

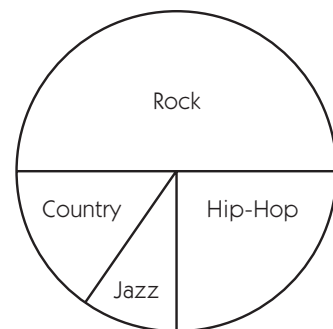
NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Home Connection 42 ★ Worksheet

## Bar & Circle Graphs

**1** 100 students were surveyed about their favorite music. The results are shown on the circle graph at the right.



**a** How many students chose hip-hop as their favorite music?

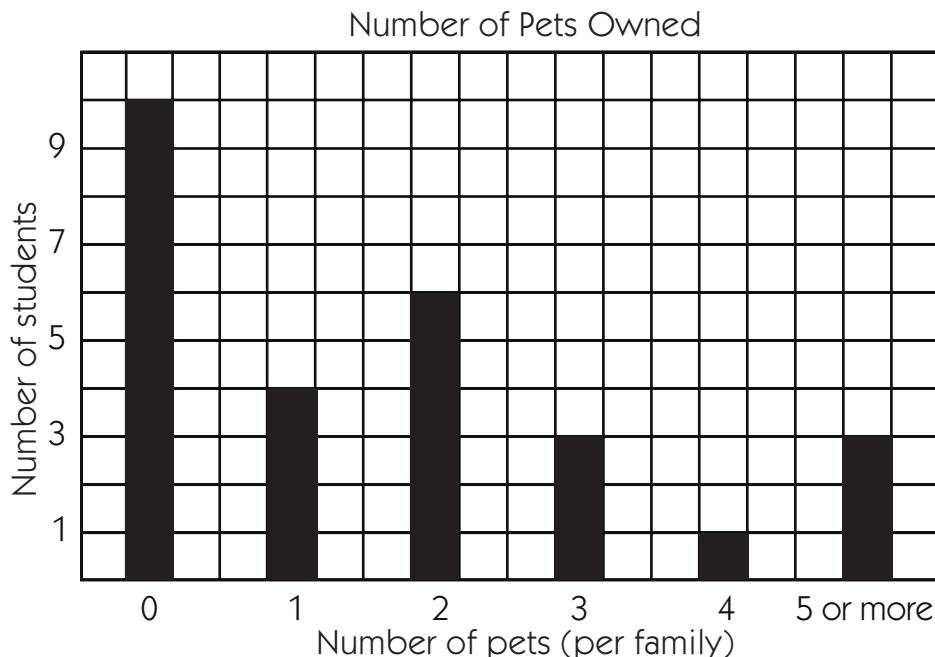
- 15                     
  25                     
  50                     
  90

**b** How did you choose your answer?

**2** Another class like yours did a pet survey. Their results are shown on the graph below.

**a** How many students are represented on the graph?

- 25                     
  26                     
  27                     
  28



**b** Based on this data, list 2 different things you might guess about the students in this fifth grade class.

(Continued on back.)

## Home Connection 42 Worksheet (cont.)

**3** An election for 7th grade Class President was held at Hastings Middle School. The vote results are presented in the bar graph below.

**a** How many more votes did the winning candidate get than the 2nd place candidate?

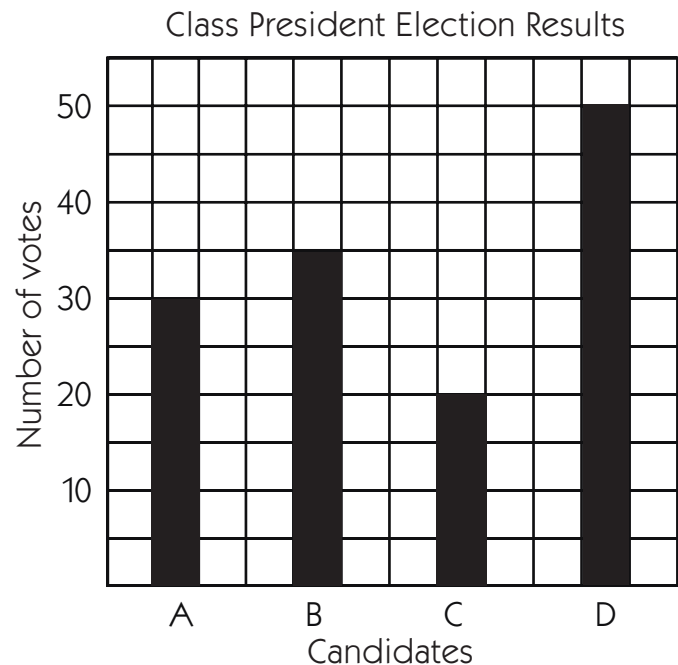
 10

 15

 30

 50

**b** Write 3 more questions you could ask someone about this graph:



**4** Two students in Mr. Madison's class did a survey to find out what kind of snacks their classmates liked best, and then they showed the results on a circle graph. Here's what they found out:



peanuts: 4 kids



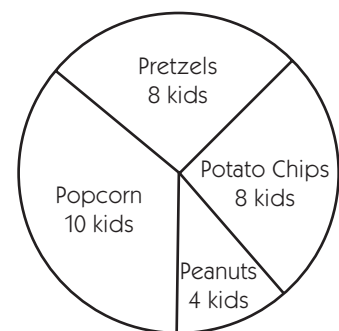
pretzels: 8 kids



popcorn: 10 kids



potato chips: 8 kids



**a** What fraction of the class said they liked popcorn best?

  $\frac{1}{4}$ 
  $\frac{1}{3}$ 
  $\frac{1}{2}$ 
  $\frac{5}{8}$ 

**b** How did you choose your answer?

(Continued on next page.)

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Home Connection 42** Worksheet (cont.)

Complete the following multiplication problems using the strategy that makes the best sense to you. Do not use a calculator.

**example**

$$\begin{array}{r} 33 \\ \times 27 \\ \hline 20 \times 30 = 600 \\ 20 \times 3 = 60 \\ 7 \times 30 = 210 \\ 7 \times 3 = + 21 \\ \hline 891 \end{array}$$

**5**

$$\begin{array}{r} 33 \\ \times 25 \\ \hline \end{array}$$

**6**

$$\begin{array}{r} 63 \\ \times 22 \\ \hline \end{array}$$

**7**

$$\begin{array}{r} 56 \\ \times 28 \\ \hline \end{array}$$

**8**

$$\begin{array}{r} 132 \\ \times 23 \\ \hline \end{array}$$

**9**

$$\begin{array}{r} 844 \\ \times 25 \\ \hline \end{array}$$

(Continued on back.)

## Home Connection 42 Worksheet (cont.)

Complete the following division problems using the strategy that makes the best sense to you. Do not use a calculator. You can make a multiplication menu for the divisor before you start (as in the example below), but you do not have to. Please circle your answer to each problem, as in the example below.

**example**

$$\begin{array}{r}
 20 \overline{) 276} \\
 \underline{- 240} \\
 36 \\
 \underline{- 36} \\
 0
 \end{array}$$

$12 \times 10 = 120$   
 $12 \times 20 = 240$   
 $12 \times 2 = 24$   
 $12 \times 5 = 60$

**10**  $15 \overline{) 345}$

**11**  $17 \overline{) 714}$

**12**  $21 \overline{) 903}$

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## Home Connection 43 ★ Worksheet

### Presidents' Names

Do you think U.S. presidents tended to have longer or shorter first names in the old days? Test your hypothesis by counting and graphing the length of some presidents' names from the nineteenth and twentieth centuries. Write the number of letters in each president's first name on this chart. Then use the information to complete the next 2 pages. Presidents' nicknames are included in parentheses after their full names. Some presidents like Grover Cleveland went by their middle names; Grover Cleveland's first name was actually Stephen. For this assignment, use the first names by which the presidents were known, but don't use nicknames.

Name	Dates of term(s) served	Number of letters in first name	Name	Dates of term(s) served	Number of letters in first name
Thomas Jefferson	1801–1809	6	Theodore Roosevelt	1901–1909	
James Madison	1809–1817	5	William Taft	1909–1913	
James Monroe	1817–1825		(Thomas) Woodrow Wilson	1913–1921	7
John Adams	1825–1829		Warren Harding	1921–1923	
Andrew Jackson	1829–1837		Calvin Coolidge	1923–1929	
Martin Van Buren	1837–1841		Herbert Hoover	1929–1933	
John Tyler	1841–1845		Franklin Roosevelt	1933–1945	
James Polk	1845–1849		Harry Truman	1945–1953	
Franklin Pierce	1853–1857		Dwight Eisenhower	1953–1961	
James Buchanan	1857–1861		John Kennedy	1961–1963	
Abraham Lincoln	1861–1865		Lyndon Johnson	1963–1969	
Andrew Johnson	1865–1869		Richard Nixon	1969–1974	
Ulysses Grant	1869–1877		Gerald Ford	1974–1977	
Rutherford Hayes	1877–1881		James Carter (Jimmy)	1977–1981	
Chester Arthur	1881–1885		Ronald Reagan	1981–1989	
(Stephen) Grover Cleveland	1885–1889	6	George Bush	1989–1993	
Benjamin Harrison	1889–1893		William Clinton (Bill)	1993–2001	

**Note** The following presidents from the nineteenth century were left out so that the two samples would contain exactly the same number of presidents: William Harrison (1841), Zachary Taylor (1849–1850), Millard Fillmore (1850–1853), James Garfield (1881), Grover Cleveland (1893–1897), and William McKinley (1897–1901).

## Home Connection 43 Worksheet (cont.)

**1a** List the number of letters in each of the nineteenth century (1800's) U.S. presidents' first names in numeric order. Be sure to include every name on the list, so if there are 4 presidents with 4 letters in their first name, you'll list 4, 4, 4, 4.

**b** Determine the range, mode, and median of this data set.

range = \_\_\_\_\_ mode = \_\_\_\_\_ median = \_\_\_\_\_

**2a** List the number of letters in the twentieth century (1900's) U.S. presidents' first names in numeric order.

**b** Determine the range, mode, and median of this data set.

range = \_\_\_\_\_ mode = \_\_\_\_\_ median = \_\_\_\_\_

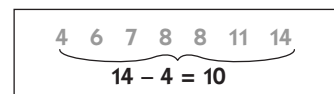
**3** Find the mean (average) of each data set, and show your work for each.

**a** Mean number of letters in first names of nineteenth century presidents = \_\_\_\_

**b** Mean number of letters in first names of twentieth century presidents = \_\_\_\_

### Words to Remember

**Range** the difference between the highest and lowest number in a set



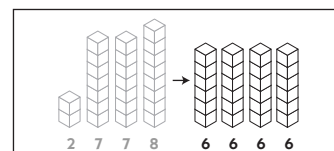
**Mode** the number that appears most often in a set of numbers. In any set, there may be 1 mode, more than 1 mode, or no mode.



**Median** the middle number when the numbers in a set are arranged from lowest to highest



**Mean** the number you get when you level off or even out all the numbers in a set. The mean is also called the average.

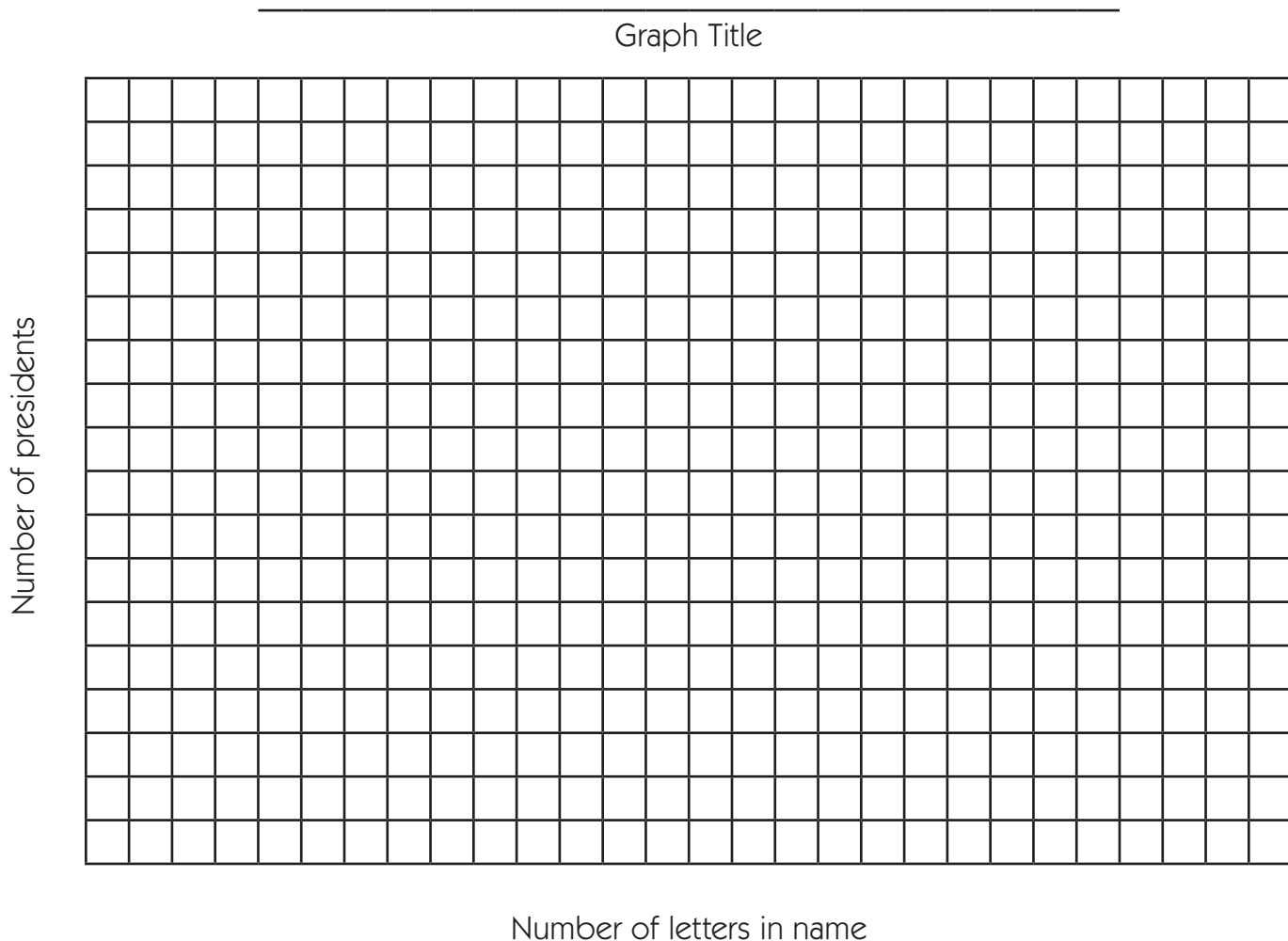


NAME \_\_\_\_\_

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**Home Connection 43** Worksheet (cont.)

**4** Using the data from the first page, make a double bar graph of the numbers of letters in the presidents' first names. Use one color to make bars for the nineteenth century presidents and another color to make bars for the twentieth century presidents.



**5** Do you think there's enough evidence to say that one group of presidents had, on average, longer first names than the presidents in the other? Why or why not?

(Continued on back.)

**Home Connection 43** Worksheet (cont.)

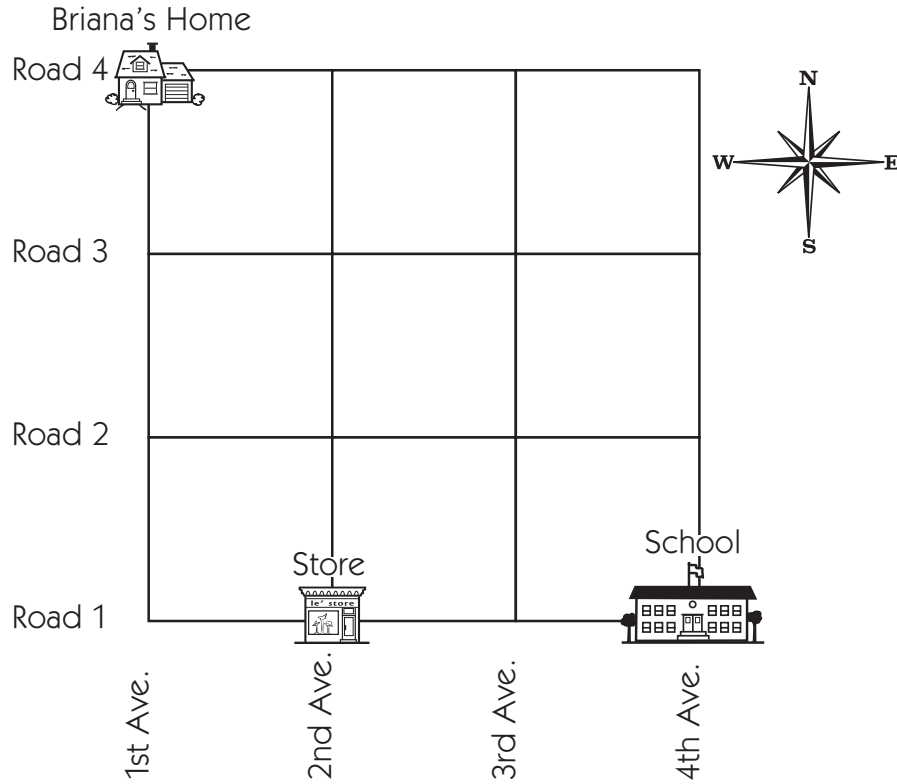
**6** Isaac says that the two groups had names that were just about the same length and that there is not much difference. Do you agree or disagree? Why or why not?

NAME \_\_\_\_\_

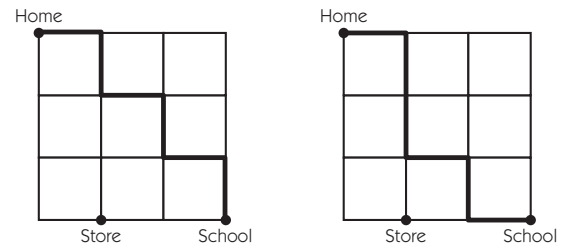
DATE \_\_\_\_\_

# Home Connection 44 ★ Worksheet

## Briana's Routes



Briana is in fifth grade and she walks to school every day. Here is a map of her neighborhood. She lives with her family at the intersection of Road 4 and 1st Avenue. Her school is at the intersection of Road 1 and 4th Avenue. Here are 2 of the routes she takes to get to school:



Briana likes to take a different route each day, but she's only allowed to go EAST and SOUTH on the roads and avenues in her neighborhood. How many different routes are there? Use the mini-grids on the next two pages to find out. When you've drawn all the different routes you can find, ask someone in your family to check your work to see if they think that:

- all the routes you've found are different, and
- there aren't any other routes to be found. (If they think there are more, they can help you find them.)

Have your helper sign the mini-grid sheet before you bring it back to school.







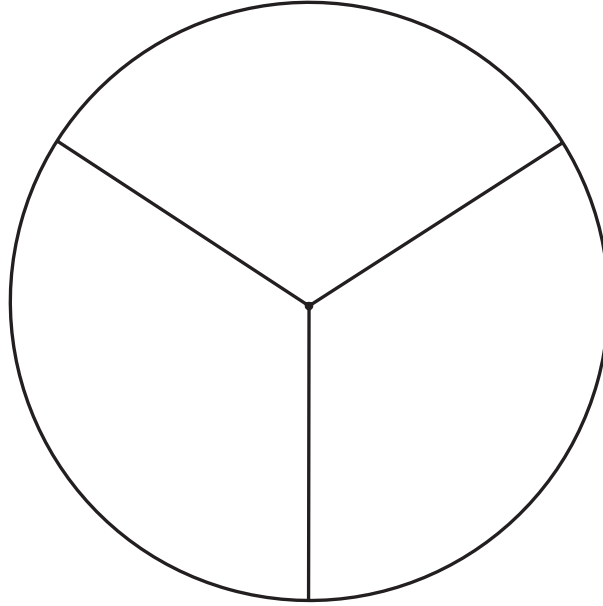
NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Home Connection 45 ★ Worksheet

## Another Spinner Experiment

**1** Color  $\frac{2}{3}$  of the spinner below red. Leave the other  $\frac{1}{3}$  white.



**2** If you spin this spinner once, what are your chances of landing on red? What are your chances of landing on white? Explain your answers.

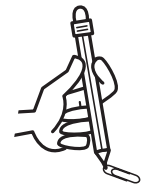
**3** If you spin this spinner 24 times, about how many times do you expect to land on red? About how many times do you think you'll land on white? Explain your answers.

(Continued on next page.)

**Home Connection 45** Worksheet (cont.)

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Home Connection 45** Worksheet (cont.)

**4** Use a paperclip for a spinner arrow and a pencil to anchor it, as shown here. Spin the spinner on page 163 24 times, and make a chart below to show your results.

**5** How do the results of your experiment compare with your expectations?

**6** Make 24 more spins and show your results on a chart below.

**7** Counting all 48 spins, how many times did you get red? \_\_\_\_\_ How many times did you get white? \_\_\_\_\_

**8** Lara told her mom about this experiment. She said, “I was sure I’d get red 32 times and white 16 times, because  $\frac{1}{3}$  of 48 is 16. But I got 25 reds and 23 whites. That’s more like half and half. I don’t get it.”

What would you say to Lara to help her understand her experimental results?



NAME \_\_\_\_\_

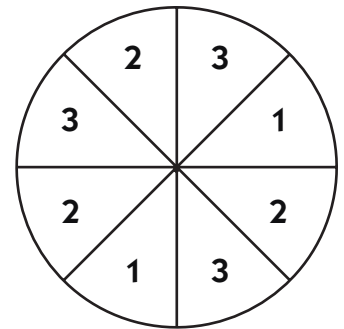
DATE \_\_\_\_\_

# Home Connection 46 ★ Worksheet

## Spinner & Dice Probabilities

**1** Refer to the spinner at the right.

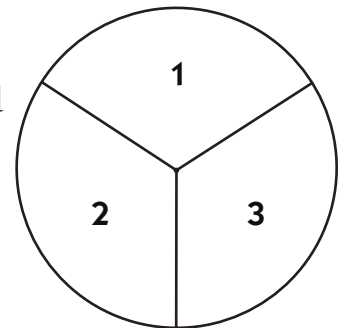
**a** On a single spin, what is the probability of getting a 3? Justify your answer using words, numbers, or a labeled sketch.



**b** What is the probability of spinning a 7 on the spinner above? Justify your answer using words, numbers, or a labeled sketch.

**2** Refer to the spinner at the right.

**a** On a single spin, what is the probability of spinning an odd number? Justify your answer using words, numbers, or a labeled sketch.



**b** If you spun this spinner twice, you might get the same number twice, like 1 and 1, or two different numbers, like a 1 and a 2. On the chart below, list all the possible combinations.

Spin 1	1	1							
Spin 2	1	2							

**c** Sam says that the likelihood of spinning two numbers on this spinner that add up to 4 is  $\frac{3}{9}$  or  $\frac{1}{3}$ . Do you agree with him? Why or why not?

(Continued on back.)

## Home Connection 46 Worksheet (cont.)

**3a** On a single roll of a die numbered 1 through 6, what is the probability of getting a 3?

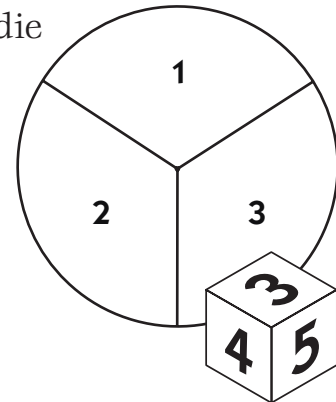


**b** On a single roll of a die, what is the probability of getting a number equal to or greater than 3?

**c** Explain why the answers to the two questions above are different.

**4** Refer to the spinner at the right, and think of an ordinary die numbered 1–6.

**a** If you spun the spinner once and rolled the die once, you'd get 2 numbers. They might be the same, like a 1 and a 1, or they might be different, like a 2 and a 6. Make a table to show all the different combinations of two numbers you could get.



**b** If you spin the spinner and roll the die (numbered 1 through 6) at the same time, what is the probability that both the spinner and the die will show a 1? How do you know?

NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Home Connection 47 ★ Worksheet

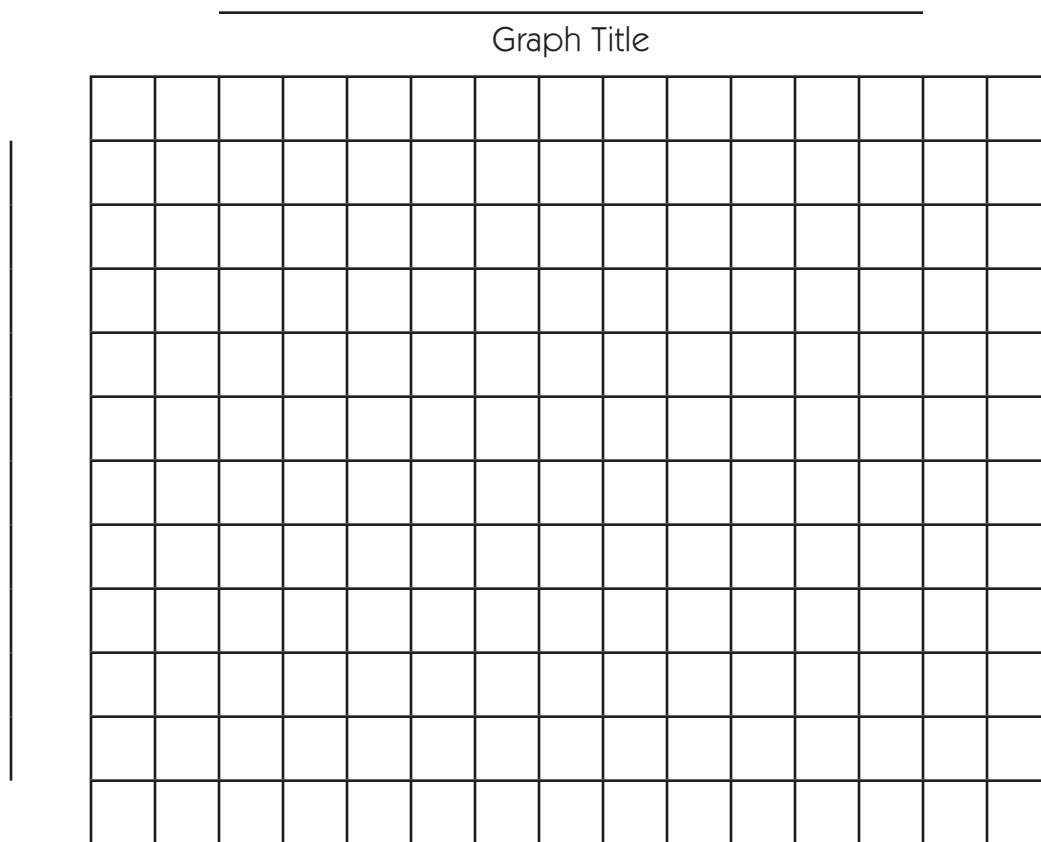
## Tallies & Graphs

**1** On the grid below, make a bar graph that accurately represents the election data shown at the right.

Choose a scale for your graph that will accommodate all of the data.

Number of Votes for Student Council	
Student A	
Student B	
Student C	
Student D	

Give your bar graph a title and label both of the axes.

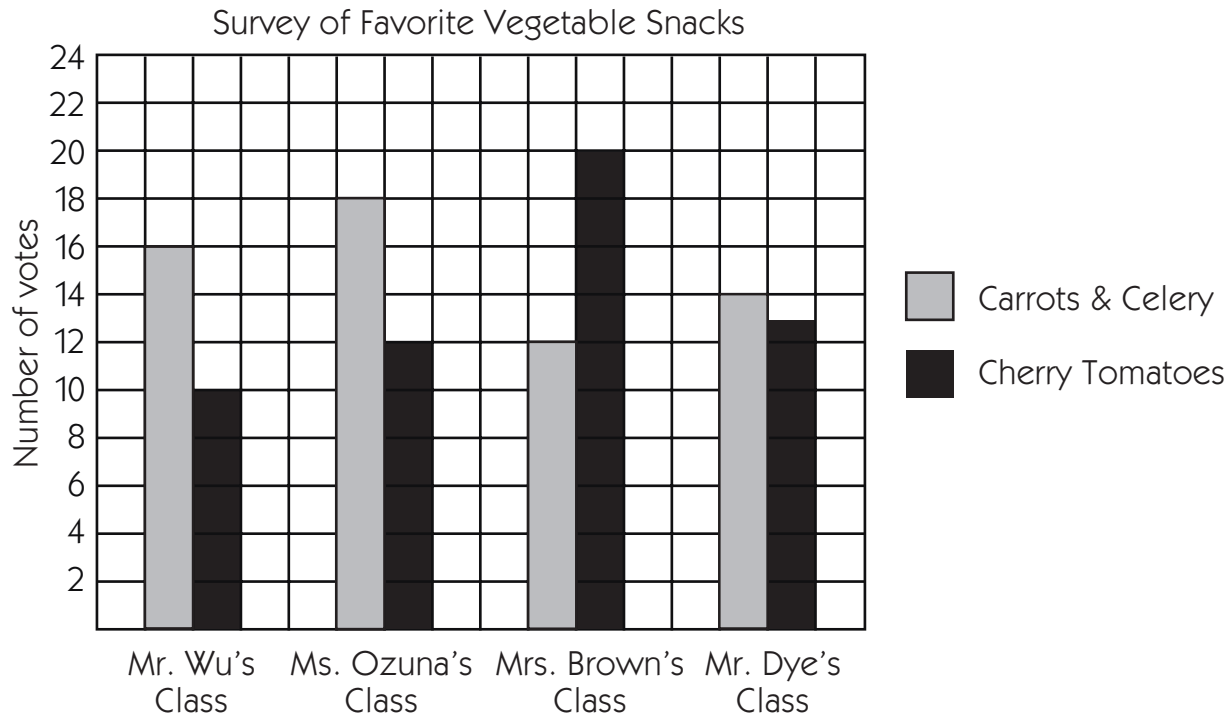


**2** Explain who would be interested in reading the graph you just made and why.

(Continued on back.)

## Home Connection 47 Worksheet (cont.)

3 Use this double bar graph to answer the questions below.



**a** Mr. Dye has 30 students in his class. According to this graph, how many of his students did *not* vote in this survey? \_\_\_\_\_

**b** In all, how many students participated in this survey? \_\_\_\_\_

**c** In these 4 classes, the following number of students voted for carrots and celery: 16, 18, 12, and 14. Find the mean (average) number of votes for carrots and celery, and show your work.

**d** Find the mean (average) number of votes for cherry tomatoes and show your work.

**e** Who would be interested in the results of this survey?

(Continued on next page.)

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Home Connection 47** Worksheet (cont.)

Complete the following multiplication problems using the strategy that makes the best sense to you. Do not use a calculator.

**example**

$$\begin{array}{r}
 33 \\
 \times 27 \\
 \hline
 20 \times 30 = 600 \\
 20 \times 3 = 60 \\
 7 \times 30 = 210 \\
 7 \times 3 = + 21 \\
 \hline
 891
 \end{array}$$

$$\begin{array}{r}
 4 \quad 65 \\
 \times 50 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 5 \quad 73 \\
 \times 21 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 6 \quad 48 \\
 \times 36 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 7 \quad 52 \\
 \times 33 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 8 \quad 157 \\
 \times 24 \\
 \hline
 \end{array}$$

(Continued on back.)

## Home Connection 47 Worksheet (cont.)

Complete the following division problems using the strategy that makes the best sense to you. Do not use a calculator. You can make a multiplication menu for the divisor before you start (as in the example below), but you do not have to. Please circle your answer to each problem, as in the example below.

<b>example</b>	$12 \overline{) 283}$	$\begin{array}{r} 3 \\ 20 \end{array} \overline{) 283} \text{ r}7$	$12 \times 10 = 120$	$12 \times 20 = 240$	$12 \times 2 = 24$	$12 \times 5 = 60$
	$- 240$					
	<hr/>					
	36					
	$- 36$					
	<hr/>					
	7					

<b>9</b>	$24 \overline{) 648}$
----------	-----------------------

**10**  $32 \overline{) 463}$

**11**  $17 \overline{) 454}$

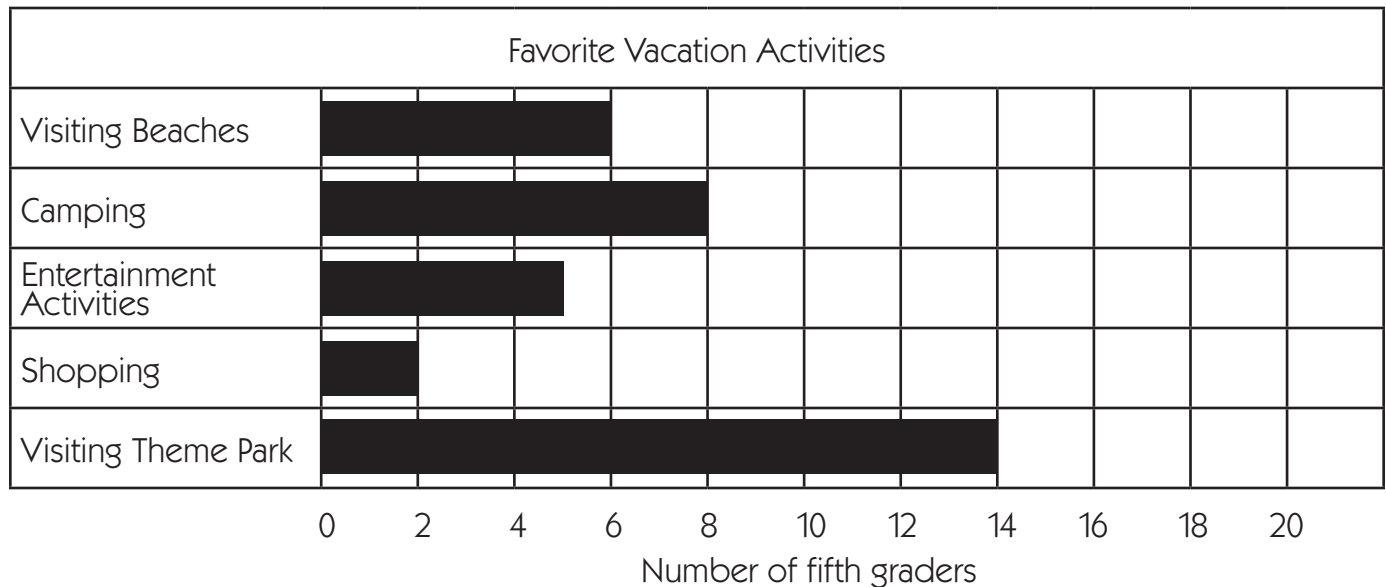
NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Home Connection 48 ★ Worksheet

## Reading Survey Data

Below is a bar graph giving the results of a survey about fifth-graders' favorite vacation activities. Use the information to answer the questions below.



- How many more fifth-graders in this survey would rather visit a theme park than do other entertainment activities? Show how you got your answer.
- How many students participated in this survey? Show how you got your answer.
- Do you think this survey would give someone a good idea of what fifth graders all over the whole country like to do when they go on vacations? Why or why not?

(Continued on back.)

## Home Connection 48 Worksheet (cont.)

**4a** A school official wants student opinions about a new class schedule. Where would this official take a survey to get the most representative group of students?

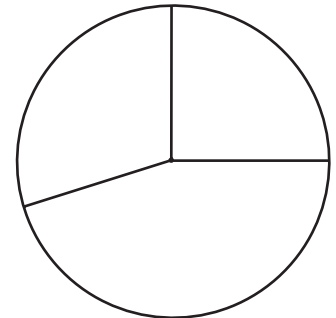
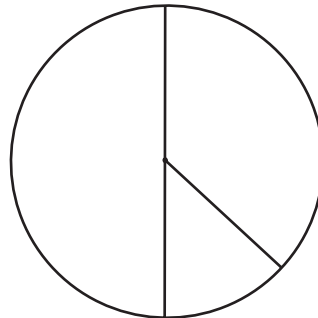
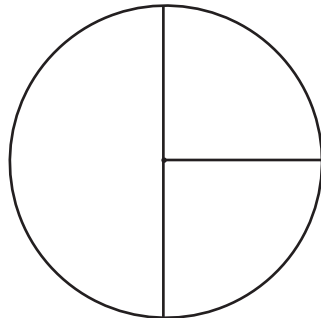
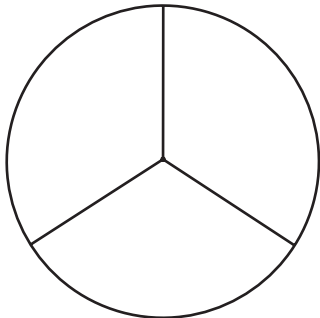
- an assembly    a language arts class    a math class    the school office

**b** Explain the reason for your choice.

**5** A class was surveyed about when they liked to do homework. These were the results.

- 9 students preferred in the evening
- 6 students preferred in the afternoon
- 3 students preferred on the weekend

**a** Which of the following unlabeled circled graphs best pictures this data?



**b** Use numbers, words, and/or a labeled sketch to explain how you made your choice above.

(Continued on next page.)

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Home Connection 48** Worksheet (cont.)

Complete the following multiplication problems using the strategy that makes the best sense to you. Do not use a calculator.

**example**

$$\begin{array}{r}
 33 \\
 \times 27 \\
 \hline
 20 \times 30 = 600 \\
 20 \times 3 = 60 \\
 7 \times 30 = 210 \\
 7 \times 3 = + 21 \\
 \hline
 891
 \end{array}$$

$$\begin{array}{r}
 6 \quad 68 \\
 \times 25 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 7 \quad 41 \\
 \times 33 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 8 \quad 59 \\
 \times 46 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 9 \quad 201 \\
 \times 32 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 10 \quad 147 \\
 \times 45 \\
 \hline
 \end{array}$$

(Continued on back.)

## Home Connection 48 Worksheet (cont.)

Complete the following division problems using the strategy that makes the best sense to you. Do not use a calculator. You can make a multiplication menu for the divisor before you start (as in the example below), but you do not have to. Please circle your answer to each problem, as in the example below.

**example**

$$\begin{array}{r}
 3 \\
 20 \overline{) 283} \\
 \underline{- 240} \\
 36 \\
 \underline{- 36} \\
 7
 \end{array}$$

$12 \times 10 = 120$   
 $12 \times 20 = 240$   
 $12 \times 2 = 24$   
 $12 \times 5 = 60$

**11**  $15 \overline{) 398}$

**12**  $38 \overline{) 884}$

**13**  $27 \overline{) 923}$