climbing class, but not both?

11. A survey asked a group of 50 students which ice cream flavor they like, vanilla or mint. The Venn diagram shows the survey results.



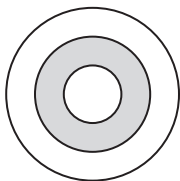
Given that a randomly selected student likes mint, what is the probability that the student also likes vanilla?

12. A survey asked a group of people whether they prefer tea or coffee. The two-way table show the survey results.

	Tea	Coffee	Total
Male	6	12	18
Female	8	14	22
Total	14	26	40

What is the probability that a randomly selected person prefers coffee?

13. In the survey above, what is the probability that a randomly selected person prefers tea given that the person is a male?
14. A stoplight is green for 50 seconds, yellow for 10 seconds, and red for 80 seconds. What is the probability that the light will be red when you arrive?
15. A dartboard is made up of three concentric circles with radii 3, 6, and 9 inches. A dart is thrown and lands on the dartboard. What is the probability that the dart lands in the shaded region?



16. Two coins are tossed. Let X be the number of heads that appear. What is the expected value of X ?

17. In how many ways can you arrange the letters in the word MAPLE?
18. In how many ways can 4 people be seated in a row of 6 seats?
19. In how many ways can a committee of 3 be formed from a group of 12 people?
20. Ten different points are selected in a plane such that no three of them are collinear. How many lines can be determined by these points?
21. The digits 1, 2, 3, 4, and 5 are rearranged in a random order to form a 5-digit number. What is the probability that the first digit is 5?
22. A committee of 2 is formed from a group of 4 teens and 6 adults. What is the probability that both members are teens?
23. (HONORS) Emma, Brian, and 6 of their friends are seated randomly in a row of 8 seats. What is the probability that Emma and Brian sit next to each other?
24. (HONORS) The letters W, A, T, E, and R are rearranged in a random order. What is the probability that no two consonants come together?