

Chapter Learning Target: Understand probability and representing data.

Chapter Success Criteria:

- ◆ I can find the sample space of an experiment.
- ◆ I can find experimental and theoretical probabilities.
- I can make and interpret a circle graph.
- I can use appropriate data displays to represent a situation.

◆ Surface
■ Deep

Rate your understanding after each section.

1 I don't understand yet.

2 I can do it with help.

3 I can do it on my own.

4 I can teach someone else.

6.1

Probability (pp. 459-472)

Learning Target: Understand how the probability of an event indicates its likelihood.

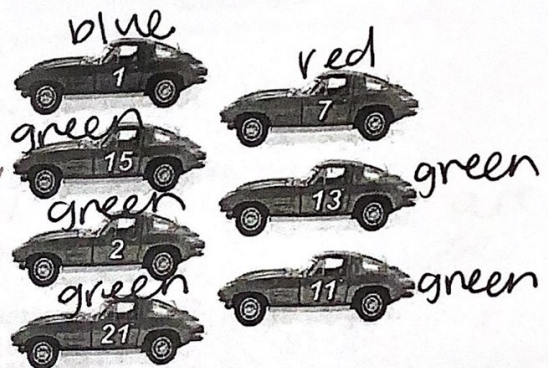
You randomly choose one toy race car.

1. Find the sample space. How many possible outcomes are there?

sample space - blue, red, green, green, green, green, green, green
or car #s
possible outcomes - 7

2. What are the favorable outcomes of choosing a car that is *not* green?

blue, red



3. In how many ways can choosing a green car occur?

5 ways

You spin the spinner. (a) Find the number of ways the event can occur. (b) Find the favorable outcomes of the event.

4. spinning a 1

2

green purple

6. spinning an odd number

5

green purple orange

blue purple

5. spinning a 3

3

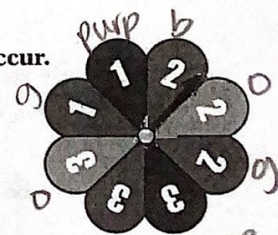
orange

7. spinning an even number

3

blue orange

green



Describe the likelihood of the event given its probability.

8. There is a 0% chance of snow in July for Florida.

impossible

9. The probability that you are called on to answer a question in class is $\frac{1}{25}$.

$\frac{1}{25} = 0.04$ 4%
unlikely

10. There is an 85% chance the bus will be on time.

likely

11. Tomorrow there is a 70% chance the pollen count will be high, a 65% chance the dust count will be high, and a 15% chance the grass count will be high.

- a. Describe the likelihood that the grass count is high tomorrow.

unlikely

- b. Which is more likely tomorrow, a high pollen count or a high dust count?

pollen count

12. During a basketball game, you record the number of rebounds from missed shots for each team.
(a) Describe the likelihood that your team rebounds the next missed shot. (b) How many rebounds should your team expect to have in 15 missed shots?

Your Team	
Opposing Team	

likely

$$\frac{7}{10} = \frac{x}{15}$$

$$x = 10.5$$

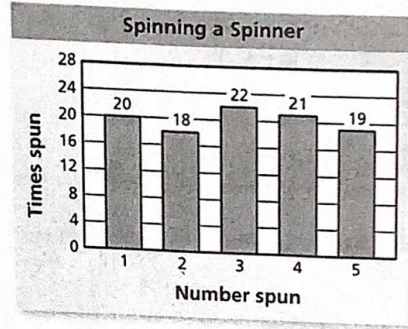
50 10 or 11 rebounds

6.2

Experimental and Theoretical Probability (pp. 473-486)

Learning Target: Develop probability models using experimental and theoretical probability.

The bar graph shows the results of spinning a spinner 100 times. Use the bar graph to find the experimental probability of the event.



13. spinning a 2

$$\frac{18}{100} = 18\%$$

14. spinning an even number

$$18 + 21 = 39$$

$$\frac{39}{100} = 39\%$$

15. not spinning a 5

$$100 - 19 = 81$$

$$\frac{81}{100} = 81\%$$

16. In Exercise 14, how does the experimental probability of spinning an even number compare with the theoretical probability?

theo $\frac{2}{5} = 40\%$ exp. 39% so they are close

Use the spinner to find the theoretical probability of the event.

17. spinning blue

$$\frac{2}{8} = 25\%$$

18. spinning a 1

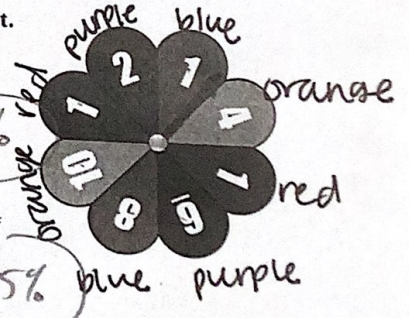
$$\frac{3}{8} = 37.5\%$$

19. spinning an even number

$$\frac{5}{8} = 62.5\%$$

20. spinning a 4

$$\frac{1}{8} = 12.5\%$$



21. You simulate selecting a numbered ball out of a bag 150 times by using a spreadsheet to randomly generate a list of 150 numbers from 1 through 6. The table shows the results.

Number Selected	1	2	3	4	5	6
Frequency	34	28	16	22	19	31

How does the experimental probability of choosing a number greater than 3 compare with the theoretical probability?

exp $22 + 19 + 31 = 72$ 48%

$$\frac{72}{150}$$

theo $\frac{3}{6} = 50\%$

close