

Objectives

- Determine the fractional parts of a whole
- Interpret a circle graph

Teacher Materials

- Chart 26: *Circle Graph: Sports*
- Fractional Parts transparency, page IA27 (CD)
- Division flashcards: 10 as a divisor, and previously reviewed division facts

Student Materials

- Number Cards: 0–9

Practice and Review

Round numbers to the place with the greatest value

- **What numbers indicate that you should round up? 5, 6, 7, 8, and 9 round down? 0, 1, 2, 3, and 4**

Guide the students in rounding these numbers. Remind them to look at the digit immediately to the right of the rounding digit to determine whether to round the number up or down.

4,040	4,000	71,572	70,000	174,869	200,000
1,276,159	1,000,000	86,721	90,000	390,084	400,000

Division facts: 10 as a divisor

Introduce the Lesson

The largest sharks are the whale shark and the basking shark. A full-grown whale shark is about 40–45 feet long and weighs about 15 tons. That is about 30,000 pounds or about the weight of 6 large cars! The basking shark can grow to be about 30 feet long and weigh about 7,000 pounds. Although these sharks are enormous in size, they are completely harmless.

God prepared a great fish to swallow Jonah. Although it was probably not a whale shark, the great fish could have been a blue whale, which is even larger than a whale shark. [Bible Promise: I. God as Master]

Teach for Understanding

Determine the fractional parts of a whole

1. Direct attention to the first circle on the Fractional Parts transparency.

(**Note:** Throughout this activity, focus on the numbers as whole numbers rather than twelfths of a clock.)

- **How could you divide this clock, or circle, into halves? Accept any correct answer. How many equal parts would you have? 2** Draw a line from the 12 to the 6 on the clock.

- **How would you show $\frac{1}{2}$ of 12? Shade or color 1 of the 2 equal parts.**

Choose a student to shade 1 of the 2 halves, beginning at the 12 and moving clockwise.

- **What do you think $\frac{1}{2}$ of 12 equals? 6** Write $\frac{1}{2}$ of 12 = 6 for display.

- **Why do you think that some people say it is half past the hour when the minute hand is pointing to the 6? Elicit that $\frac{1}{2}$ of the hour has past.**

2. Call attention to the second circle.

- **How could you divide this clock, or circle, into fourths? Accept any correct answer. How many equal parts would you have? 4**

Direct a student to divide the clock into fourths by first drawing a line from the 12 to the 6 and then drawing another line from the 9 to the 3.

- **How would you show $\frac{1}{4}$ of 12? Shade or color 1 of the 4 equal parts.**

Select a student to shade $\frac{1}{4}$ of the clock face, beginning at the 12 and moving clockwise.

- **Why do you think that some people say it is a quarter past or after the hour when the minute hand is pointing to the 3? Elicit that $\frac{1}{4}$ of the hour has past.**

- **What is $\frac{1}{4}$ of 12? 3 How do you know? 3 of the parts are shaded. Elicit that 12 divided into 4 equal parts equals 3 in each part.**

Write $\frac{1}{4}$ of 12 = 3.

- **What is $\frac{2}{4}$ of 12? 6 How do you know? Elicit that since 12 divided into 4 equal parts equals 3 in each part, if you select 2 of those equal parts you will have 6.**

Choose a student to shade a second fourth of the clock face, beginning at the 3 and moving clockwise.

Write $\frac{2}{4}$ of 12 = 6.

- **What other fraction has a similar picture with the same amount shaded? $\frac{1}{2}$**

Explain that $\frac{1}{2}$ and $\frac{2}{4}$ are called *equivalent fractions*; they represent the same amount even though their pictures are slightly different.

3. Remind students that the denominator names the total number of equal parts and the numerator tells you how many of those parts have been selected or are being considered.

Interpret a circle graph

1. Display the *Circle Graph: Sports* chart. Explain that a circle graph is used to show collected data, or information.

- **Where can you find what data has been collected for this circle graph? in its title: *Favorite Sports in Mrs. Pace's 4th-Grade Class***

- **What is the most popular sport? *basketball***

- **What part of the class chose basketball as their favorite sport? How do you know? $\frac{1}{2}$; elicit that $\frac{1}{2}$ of the circle graph is shaded to represent the half of Mrs. Pace's class that chose basketball as their favorite sport.**

(**Note:** Encourage each student to use mental math to answer the following question and other similar questions, or you may want to allow students to draw a picture similar to the circle graph to determine the answer.)

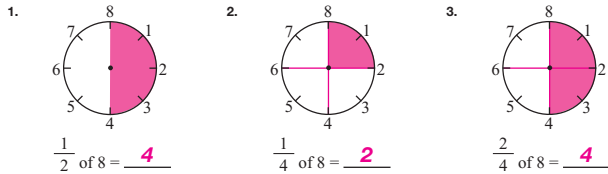
- **If Mrs. Pace has 16 students in her class, how many students chose basketball as their favorite sport? 8 How do you know? $\frac{1}{2}$ of 16 = 8**

- **How do you find $\frac{1}{2}$ of 16? Elicit that you divide 16 into 2 equal parts and select one of the parts.**

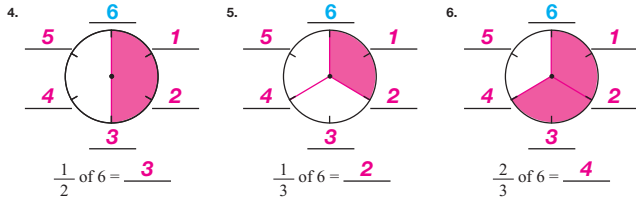
Write *16 divided into 2 equal parts = 8* for display and $\frac{1}{2}$ of 16 = 8 below it.

2. Direct attention to the part of the graph labeled *Baseball*.
- **What part of the class prefers baseball? $\frac{1}{4}$**

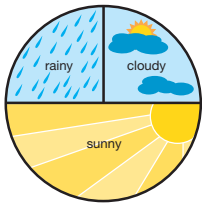
Imagine a clock with 8 hours. Draw lines to divide the clock. Color to show the answer.



Imagine a clock with 6 hours. Write the missing numbers on the clock. Draw lines and color to show the answer.



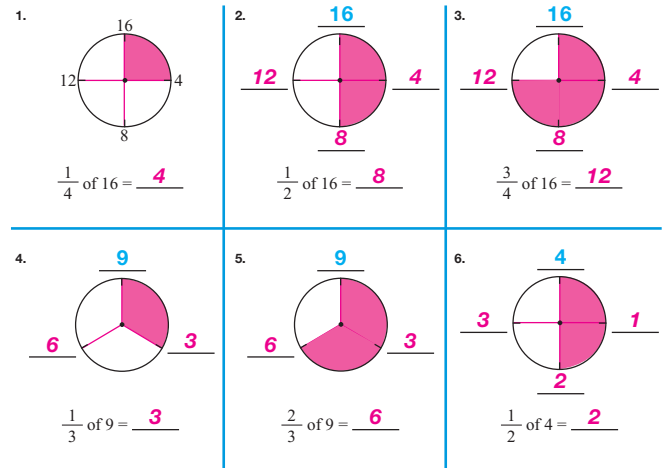
Use the circle graph to write the answers.



This graph represents 8 days.

7. How many days were rainy? 2
8. How many days were cloudy? 2
9. How many days were sunny? 4

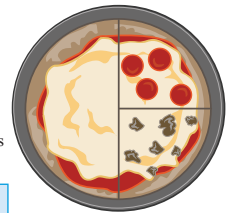
Write the missing numbers on the circle. Draw lines and color to show the answer.



Use the circle graph to find the answers.

7. What part of the class likes cheese pizza? 1/2
8. What part of the class likes pepperoni pizza? 1/4
9. What part of the class likes sausage pizza? 1/4

Favorite Kinds of Pizza in Mr. Lawson's Class



10. The circle graph represents the 20 students in Mr. Lawson's class. How many students chose each type of pizza?

Cheese	Pepperoni	Sausage
<u>10</u> students	<u>5</u> students	<u>5</u> students

- ▶ What part of the circle graph is shaded to represent the students who prefer baseball? $\frac{1}{4}$
- ▶ How do you find $\frac{1}{4}$ of 16? Elicit that you divide 16 into 4 equal parts and select one of the parts.
- ▶ If Mrs. Pace has 16 students, how many students chose baseball as their favorite sport? 4 How do you know? $\frac{1}{4}$ of 16 = 4
Write 16 divided into 4 equal parts = 4 and $\frac{1}{4}$ of 16 = 4 below it.
- 3. Call attention to the part of the graph labeled Soccer.
 - ▶ What part of the class chose soccer as their favorite sport? $\frac{1}{8}$
How do you know? $\frac{1}{8}$ of the circle is shaded to represent the students who chose soccer.
 - ▶ How do you find $\frac{1}{8}$ of 16? Elicit that you divide 16 into 8 equal parts and select one of them.
 - ▶ If Mrs. Pace has 16 students in her class, how many students chose soccer as their favorite sport? 2 How do you know? $\frac{1}{8}$ of 16 = 2
Write 16 divided into 8 equal parts = 2 and $\frac{1}{8}$ of 16 = 2 below it.
 - ▶ What do you think the Other category of the circle graph represents? possible answers: sports other than basketball, baseball, and soccer, such as volleyball, football, ice skating, hockey
 - ▶ What part of the class chose a sport other than basketball, baseball, or soccer as their favorite sport? $\frac{1}{8}$ How do you know? $\frac{1}{8}$ of the circle is shaded to represent the students who chose other sports.
 - ▶ How many students in the class of 16 chose a sport other than basketball, baseball, or soccer as their favorite? 2 How do you know? 16 divided into 8 equal parts = 2, or $\frac{1}{8}$ of 16 = 2

Worktext pages 81–82, 86 (h)