

**Math 7 Practice Test: Probability**

Name \_\_\_\_\_

Date \_\_\_\_\_

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1. Define *probability*.
  
2. Define *experimental probability*.
  
3. Define *sample space* for an experiment
  
4. What makes experimental probability different from theoretical probability?

For problems #5a – d, write *impossible, unlikely, as likely as not, likely* or *certain* to describe each event below.

5a. A day has 24 hours.

5b. You roll two fair number cubes and get a total of 14.

5c. You flip a coin and it lands heads up.

5d. The probability of the Cardinal’s winning the next game using the chart given.

Wins	Losses

5a. _____
5b. _____
5c. _____
5d. _____

6. The weather report gives a 65% chance of snow for tomorrow. Write this probability as a decimal and as a simple fraction.

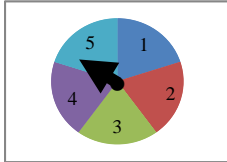
For problems 7 - 9 below, identify the sample space, the outcome and find the probability of that event.

7.



7. sample space: \_\_\_\_\_  
outcome: \_\_\_\_\_  
probability: \_\_\_\_\_

8.



8. sample space: \_\_\_\_\_  
outcome: \_\_\_\_\_  
probability: \_\_\_\_\_

9.



9. sample space: \_\_\_\_\_  
outcome: \_\_\_\_\_  
probability: \_\_\_\_\_

10. Three red and six green candies are in a dish. If you randomly select one piece of candy, what is the probability that it will be green?

- A.  $\frac{1}{9}$                       C.  $\frac{1}{3}$   
B.  $\frac{1}{6}$                         D.  $\frac{2}{3}$

For problems 11 and 12, a fair number cube is rolled. Find each probability.

11. P(number greater than 0)

12. P(prime number)

13. The probability that a spinner will land on blue is 0.9. What is the probability that you will NOT land on blue?

14. Based on a sample survey, a local animal group stated that 15% of the city households own a cat. Out of 800 households, how many households can you predict own a cat?  
Show your work.

- A. 120  
B. 150  
C. 680  
D. 785

15. Using the given table, create a list showing the different possibilities of one topping pizzas that can be made using one type of crust and one topping.

Crust	Toppings
hand tossed	pepperoni
thin	sausage
cheese filled	ham
	chicken

16. How many different 3-digit numbers can be made with digits 5, 6, and 7, when digits may be repeated? Create a tree diagram to prove your answer.

17. A spinner is divided into three sections: red, blue and green. The red section is  $\frac{1}{5}$  of the area of the spinner. The blue section is  $\frac{1}{2}$  of the area of the spinner. Identify which of the following gives the correct probability for each outcome expressed as decimals.

A.

Outcome	Probability
Red	$0.\overline{3}$
Green	$0.\overline{3}$
Blue	$0.\overline{3}$

C.

Outcome	Probability
Red	0.2
Green	0.5
Blue	0.3

B.

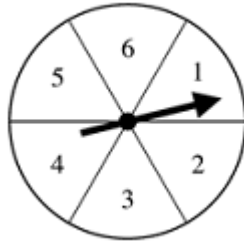
Outcome	Probability
Red	0.2
Green	0.7
Blue	0.5

D.

Outcome	Probability
Red	0.2
Green	0.3
Blue	0.5

18. At a school bazaar, you may win a small stuffed animal, you may win full-size sports ball of your choosing, or you may win nothing at all. If the probability of winning nothing is 0.49 and the probability of winning a small stuffed animal is 0.27, what is the probability of winning a full-size sports ball?

19. Henna spins a spinner with 6 sections of equal area, like the one below, 50 times. She records her results in a table.



Outcome	1	2	3	4	5	6
Frequency	6	10	8	11	6	9

Which statement below is not necessarily true?

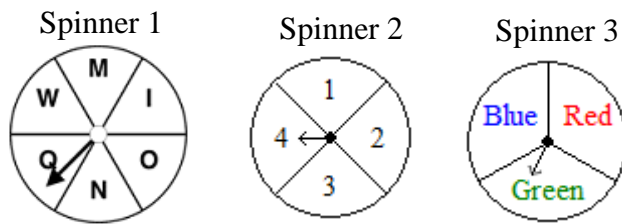
A.	Theoretically, each number should have appeared between 8 and 9 times.
B.	Henna's experimental probability of getting a two is less than the theoretical probability of getting a two.
C.	Henna's experimental probability of getting an even number is $\frac{3}{5}$ .
D.	The theoretical probability of getting an odd number is greater than Henna's experimental probability.

20. Two standard, fair, six-sided number cubes are rolled and the results are added. How many of the outcomes will result in a sum that is divisible by either 2 or 3?

21. At a school carnival one of the booths has 12 plastic ducks floating in a tub of water. Each duck has a zero, a one, or a two printed on the bottom, indicating the number of prize tickets you receive if you select that duck. Six of the ducks have a zero on the bottom, three of the ducks have a one printed on the bottom, and three of the ducks have a two printed on the bottom. If you randomly select a duck, and then randomly select another duck *without* returning the first to the tub, what is the probability that you will receive four prize tickets? Show your work and explain your thinking.

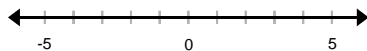
22. Emily received a box of Ethel M chocolates. In the box of 20 candies were 5 caramels, 7 nuts, 3 cherries, and 5 solid chocolates. What is the probability of randomly choosing 2 chocolates with cherries? And as you know, it is unacceptable to bite a chocolate and return it!

23. Glenn is going to perform an experiment in which he spins each of three spinners once. What is the probability that the first spinner will land on Q, the second spinner will land on an even number, and the third spinner will land on green? Show your work and express your answer as a fraction in simplest form.



**Long Term Memory Review:**

24. Look at the graph below.



Which inequality describes the graph?

- A.  $n < 2$
- B.  $n > 2$
- C.  $n \leq 2$
- D.  $n \geq 2$

25. Simplify each of the following.

A.  $\frac{7}{8} + \frac{-1}{2} =$

B.  $-\left(3\frac{1}{5} \cdot \frac{5}{2}\right) \div \frac{8}{9} =$

C.  $7.3 \overline{)131.7285}$