

Chapter 6 Test – Form A
Probability

Name _____

1. Suppose a die is rolled 500 times and the number of times a 2 is rolled is 85. Calculate the empirical of rolling a 2 based on this data?

2. There are 20 students in a class, 12 boys and 8 girls. Only one person made an A on the last test. What is the probability that Mary made an A on the test given that the student who made the A is a girl?

3. If the probability of an event occurring is $\frac{1}{8}$, what is the probability that it won't happen?

4. If an event cannot occur, what is the probability that it will occur?

5. A single die is tossed. What is the probability of tossing an even number?

6. A single die is tossed. What is the probability of tossing a 1 or a 4?

7. A single die is tossed. What is the probability of tossing a number greater than 4?

8. A single die is tossed. What is the probability of tossing an odd number or an even number?

9. A single die is tossed. What is the probability of tossing an odd number and a 6?

10. What is the probability of drawing two kings when two cards are selected from a deck of cards with replacement?

11. What is the probability of drawing two aces when two cards are selected from a deck of cards without replacement?

12. A hat contains three chips: one red, one blue, and one green. Two chips are to be selected at random with replacement. Construct a tree diagram illustrating all the possible outcomes and list the sample space.

13. A hat contains three chips: one red, one blue, and one green. Two chips are to be selected at random with replacement. What is the probability of selecting two red chips?

14. A hat contains three chips: one red, one blue, and one green. Two chips are to be selected at random with replacement. What is the probability a red chip and then a blue are selected?

15. A hat contains three chips: one red, one blue, and one green. Two chips are to be selected at random with replacement. What is the probability that at least one green chip is selected?

16. A class consists of 18 females and 10 males. If one person is selected at random from the class, find the odds against the person's being female.

17. A code is to consist of three digits followed by two letters. Find the number of possible codes if the first digit cannot be a 0 or 1 and replacement is not permitted.

18. Each of the numbers 1 through 8 is written on a sheet of paper, and the eight sheets of paper are placed in a hat. If two sheets of paper are selected at random from the hat, without replacement, find the probability that both numbers are greater than 4.

19. Each of the numbers 1 through 8 is written on a sheet of paper, and the eight sheets of paper are placed in a hat. If two sheets of paper are selected at random from the hat, without replacement, find the probability that both numbers are even.

20. Each of the numbers 1 through 8 is written on a sheet of paper, and the eight sheets of paper are placed in a hat. If two sheets of paper are selected at random from the hat, without replacement, find the probability that the first number is odd and the second number is even.

21. Are the events of drawing a king and a heart from a deck of cards mutually exclusive? Why or why not?

22. There are ten true/false questions on a test. If you guess the answers to all ten, what is the probability that you will miss all of the questions resulting in a grade of zero?

23. How many different social security numbers are possible?

24. How many different ways can eight books be arranged on a shelf?

25. A lottery requires that you select five different numbers from 50 in order to play the game. If you buy one ticket, what is the probability that you will win?
