1. The list of all possible outcomes of a probability experiment is called the

   a. Experimental space
   b. Probability space
   c. Random space
   d. Sample space

2. The probability of an event can be any number from _____ to _____.

   a. $-1, 1$
   b. $0, 1$
   c. $1, 100$
   d. 0, infinity

3. If an event cannot occur, its probability is
   a. 0
   b. $\frac{1}{2}$
   c. 1
   d. -1

4. When two events cannot occur at the same time, they are said to be _____events.
   a. Independent
   b. Mutually exclusive
   c. Random
   d. Inconsistent

5. If the probability that an event will happen is 0.48, then the probability that the event will not happen is
   a. 0.52
   b. -0.48
   c. 0
   d. 1

6. When two dice are rolled, the sample space consists of _____ outcomes.
   a. 6
   b. 12
   c. 18
   d. 36

7. What is 0!?
   a. 0
   b. 1
   c. Undefined
   d. Infinite

8. The sum of the probabilities of each outcome in the sample space will always be
   a. 0
   b. $\frac{1}{2}$
   c. 1
   d. Different

9. When two dice are rolled, the probability of getting a sum of 8 is
   a. $\frac{5}{36}$
   b. $\frac{1}{6}$
   c. $\frac{8}{36}$
   d. 0

10. A Gallup poll found that 78% of Americans worry about the quality and healthfulness of their diets. If three people are selected at random, the probability that all three will worry about the healthfulness and quality of their diets is
   a. 2.34
   b. 0.78
   c. 0.22
   d. 0.47

11. When a die is rolled, the probability of getting a number less than 5 is
   a. $\frac{5}{36}$
   b. $\frac{1}{3}$
   c. $\frac{2}{3}$
   d. $\frac{5}{6}$

12. When a card is drawn from a deck of 52 cards, the probability of getting a heart is
   a. $\frac{1}{13}$
   b. $\frac{1}{2}$
   c. $\frac{1}{4}$
   d. $\frac{5}{52}$

13. When a die is rolled, the probability of getting an odd number less than three is

a. $\frac{1}{6}$

b. 0

c. $\frac{1}{3}$

d. $\frac{1}{2}$

14. A survey conducted at a local restaurant found that 18 people preferred orange juice, 12 people preferred grapefruit juice, and 6 people preferred apple juice with their breakfasts. If a person is selected at random, the probability that the person will select apple juice is

a. $\frac{1}{2}$

b. $\frac{1}{3}$

c. $\frac{1}{4}$

d. $\frac{1}{6}$

15. During a sale at a men's store, 16 white sweaters, 3 red sweaters, 9 blue sweaters, and 7 yellow sweaters were purchased. If a customer is selected at random, find the probability that the customer purchased a yellow or a white sweater.

a. $\frac{23}{35}$

b. $\frac{9}{35}$

c. $\frac{19}{35}$

d. $\frac{7}{35}$

16. A card is selected from an ordinary deck of 52 cards. The probability that it is a 7 or a heart is

a. $\frac{17}{52}$

b. $\frac{1}{4}$

c. $\frac{4}{13}$

d. $\frac{1}{13}$

17. Two dice are rolled; the probability of getting a sum greater than or equal to 9 is

a. $\frac{1}{6}$

b. $\frac{5}{18}$

c. $\frac{1}{4}$

d. $\frac{1}{9}$

18. A card is selected from an ordinary deck of 52 cards. The probability that it is a red face card is

a. $\frac{3}{26}$

b. $\frac{3}{13}$

c. $\frac{1}{2}$

d. $\frac{2}{13}$

19. Three cards are drawn from an ordinary deck of 52 cards without replacement. The probability of getting three queens is

a. $\frac{1}{2197}$

b. $\frac{3}{52}$

c. $\frac{1}{5525}$

d. $\frac{1}{169}$

20. An automobile license plate consists of 3 letters followed by 2 digits. The number of different plates that can be made if repetitions are not permitted is

a. 7800
b. 1,404,000
c. 1,757,600
d. 6318

21. The number of different arrangements of the letters of the word *next* is

a. 256
b. 24
c. 18
d. 16

22. A psychology quiz consists of 12 true-false questions. The number of possible different answer keys that can be made is

a. 24
b. 144
c. 47,900,600
d. 4096

23. How many different ways can 4 books be selected from 7 books?

a. 210
b. 35
c. 28
d. 840

24. The number of different ways 5 boys and 4 girls can be selected from 7 boys and 9 girls is

    a. 147
    b. 2646
    c. 635,040
    d. 43,286

25. The number of different ways 8 children can be seated on a bench is

    a. 8
    b. 256
    c. 6720
    d. 40,320

26. A card is selected from an ordinary deck of 52 cards. The probability that it is a three given that it is a red card is

    a. $\frac{1}{13}$
    b. $\frac{2}{13}$
    c. $\frac{1}{4}$
    d. $\frac{1}{2}$

27. Three cards are selected from an ordinary deck of 52 cards without replacement. The probability of getting all diamonds is

    a. $\frac{1}{64}$
    b. $\frac{1}{12}$
    c. $\frac{3}{52}$
    d. $\frac{11}{850}$

28. A coin is tossed and a card is drawn from an ordinary deck of 52 cards. The probability of getting a head and a club is

a. $\frac{1}{8}$

b. $\frac{3}{4}$

c. $\frac{1}{6}$

d. $\frac{1}{4}$

29. When two dice are rolled, the probability of getting a sum of 5 or 7 is

a. $\frac{1}{3}$

b. $\frac{2}{3}$

c. $\frac{5}{18}$

d. $\frac{1}{4}$

30. The odds in favor of an event when $P(E)=\frac{3}{7}$ are

a. 3:7
b. 7:3
c. 3:4
d. 10:3

31. The odds against an event when $P(E)=\frac{5}{9}$ are

a. 4:9
b. 4:5
c. 9:4
d. 13:4

32. The probability of an event when the odds against the event are 4 : 9 are

a. $\frac{9}{13}$

b. $\frac{4}{9}$

c. $\frac{5}{9}$

d. $\frac{4}{13}$

33. A person selects a card at random from a box containing 5 cards. One card has a 5 written on it. Two cards have a 10 written on them, and two cards have a 3 written on them. The expected value of the draw is

a. 4.5
b. 1.8
c. 3.6
d. 6.2

34. When a game is fair, the odds of winning will be

a. 1 : 2
b. 1 : 1
c. 2 : 1
d. 3 : 2

35. A person has 2 pennies, 3 nickels, 4 dimes, and 1 quarter in her purse. If she selects one coin at random, the expected value of the coin is

a. 4.7 cents
b. 6.3 cents
c. 8.2 cents
d. 12.4 cents

36. The number of outcomes of a binomial experiment is

a. 1
b. 2
c. 3
d. Unknown

37. A survey found that one in five Americans say that he or she has visited a doctor in any given month. If 10 people are selected at random, the probability that exactly 3 visited a doctor last month is

a. 0.101
b. 0.201
c. 0.060
d. 0.304

38. A survey found that 30% of teenage consumers received their spending money from a part time job. If 5 teenagers are selected at random, the probability that 3 of them have income from a part time job is

a. 0.132
b. 0.471
c. 0.568
d. 0.623

39. A box contains 4 white balls, 3 red balls, and 3 blue balls. A ball is selected at random and its color is noted. It is replaced and another ball is selected. If 5 balls are selected, the probability that 2 are white, 2 are red, and 1 is blue is

a. $\frac{72}{365}$
b. $\frac{41}{236}$
c. $\frac{52}{791}$
d. $\frac{1}{14}$

40. If there are 200 typographical errors randomly distributed in a 500-page manuscript, the probability that a given page contains exactly 3 errors is

a. 0.0063
b. 0.0028
c. 0.0072
d. 0.0014