

**LESSON**

**Algebra Lab Recording Sheet** p. 712

**10-5 Simulations**

**Try This**

**Activity 1**

The local movie theater is offering an opportunity for customers to win a free night at the movies. To win, you must collect six different letters to spell CINEMA. Each movie ticket sold during this promotion will have one of the six letters stamped on the back of the ticket. An equal number of tickets will be stamped with each of the letters.

2. The table shows the results of rolling the number cube until each number has been rolled once.

Number on Cube	Letter on Ticket	Frequency
1	C	
2	I	
3	N	
4	E	
5	M	
6	A	

a. Based on the results shown in the table, how many rolls did it take to get all six numbers?

\_\_\_\_\_

b. Based on the results in the table, how many movie tickets would you have to buy to get all six letters? If you purchased this number of tickets, would you be sure to win? \_\_\_\_\_

Explain. \_\_\_\_\_

**Try This**

Use the information from Activity 1 to answer the following questions.

1. Repeat the simulation four more times and record the results.

Number on Cube	Letter on Ticket	Frequency
1	C	
2	I	
3	N	
4	E	
5	M	
6	A	

**LESSON** **Algebra Lab Recording Sheet** p. 712

**10-5** **Simulations** continued

2. Find the average number of rolls from all five simulations (total number of rolls from 5 simulations).

\_\_\_\_\_

3. Based on your answer to Problem 2, how many movie tickets would you have to buy to get all six letters? \_\_\_\_\_

Is this number different from the answer you gave based on the results in the table above?

\_\_\_\_\_

4. Would any of your answers have been different if you had used a different correspondence between the numbers and letters? Explain?

\_\_\_\_\_

\_\_\_\_\_