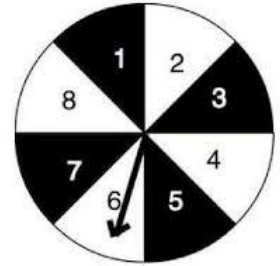## Experimental and Theoretical Probability

You spin a black and white numbered spinner 10 times. The results are shown below.

6, 5, 8, 5, 3, 1, 1, 5, 4, 7

Find the _experimental_ probability of each outcome. Express answers as a fraction.

1. *P*(spinning a 5) =

2. *P*(spinning a 6) =

3. *P*(rolling an even number) =

4. *P*(spinning a black number) =

5. What is the *experimental* probability of spinning an odd number on the spinner? For 50 spins of the spinner, predict the number of spins that will result in an odd number.

Find the _theoretical_ probability of each outcome. Express answers as a percent rounded to the nearest tenth.

6. *P*(spinning a 5) =

7. *P*(spinning a 6) =

8. *P*(spinning an even number) =

9. *P*(spinning a black number) =

10. *P*(spinning an odd white number) =

11. *P*(spinning a multiple of 3) =

List the sample space then find the number of possible outcomes in the sample space.

12. What is the sample space for choosing an odd number from 1 to 11 at random?

13. You roll a die and flip a coin twice.
    Labels (1-6 on die, H=heads, T=tails)

1	2	3	4	5	6

14. You flip a coin and draw a marble at random from a bag containing two purple marbles and one white marble. Labels: (H=heads, T=tails, P1=first purple, P2=second purple, W=white)

H	T

15. Two number cubes are rolled.
    Find their sums.

	1	2	3	4	5	6
1						
2						
3						
4						
5						
6						

16. Two number cubes are rolled.
    Find their products.

	1	2	3	4	5	6
1						
2						
3						
4						
5						
6						

17. You draw two marbles without replacement from a bag containing three green marbles and four black marbles. Labels: (G1=first green, G2=second green, G3=third green, B1=first black, B2=second black, B3=third black, B4=fourth black)

G1	G2	G3	B1	B2	B3	B4

18. You spin a spinner twice that has four equal sections of blue, yellow, red, and green.
    Labels: (B=blue, Y=yellow, R=red, G=green)

B	Y	R	G

19. You have one red apple, and three green apples in a bowl. You randomly select one apple to eat now
    and another apple for your lunch.
    Labels: (r=red apple, G1=first green apple, G2=second green apple, G3=third green apple)

R	G1	G2	G3

20. A student is taking a multiple-choice test where each question has four choices. The student randomly guesses the answers to the five question test. Labels: (C=correct, I=incorrect)

0 correct	1 correct	2 correct	3 correct	4 correct	5 correct

21. A vase contains four white roses and one red rose. You randomly select two roses to take home.
    Labels: (W1=first white rose, W2=second white rose, W3=third white rose, W4=fourth white rose,
    R=red rose)

W1	W2	W3	W4	R