Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_\_\_Score:\_\_\_\_\_\_\_\_\_ Unit 8 Review N

SHOW ALL WORK!!!

Express all probabilities as fractions.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Draw | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Result | red | green | purple | red | red | purple | red | green | green | purple |

Scarlet had a bag with red, green, and purple marbles. The following table shows what color she drew each time.

1) Find the experimental probability of drawing a red marble.

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 2) If there are 100 marbles in the bag, how many of them do you think are red? Justify your answer.

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find the theoretical probabilities for each of the following:

|  |  |  |
| --- | --- | --- |
| 3) If you toss an eight-sided die once, what is the probability of getting a 2?3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 4) If you spin the following spinner twice, what is the probability of spinning a S and an S in any order?4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 5) If you roll a six-sided die twice, what is the probability of rolling a 4 then a 5?5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Tommy has 40 marbles in a bag. If  are red,  are purple, and  are yellow and he draws out a marble, records the color, returns it to the bag and repeats the process 50 times,

6) approximately how many times should he expect to draw a red marble?

6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7) Suppose Tommy did the same experiment 150 times, approximately how many times would Tommy expect to draw a red marble?

7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8) Which of the two approximations is likely to be the most accurate? Justify your answer.

8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For each of the following situations, find the probability of the given event.

9) Sylvia has a collection of books. She has 30 reference books, 18 nonfiction books, and 64 fiction books. Find P(fiction book).

 9.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



10) The spinner illustrated to the right is spun twice. Find P(black, grey).

 10.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11) Don rolled a two on a fair twenty-sided die seven times out of 40 rolls. Would you expect this result? Why or why not?

11.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12) Write the sample space for rolling a four-side die three times.

13) Write the sample space for choosing an outfit out of a stripped, checkered or solid shirt and jeans, khakis, shorts or a skirt.

14) Charlie puts each letter of her name on a piece of paper. What is the probability that she will draw a C on the first draw and an A on the second draw?

14.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15) Circle the procedure that would produce a random sampling in the following situation:

An insurance company wants to know how many miles truck drivers drive each year.

1. Ask the teachers at your school how much they drive each year.
2. Call every 100th name in the phone book and ask how much they drive each year.
3. Ask every 25th truck driver who fills up with gas how much they drive each year.

15.\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| 1th Period | 2th Period |
| 94 | 67 |
| 82 | 75 |
| 73 | 80 |
| 92 | 78 |
| 99 | 80 |

LaRue gave two of her math classes a test. The following table shows the scores from her classes. Find the mean absolute deviation of each. Then, find the distance between the centers of the two classes.

16)Mean Absolute Deviation 1th Period:\_\_\_\_\_\_\_\_\_\_\_\_\_

17)Mean Absolute Deviation 2th Period:\_\_\_\_\_\_\_\_\_\_\_\_\_

18)Distance between centers=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_Score:\_\_\_\_\_\_\_\_\_\_ Unit 8 Review H

SHOW ALL WORK!!!

Express all probabilities as fractions.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Draw | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Result | red | red | purple | red | red | purple | red | green | red | purple |

Scarlet had a bag with red, green, and purple marbles. The following table shows what color she drew each time.

1) Find the experimental probability of drawing a red marble.

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 2) If there are 100 marbles in the bag, how many of them do you think are red? Justify your answer.

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find the theoretical probabilities for each of the following:

|  |  |  |
| --- | --- | --- |
| 3) If you toss a six-sided die once, what is the probability of getting a 6?3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 4) If you spin the following spinner twice, what is the probability of spinning a P and an S in any order?4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 5) If you roll a three-sided die twice, what is the probability of rolling a 1 then a 3?5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Tommy has 20 marbles in a bag. If  are red,  are purple, and  are yellow and he draws out a marble, records the color, returns it to the bag and repeats the process 30 times,

6) approximately how many times should he expect to draw a red marble?

6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7) Suppose Tommy did the same experiment 10 times, approximately how many times would Tommy expect to draw a red marble?

7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8) Which of the two approximations is likely to be the most accurate? Justify your answer.

8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For each of the following situations, create a probability model, showing possible outcomes. Then find the probability of the given event.

9) Sylvia has a collection of books. She has 30 reference books, 18 nonfiction books, and 6 fiction books. Find P(fiction book).

 9.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



10) The spinner illustrated to the right is spun twice. Find P(white, grey).

 10.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11) Don rolled a 3 on a fair twenty-sided die 5 times out of 40 rolls. Would you expect this result? Why or why not?

11.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12) Write the sample space for flipping a coin three times.

13) Write the sample space for choosing an ice cream out of a vanilla, strawberry, chocolate with a waffle, sugar or no cone.

14) Craig puts each letter of his name on a piece of paper. What is the probability that she will draw a C on the first draw and an A on the second draw?

14.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15) Circle the procedure that would produce a random sampling in the following situation:

A car insurance company wants to know how many miles teachers in Utah drive each year.

1. Ask every 5th teacher in the state how much he or she drives each year.
2. Call every 100th name in the phone book and ask how much they drive each year.
3. Ask truck drivers how much they drive each year.

15.\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| 5th Period | 6th Period |
| 94 | 67 |
| 87 | 75 |
| 78 | 80 |
| 93 | 78 |

Ms. Christensen gave two of her history classes a test. The following table shows the scores from her classes. Find the mean absolute deviation of each. If the MAD is similar for both, find the distance between the centers of the two classes.

16)Mean Absolute Deviation 5th Period:\_\_\_\_\_\_\_\_\_\_\_\_\_

17)Mean Absolute Deviation 6th Period:\_\_\_\_\_\_\_\_\_\_\_\_\_

18)Distance between centers=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_