1) You conduct an experiment that involves rolling a standard 6-sided die. What are the possible outcomes of the experiment?

a) 1, 2, 3, 4, 5, 6 b) 2, 4, 6 c) $\frac{1}{6}$ d) 2

2) You conduct an experiment that involves choosing a marble from a bag of red, green, blue, and white marbles. What are the possible outcomes of the experiment?

a) red & white b) green c) green, green d) red, green, blue, white

3) You conduct an experiment that involves choosing a marble from a bag of red, green, blue, and white marbles. What is a possible event when choosing one marble from the bag?

a) red & white b) green c) green, green d) red, green, blue, white

4) You conduct an experiment that involves rolling a standard 6-sided die. What is a possible event when rolling the die?

a) 1, 2, 3, 4, 5, 6 b) 2, 4, 6 c) $\frac{1}{6}$ d) 2

5) You conduct an experiment that involves rolling a standard 6-sided die. What are your possible outcomes for the event of rolling a number greater than 4?

a) 1, 2, 3, 4, 5, 6 b) 4, 5, 6 c) 5, 6 d) 4

6) What is the best explanation for the difference between outcomes and event?

a) outcomes are all possible results of the experiment; events are one or more outcomes for a specific characteristic or result

b) events are all possible results of the experiment; outcomes are one or more events for a specific characteristic or result

c) events are all possible results of the outcomes

d) outcomes are all possible results of the event

7) Super Salads offer 3 different kinds of lettuce, 10 different toppings, and 4 different dressings. How many different combinations of lettuce, toppings, and dressing can be made?

a) 17 b) 120 c) 43 d) 70

8) A jewelry store sells gold, platinum, or silver rings. Each ring is fitted with a ruby, sapphire, emerald, or diamond gemstone. How many possible outcomes of rings are there?

a) 12 b) 7 c) 17 d) 9

9) A spinner can land on either red, blue, or green. You spin twice. How many possible outcomes are there?

a) 6 b) 3 c) 9 d) 12

10) What is the theoretical probability of drawing a diamond from a standard 52 deck of cards?

a) $\frac{1}{52}$ b) $\frac{1}{13}$ c) $\frac{1}{2}$ d) $\frac{1}{4}$

11) What is the theoretical probability of rolling an even number on a standard 6-sided die?

a) $\frac{1}{6}$ b) $\frac{1}{3}$ c) $\frac{1}{2}$ d) $\frac{1}{4}$

12) You conduct an experiment that involves choosing a card from a standard deck. What is the probability that you will choose a 5?

a) $\frac{1}{52}$ b) $\frac{1}{13}$ c) $\frac{1}{2}$ d) $\frac{1}{4}$

13) You conduct an experiment that involves choosing a card from a standard deck. What is the probability that you will choose a Jack of hearts?

a) $\frac{1}{52}$ b) $\frac{1}{13}$ c) $\frac{1}{2}$ d) $\frac{1}{4}$

14) Ryan went to the library and borrowed 10 books which he put into his backpack. 3 books were fantasy, 2 books were biographies, 1 book was Sci-Fi, and 4 books were historical accounts. What is the probability of him reaching into his backpack and pulling out a biography?

a) 20% b) 10% c) 50% d) 30%

15) What is the theoretical probability of rolling a standard 6-sided die and getting a number greater than 4?

a) $\frac{1}{6}$ b) $\frac{1}{3}$ c) $\frac{1}{2}$ d) $\frac{1}{4}$

16) What is the theoretical probability of rolling a standard 6-sided die and getting a number less than 5?

a) $\frac{2}{3}$ b) $\frac{1}{6}$ c) $\frac{1}{2}$ d) $\frac{3}{4}$

17) The letters **M I S S I S S I P P I** are placed in a bowl. What is the probability of choosing a **P**?

a) 20% b) 9% c) 22% d) 18%

18) A book club is trying to decide which day of the week to meet on. What is the probability that the club meets on a Monday, Tuesday, Wednesday, or Thursday?

a) $\frac{4}{7}$ b) $\frac{1}{4}$ c) $\frac{4}{5}$ d) $\frac{1}{2}$

19) There are 29 students available to represent the upperclassmen at a fair, 13 juniors and 16 seniors. What is the probability that the student chosen will be a senior?

a) 45% b) 55% c) 29% d) 16%

**Use this information for problems 20 – 23.**

**An experiment consists of a jar of marbles with 7 red, 12 blue, 6 yellow, and 9 white marbles.**

20) What is the experimental probability of choosing a red marble?

a) 30% b) 7% c) 21% d) 35%

21) What is the experimental probability of choosing a blue marble?

a) $\frac{5}{34}$ b) $\frac{1}{2}$ c) $\frac{12}{17}$ d) $\frac{6}{17}$

22) What is the experimental probability of choosing a white marble?

a) 26% b) 34% c) 9% d) 12%

23) What is the experimental probability of choosing a yellow or white marble?

a) $\frac{9}{34}$ b) $\frac{15}{34}$ c) $\frac{27}{17}$ d) $\frac{3}{17}$

24) A baseball player has hit 34 times out of 56 times at bat. Use relative frequency to determine the probability of the player getting a hit at the next at bat.

a) 22% b) 34% c) 56% d) 61%

25) A baseball player has hit 34 times out of 56 times at bat. Use relative frequency to determine the probability of the player NOT getting a hit at the next at bat.

a) 39% b) 34% c) 56% d) 22%

26) A professional golfer makes a birdie 42% of the time. Use relative frequency to determine the probability that he will make a birdie on the next hole.

a) 0.50 b) 0.58 c) 0.42 d) 0.31

27) A professional golfer makes a birdie 42% of the time. Use relative frequency to determine the probability that he will NOT make a birdie on the next hole.

a) 0.50 b) 0.58 c) 0.42 d) 0.31

28) A basketball player makes 7 out of every 13 free throws. Use relative frequency to determine the probability that he will NOT make his next free throw.

a) 0.54 b) 0.52 c) 0.46 d) 0.32

29) A basketball player makes 7 out of every 13 free throws. Use relative frequency to determine the probability that he will make his next free throw.

a) 0.54 b) 0.52 c) 0.46 d) 0.32

30) What is the probability of that a baseball player with a 57% at-bat average does NOT get a hit next at-bat?

a) 25% b) 75% c) 57% d) 43%

31) What is the probability that when rolling a standard 6-sided die, you do NOT roll an even number?

a) 25% b) 50% c) 75% d) 100%

32) What is the probability that when drawing a card from a standard deck, you do NOT draw a spade?

a) $\frac{13}{52}$ b) $\frac{3}{4}$ c) $\frac{1}{4}$ d) $\frac{1}{13}$

33) When rolling a standard 6-sided die twice, find the theoretical probability of rolling 6 AND THEN rolling an even number.

a) $\frac{1}{3}$ b) $\frac{1}{12}$ c) $\frac{1}{8}$ d) $\frac{1}{4}$

34) When rolling a standard 6-sided die once, find the theoretical probability of rolling 6 OR rolling an even number.

a) $\frac{2}{3}$ b) $\frac{3}{4}$ c) $\frac{1}{6}$ d) $\frac{1}{4}$

35) When drawing from a standard deck twice, find the theoretical probability of drawing a red card AND THEN drawing a King.

a) 15% b) 8% c) 58% d) 4%

36) When drawing from a standard deck once, find the theoretical probability of drawing a red card OR drawing a King.

a) 15% b) 8% c) 58% d) 4%

**Use this information for problems 37 – 40.**

**An experiment consists of a jar of marbles with 8 red, 2 blue, 5 yellow, and 7 white marbles.**

37) When drawing two marbles, find the probability of drawing a red marble, replacing it, and drawing another red marble.

a) $\frac{16}{121}$ b) $\frac{4}{11}$ c) $\frac{14}{121}$ d) $\frac{8}{11}$

38) When drawing two marbles, find the probability of drawing a red marble, keeping it, and drawing another red marble.

a) $\frac{16}{121}$ b) $\frac{4}{11}$ c) $\frac{14}{121}$ d) $\frac{8}{11}$

39) When drawing one marble, find the probability of drawing a blue or a white marble.

a) $\frac{9}{11}$ b) $\frac{4}{11}$ c) $\frac{9}{22}$ d) $\frac{5}{22}$

40) When drawing one marble, find the probability of drawing a yellow or red marble.

a) $\frac{13}{11}$ b) $\frac{13}{22}$ c) $\frac{6}{11}$ d) $\frac{15}{22}$

**ANSWER KEY**

1. A
2. D
3. B
4. D
5. C
6. A
7. B
8. A
9. C
10. D
11. C
12. B
13. A
14. A
15. B
16. A
17. D
18. A
19. B
20. C
21. D
22. A
23. B
24. D
25. A
26. C
27. B
28. C
29. A
30. D
31. B
32. B
33. B
34. A
35. D
36. C
37. A
38. C
39. C
40. B