

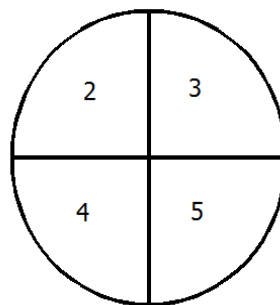
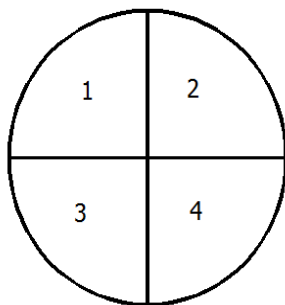
Lesson Summary

An estimate for finding the probability of an event occurring is

$$P(\text{event occurring}) = \frac{\text{Number of observed occurrences of the event}}{\text{Total number of observations}}.$$

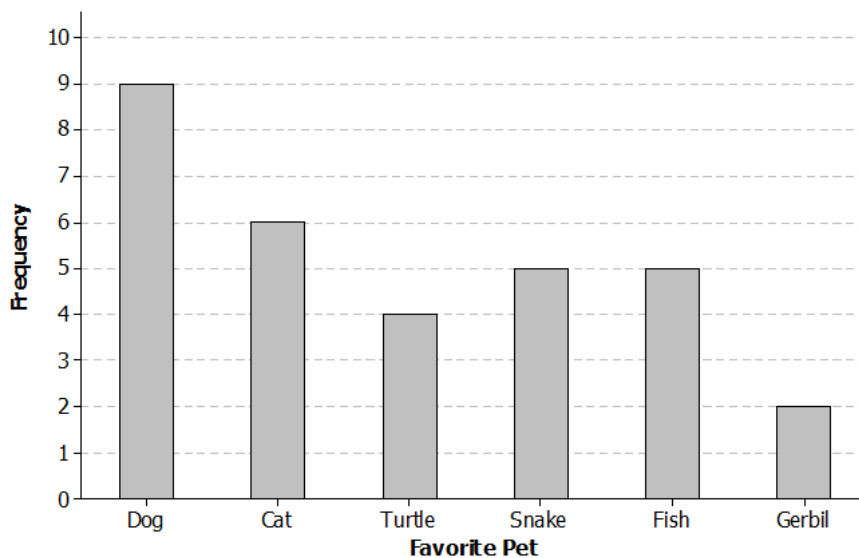
Problem Set

1. Play a game using the two spinners below. Spin each spinner once, and then multiply the outcomes together. If the result is less than or equal to 8, you win the game. Play the game 15 times, and record your results in the table below. Then, answer the questions that follow.



Turn	First Spin Results	Second Spin Results	Product
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

- What is your estimate for the probability of getting a product of 8 or less?
 - What is your estimate for the probability of getting a product of more than 8?
 - What is your estimate for the probability of getting a product of exactly 8?
 - What is the most likely product for this game?
 - If you play this game another 15 times, will you get the exact same results? Explain.
2. A seventh-grade student surveyed students at her school. She asked them to name their favorite pets. Below is a bar graph showing the results of the survey.



Use the results from the survey to answer the following questions.

- How many students answered the survey question?
- How many students said that a snake was their favorite pet?

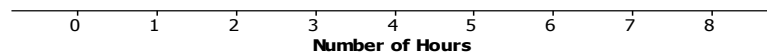
Now, suppose a student is randomly selected and asked what his favorite pet is.

- What is your estimate for the probability of that student saying that a dog is his favorite pet?
- What is your estimate for the probability of that student saying that a gerbil is his favorite pet?
- What is your estimate for the probability of that student saying that a frog is his favorite pet?

3. A seventh-grade student surveyed 25 students at her school. She asked them how many hours a week they spend playing a sport or game outdoors. The results are listed in the table below.

Number of Hours	Tally	Frequency
0		3
1		4
2		5
3		7
4		3
5		0
6		2
7		0
8		1

- a. Draw a dot plot of the results.



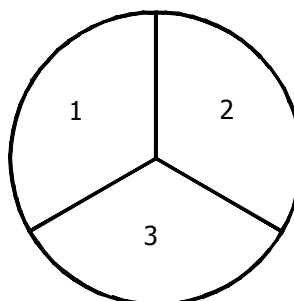
Suppose a student will be randomly selected.

- What is your estimate for the probability of that student answering 3 hours?
- What is your estimate for the probability of that student answering 8 hours?
- What is your estimate for the probability of that student answering 6 or more hours?
- What is your estimate for the probability of that student answering 3 or fewer hours?
- If another 25 students were surveyed, do you think they would give the exact same results? Explain your answer.
- If there are 200 students at the school, what is your estimate for the number of students who would say they play a sport or game outdoors 3 hours per week? Explain your answer.

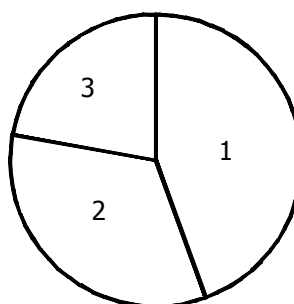
4. A student played a game using one of the spinners below. The table shows the results of 15 spins. Which spinner did the student use? Give a reason for your answer.

Spin	Results
1	1
2	1
3	2
4	3
5	1
6	2
7	3
8	2
9	2
10	1
11	2
12	2
13	1
14	3
15	1

Spinner A



Spinner B



Spinner C

