Additional Practice

1. a. For each of the fraction strips below, write a fraction that expresses how much of the strip is shaded.

i.

ii.

iii.

iv.

v.

vi.
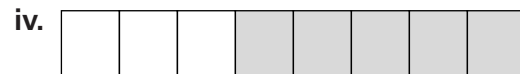
b. For each of the six fraction strips above, write a fraction that expresses how much of the strip is not shaded.

c. For each fraction strip, how is the fraction you wrote for the shaded part related to the fraction you wrote for the unshaded part? Explain your reasoning.

2. The drawing shows the controls on a sound system. Use the drawing to answer each question.
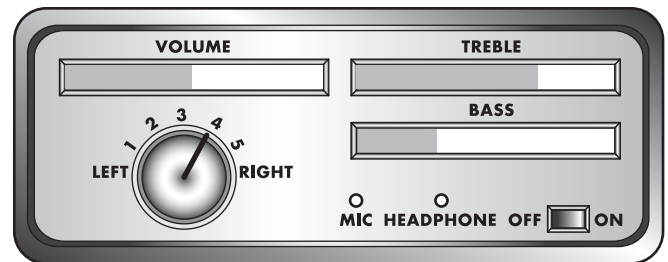
a. What fraction of the total volume is the sound system playing?

b. What fraction of the total bass output is the sound system playing?

c. Write the ratio of the volume level that is playing to the highest possible volume.

d. Write the ratio of the total bass ouput to the bass level that is playing.

e. If Wilbur doubles the bass output that is playing now, what fraction of the total bass output will be the new bass output? Explain your reasoning.

Additional Practice *(continued)*

3. A bag contains 24 marbles. (**Note:** You may want to use 24 cubes, chips, marbles, or other objects to help you solve this problem.)

    a. If 16 of the marbles are removed from the bag to play a game, what fraction of the marbles are left in the bag?

    b. What is the ratio of the marbles that were removed to the marbles that are left in the bag?

4. Joey's father stops at the gas station to buy gas. The car has a 16-gallon tank, and the fuel gauge says there is $\frac{3}{8}$ of a tank of gas.

    a. How many gallons of gas are in the tank?

    b. If Joey's father buys 6 gallons of gas, what fraction of the tank will the car's fuel gauge read?

    c. What fraction of the gas tank is empty after Joey's father puts 6 gallons of gas in the tank?
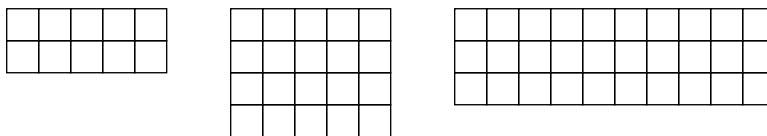
Additional Practice (continued)

5. For parts (a)–(b), use fraction strips or some other method to name the point with a fraction.

a.

0   1

b.

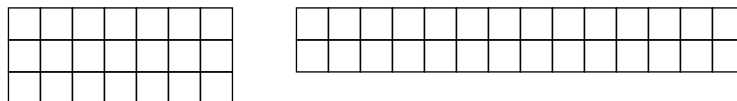0   1
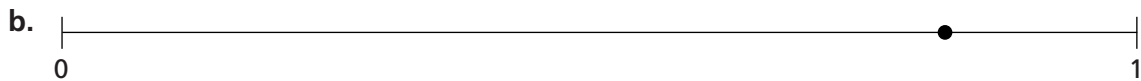
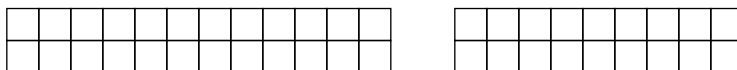**6.** For parts (a)–(c), shade each grid to represent the given fraction.

   a. Represent the fraction $\frac{4}{5}$ on each grid. Then name each equivalent fraction.

   b. Represent the fraction $\frac{3}{7}$ on each grid. Then name each equivalent fraction.

   **c.** Represent the fraction $\frac{1}{6}$ on each grid. Then name each equivalent fraction.

7. Tony is driving from Alma, Michigan to Elizabeth City, North Carolina. The drive covers a total distance of 1,100 miles. Tony's car can travel 400 miles on a full tank of gas. How many tanks of gas will Tony's car need for the entire trip? Explain your reasoning.

Additional Practice: Digital Assessments

8. The image below shows the controls on a sound system. Circle the numbers that make each statement true.
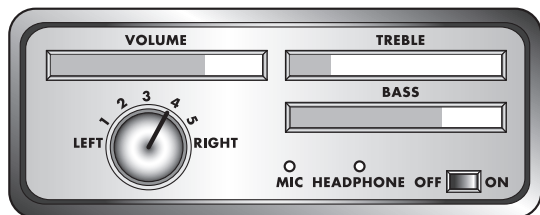
a. The treble playing is $\begin{bmatrix} \dfrac{1}{5} \\ \dfrac{1}{2} \\ \dfrac{3}{5} \end{bmatrix}$ of the total treble.

b. The ratio of the total volume to the volume the sound system is playing is $\begin{bmatrix} 3 \text{ to } 4 \\ 4 \text{ to } 3 \\ 3 \text{ to } 1 \end{bmatrix}$.

9. A car has a 12-gallon tank, and the fuel gauge shows there is $\dfrac{1}{4}$ of a tank of gas. Using the numbers on the tiles provided below, complete each statement.
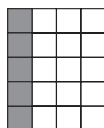
| 3 | 4 | 5 | 6 |

| $\dfrac{1}{4}$ | $\dfrac{1}{3}$ | $\dfrac{1}{2}$ | $\dfrac{2}{3}$ | $\dfrac{3}{4}$ |

a. There are ☐ gallons of gas in the tank.

b. After the driver adds 6 gallons of gas, the car's fuel gauge will read ☐.

c. After the driver adds 6 gallons of gas, the gas tank will be ☐ empty.

10. Shade the grid to show $\dfrac{4}{5}$.

11. Which of the following fractions are equivalent to the amount of the grid that is shaded?

Select all that apply.

☐ $\dfrac{3}{12}$

☐ $\dfrac{1}{5}$
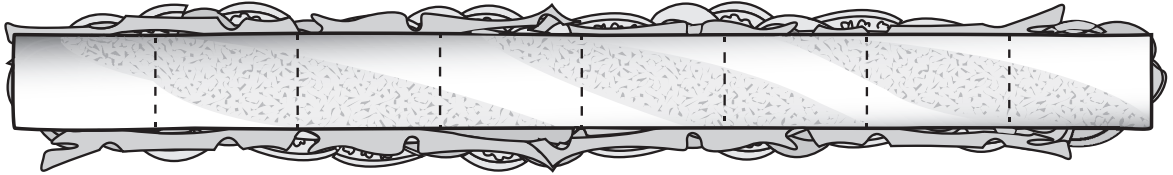
☐ $\dfrac{15}{20}$

☐ $\dfrac{1}{4}$
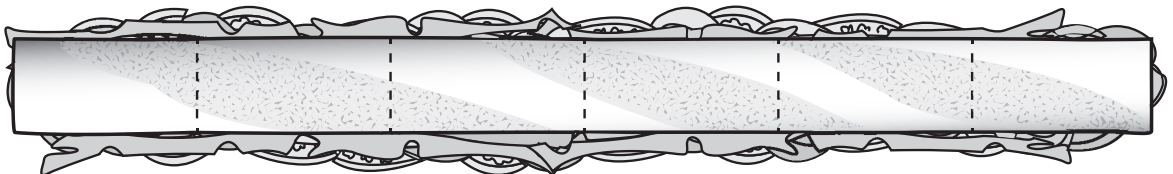
Additional Practice

A deli cook makes long submarine sandwiches that are meant to be shared. She cuts the sandwiches into shorter sections. In exercises 1–4, find the fraction of a submarine sandwich each person gets.

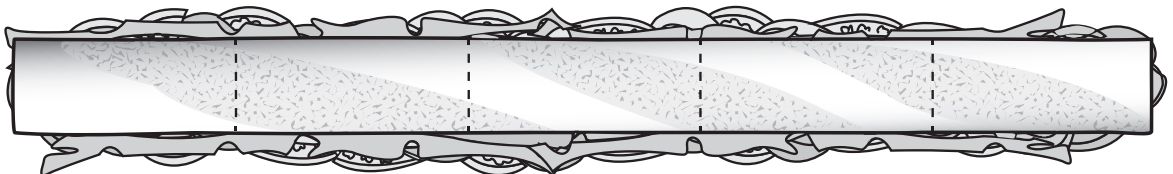**1. a.** Show how eight sections of sandwich can be shared equally by six people.

b. How many sections does each person get?

2. a. Show how six sections of sandwich can be shared equally by eight people.

b. How many sections are there for each person?

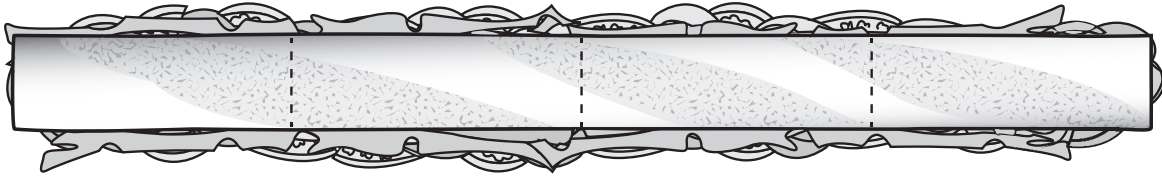**3. a.** Show how five sections of sandwich can be shared equally by four people.

b. How many sections does each person get?

Additional Practice (continued)

4. a. Show how four sections of sandwich can be shared equally by five people.

b. How many sections is this per person?

5. Each week four teachers share a 60-minute lunch duty equally. They also share five 20-minute after-school duties equally.

a. Write a rate that compares the number of minutes of weekly lunch duty to the number of teachers.

b. Write a unit rate for the number of minutes of weekly after-school duty for each teacher.

6. A group of students is working in a booth to support their community center. The amount of time each student works is in a ratio according to their ages.

a. Abby is 16 years old. Kiaya is 12 years old. If Abby works 120 minutes, how many minutes does Kiaya work? How long do they work altogether?

Additional Practice *(continued)*

b. Jacob is 14 years old. Matthew is 10 years old. They work 120 minutes altogether. How many minutes does each boy work?

c. Hannah and Michael work together. Hannah works 160 minutes. Michael works 100 minutes. How old could each of them be?

7. A group of friends is working together on a building project. The number of hours each person works as a team depends on their number of years of experience.

a. Lauren has 8 years of experience. Kim has 2 years of experience. If Lauren works for 48 hours, how many hours does Kim work? How long do they work altogether?

b. James has 12 years of experience. Becky has 6 years of experience. They work 108 hours altogether. How many hours does each person work?

c. Kelly and Mitchell work together. Kelly works 9 hours. Mitchell works 15 hours. How many years of experience could each person have?

Additional Practice (continued)

8. Use rate tables to find how much each person makes in 1 hour and how long each person has to work to make $1.

a. Paula remembers that she worked 20 hours and made $80.

Hours	1	10	20		30	
Pay ($)			80	100		1

b. Ben works 15 hours and is paid $75.

Hours	1		15	30		
Pay ($)		25	75		190	1

c. Patrick is paid $12 for 3 hours of work.

Hours	1	3		36		
Pay ($)		12	60		192	1

d. Kayla is paid $72 for 9 hours of work.

Hours	1	4	9		16	
Pay ($)			72	88		1

9. Bill measures the lengths of six boards he finds in his garage. Name two boards he could be comparing for each ratio given.

12 in.　A	24 in.　D
8 in.　B	10 in.　E
9 in.　C	6 in.　F
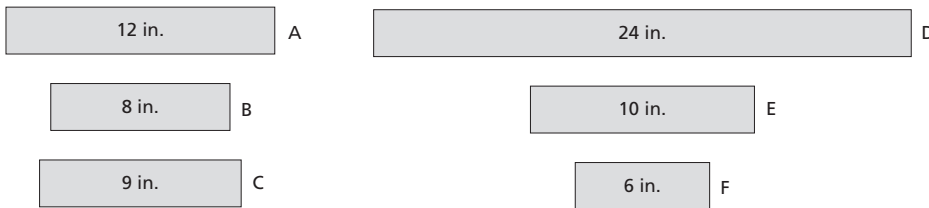
a. The ratio of lengths is 2 : 1.　　Board _____ to Board _____

b. The ratio of lengths is 4 : 1.　　Board _____ to Board _____

c. The ratio of lengths is 3 : 4.　　Board _____ to Board _____

d. The ratio of lengths is 2 : 3.　　Board _____ to Board _____

Additional Practice (continued)

10. George is planning his road trip. He uses a vertical rate table.

   a. Complete the rate table for the gas his car will use.

George's Car

Gallons of Gas	Miles
1	36
2	
3	
4	
5	
6	

   b. How many gallons of gas will he use if he drives 432 miles?

   c. How many miles can he go if he uses 8 gallons of gas?

11. George uses another vertical rate table to keep track of his gasoline expenses.

   a. Complete the rate table for the cost of the gas he will purchase.

Gas Purchases

Gallons of Gas	Cost ($)
6	24
5	
4	
3	
2	
1	

   b. What is the unit rate comparing the number of dollars to the gallons of gas?

   c. What is the unit rate comparing the gallons of gas to the cost in dollars?

Additional Practice: Digital Assessments

Comparing Bits and Pieces

12. Which of the following is equivalent to the ratio 3 to 7? *Select all that apply.*

☐ $\frac{6}{14}$

☐ $\frac{7}{3}$

☐ 21:56

☐ $\frac{24}{56}$

☐ 60 for every 140

13. Mari works 25 hours and makes $200. Complete the rate table using the numbers on the tiles.

| 5 | 8 | 12 | 15 | 18 |

| 40 | 42 | 64 | $\frac{1}{5}$ | $\frac{1}{8}$ |

Hours	Pay ($)
1	8
5	
	120
25	200
	1

14. Circle the correct unit rate for each situation.

a. Sandi drives 420 miles in 7 hours.

$\begin{bmatrix} \frac{1}{16} \\ 55 \\ 60 \\ 2940 \end{bmatrix}$ miles per hour

b. Four bags of rice cost $7.20.

$\begin{bmatrix} \$0.80 \\ \$1.80 \\ \$3.60 \\ \$28.80 \end{bmatrix}$ per bag

c. Joe needs 0.25 hour to tie 3 decorative bows.

$\begin{bmatrix} \frac{1}{12} \\ \frac{1}{4} \\ 6 \\ 12 \end{bmatrix}$ bows per hour

Skill: Ratios and Rates

Write two ratios that are equivalent to the given ratio.

1. 1 : 3

2. 2 for every 5

3. 5 to 8

4. 4 for every 9

5. 35 for every 50

6. 90 : 180

7. 150 : 180

8. 56 to 84

9. 25 to 75

10. 42 : 126

Skill: Ratios and Rates (continued)

Find the unit rate for each situation.

11. Trisha drives 200 miles in 4 hours.

12. Cans of baked beans cost $2.40 for 3 cans.

13. Derek put 26 batteries into 13 smoke detectors.

14. Crystal spent $83.70 on 6 tickets to the theater.

15. Garrett needs 0.5 hour to install 4 new tires.

16. There are 630 calories in 6 bananas.

Name _____ Date _____ Class _____

Additional Practice

1. The diagram at the right is a hundredths grid. A
shaded hundredths grid represents the number 1.
Use the grid to answer each of the following questions
and write each answer in both decimal and fraction form.
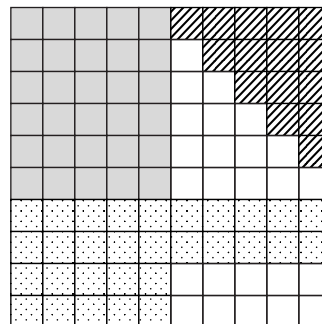
  a. What portion of the grid is shaded gray?

  b. What portion of the grid is striped?

  c. What portion of the grid is dotted?

  d. What portion of the grid is blank?

2. For each pair of numbers, insert a less-than symbol (<), a greater-than symbol
(>), or an equals symbol (=) between the numbers to make a true statement.

  a. 0.305   0.35   **b.** 0.123   0.1002

  c. 0.25   0.25000   **d.** 0.25   0.025

  e. 3.45   3.045   **f.** 12.03   12.30

Additional Practice *(continued)*

Comparing Bits and Pieces
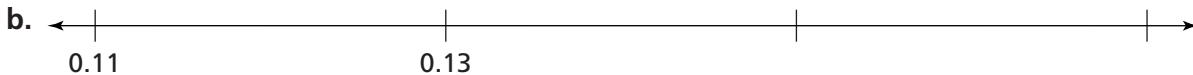
3. For each pair of numbers, insert a less-than symbol (<), greater-than symbol (>), or an equals symbol (=) between the numbers to make a true statement.

a. 2.5 $2\frac{2}{5}$

b. 0.65 $\frac{2}{3}$

c. 0.8 $\frac{4}{7}$

d. $\frac{5}{8}$ 0.625

e. 0.3 $\frac{3}{7}$

f. 2.1 $1\frac{9}{10}$

g. $\frac{11}{12}$ $\frac{11}{11}$

h. $\frac{3}{6}$ 0.5

i. 9 $8\frac{8}{10}$

4. In each number line, two of the marks are labeled. Label the unlabeled marks with decimal numbers.
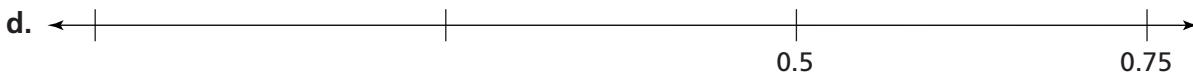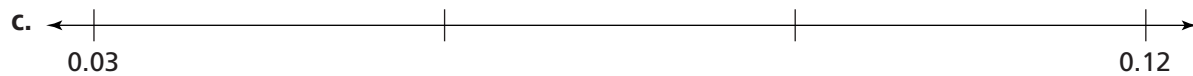
a.

0.3   0.6

b.

0.11   0.13

c.

0.03   0.12

d.

0.5   0.75

Additional Practice *(continued)*

5. Name three fractions that are equivalent to each decimal below.

    a. 0.60   **b.** 1.7   **c.** 0.05   **d.** 2.3   **e.** 0.15   **f.** 0.625

6. Name a decimal that is equivalent to each fraction below.

    a. $\frac{1}{2}$ **b.** $\frac{3}{15}$ **c.** $\frac{7}{4}$ **d.** $\frac{3}{8}$ **e.** $\frac{111}{20}$ **f.** $\frac{18}{24}$

7. Sarah can jog at a steady pace of 4.75 miles per hour, and Tony can jog at a steady pace of 4.25 miles per hour.

    a. How many miles can Sarah jog in 30 minutes? Explain your reasoning.

    b. How many miles can Tony jog in 30 minutes?

    c. If Sarah and Tony jog for 45 minutes, how much farther will Sarah go than Tony? Explain your reasoning.

Additional Practice *(continued)*

8. Each square on the grid represents $\frac{1}{5}$.
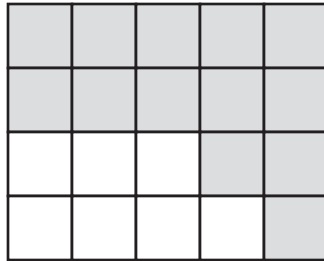
    a. What whole number is represented by the whole grid?

    b. What decimal is represented by the shaded region of the grid?

9. Each square on the grid represents 0.25.
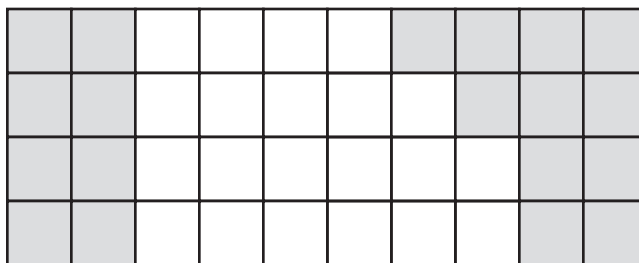
    a. What whole number is represented by the whole grid?

    b. What fraction is represented by the shaded region of the grid?

Additional Practice *(continued)*

10. Paul claims that the fraction $\frac{1}{3}$ is a good estimate for the decimal 0.3.

    a. Do you agree or disagree with Paul's claim? Explain your reasoning.

    b. Is Paul's estimate less than, greater than, or equal to 0.3? Explain your reasoning.

11. Locate and label the points representing $-\frac{1}{2}, 1\frac{1}{4}, -2\frac{3}{4}, \frac{5}{2}$.
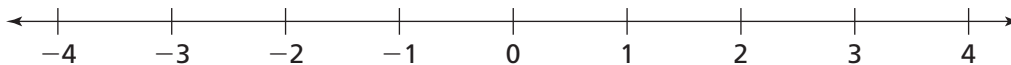
12. Explain what the negative number means in each situation.

    a. The elevation of a diver is $^-120$ meters.

    b. A business had an income of $^-\$1,200$ for one day.

    c. The temperature outside is $^-7°$ Fahrenheit.

    d. A song moved $^-6$ positions on the music chart.

Additional Practice *(continued)*

13. Find a rational number between each pair of numbers.

a. $\frac{1}{3}$ and $\frac{2}{5}$

b. $-\frac{3}{8}$ and $-\frac{3}{4}$

c. -0.4 and -0.6

d. 0.5 and 0.6

14. Find the absolute value of each number.

a. -0.2

b. 2.84

c. $\frac{1}{3}$

d. $-\frac{5}{6}$

15. Find the opposite of each number.

a. -3.4

b. $-\frac{3}{7}$

c. $\frac{5}{9}$

d. 0.6

16. Order each set of rational numbers from least to greatest.

a. $2.1, -0.3, 0.261, -2.56$

b. $\frac{4}{3}, \frac{1}{3}, -\frac{2}{3}, -3$

Additional Practice: Digital Assessments

17. Circle the correct symbols to make each statement true.

a. $0.48 \begin{bmatrix} < \\ > \\ = \end{bmatrix} 0.408$

b. $\dfrac{2}{7} \begin{bmatrix} < \\ > \\ = \end{bmatrix} 0.3$

c. $\dfrac{5}{6} \begin{bmatrix} < \\ > \\ = \end{bmatrix} \dfrac{5}{5}$

d. $0.78 \begin{bmatrix} < \\ > \\ = \end{bmatrix} 0.7800$

e. $1.26 \begin{bmatrix} < \\ > \\ = \end{bmatrix} 1.026$

18. Each grid represents 1. Below each grid, use the values from the tiles to write the fraction and decimal modeled by the shaded areas.

| 0.15 | 0.60 | 0.015 | 0.06 |

| $\dfrac{3}{5}$ | $\dfrac{3}{20}$ | $\dfrac{3}{25}$ | $\dfrac{3}{50}$ |
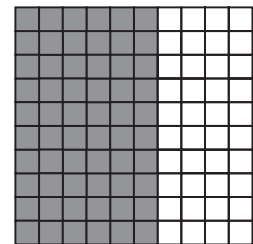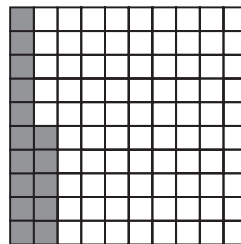
19. Shade and label the points listed below on the number line.

$1\dfrac{1}{4}, \ 0.25, \ -\dfrac{3}{2}, \ -1.75$
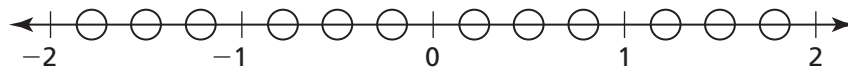
Skill: Fractions and Decimals

Each grid represents 1. What fraction and decimal are modeled by the shaded area?

1.   **2.**   **3.**
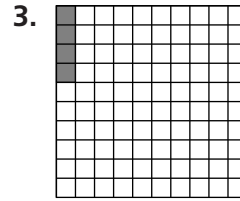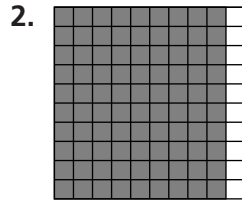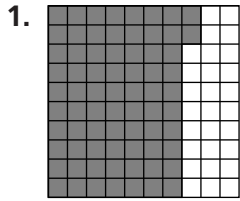
Write each decimal as a fraction.

  4. 0.6   **5.** 1.25   **6.** 0.74   **7.** 0.29

  8. 0.635   **9.** 0.8   **10.** 0.95   **11.** 0.645

Write each fraction as a decimal.

  12. $\frac{9}{100}$ **13.** $\frac{7}{25}$ **14.** $\frac{3}{50}$ **15.** $\frac{1}{125}$

Write each of the decimal numbers in words.

  16. 12.873

  17. 8.0552

  18. 0.00065

Skill: Comparing and Ordering Decimals

Insert <, >, or = in each box to make a true statement.

1. 0.62 ⬜ 0.618   **2.** 9.8 ⬜ 9.80   **3.** 1.006 ⬜ 1.02

4. −41.3 ⬜ −41.03   **5.** 2.01 ⬜ 2.011   **6.** −5.079 ⬜ −5.08

7. 15.8 ⬜ 15.800   **8.** 7.98 ⬜ 7.89   **9.** 5.693 ⬜ 5.299
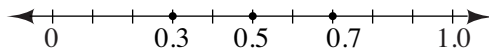
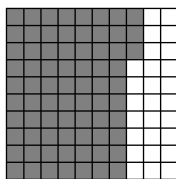**Order each set of decimals on a number line.**

10. 0.2, 0.6, 0.5   **11.** 0.26, 0.3, 0.5, 0.59, 0.7
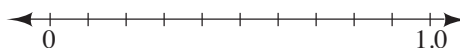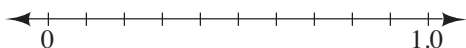
12. Three points are graphed on the number line below. Write statements comparing 0.3 to 0.5 and 0.5 to 0.7.

13. Models for three decimals are shown below.
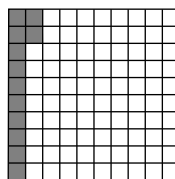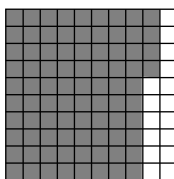
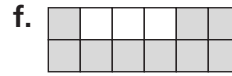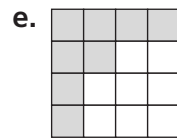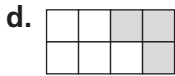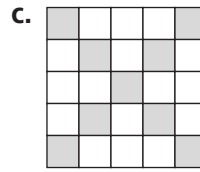**a.** Write decimal names that each shaded part represents.

b. Rewrite the decimals in order from least to greatest.

Additional Practice

1. For each of the grids given below, express the shaded region of the grid as a
   ratio, a fraction, and a percent.
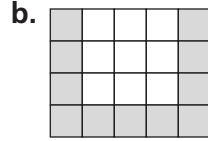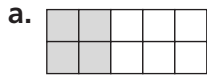
a.

b.

c.

d.

e.

f.

Additional Practice (continued)

2. Angie and Jim conducted a survey of their sixth-grade classmates in their mathematics class. They found out the following information:

- 70% of the students in the class do homework three or more nights each week.

- Of the students who do homework three or more nights each week, half do homework five nights each week.

a. What percentage of the students in the class do homework two nights or less each week? Explain your reasoning.

b. What fraction of the students in the class do homework five nights each week? Explain your reasoning.

c. What percentage of students in the class do homework three or four nights a week? Explain your reasoning.

d. From the information provided, can you tell how many students are in the class? Explain why or why not.

Additional Practice *(continued)*

3. In a class of 24 sixth-graders, 25% walk to school, $\frac{1}{8}$ ride bicycles to school, $\frac{1}{3}$ take the bus to school, and the remainder of the class are driven to school by their parents or guardians.

   a. How many students in the class walk to school? Explain your reasoning.

   b. How many students in the class ride bicycles to school? Explain your reasoning.

   c. How many students in the class take the bus to school?

   d. What is the ratio of students who are driven to class by their parent or guardian to students in the class?

   e. What percentage of the students in the class walk, ride bicycles or the bus, or are driven to school by a parent or guardian? Explain your reasoning.
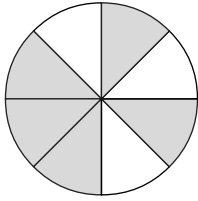
Additional Practice *(continued)*

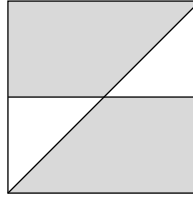**4.** Express the shaded region of each drawing as a fraction, a decimal, and as a percent.

a.

b.

c.
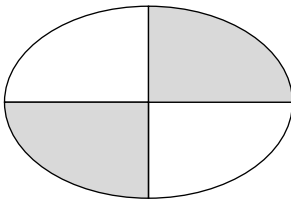
d.
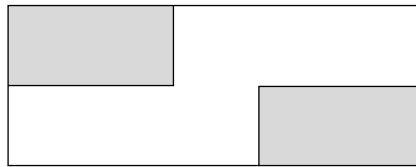
Additional Practice (continued)

5. In one competition, the archery team had to shoot at targets from three different distances: 10 m, 20 m, and 30 m. The number of hits and the number of shots for each distance are given below. Write their score for each round as a fraction, a decimal, and a percent.

  a. at 10 m: 42 hits out of 50 shots

  b. at 20 m: 37 hits out of 50 shots

  c. at 30 m: 18 hits out of 50 shots

6. Fill in the missing parts of the table.

Fraction	Decimal	Percent
$\frac{3}{8}$		
	0.88	
		35%
$1\frac{1}{4}$		
	0.625	
		275%

Additional Practice: Digital Assessments

7. Charlotte conducted a survey with her classmates about the number of pets in each household.

- 60% of the students in the class said they had 2 or more pets.
- Of the students who said they had 2 or more pets, one-third of them said they had 3 or more pets.

Circle the numbers that make each statement true.

a. The percentage of students in the class that have fewer than 2 pets is $\begin{bmatrix} 60\% \\ 40\% \\ 33\% \\ 20\% \end{bmatrix}$.

b. The fraction of the students in the class that have 3 or more pets is $\begin{bmatrix} \frac{1}{5} \\ \frac{1}{3} \\ \frac{1}{2} \end{bmatrix}$.

8. In a class of 30 students, 40% participate in a sports activity after school, $\frac{1}{3}$ participate in an arts-based activity after school, $\frac{1}{5}$ participate in a volunteer activity after school, and the remainder of the students do not participate in an after-school activity. Which of the following statements are true? *Select all that apply.*

☐ Eight students participate in a sports activity after school.

☐ Six students participate in a volunteer activity after school.

☐ More students participate in an arts-based activity than a volunteer activity after school.

☐ The fraction of the students that do not participate in an after-school activity is $\frac{1}{15}$.

☐ The ratio of students that participate in an arts-based activity to the students that participate in a volunteer activity is 3:5.
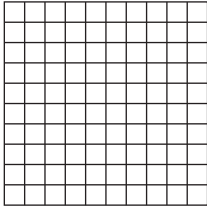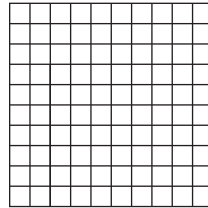
Skill: Percents

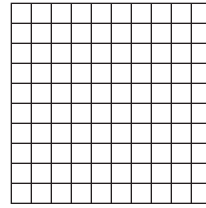**Shade each grid to represent each of the following percents.**
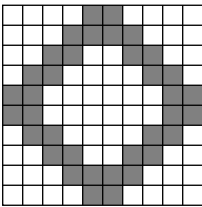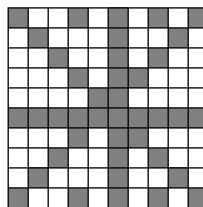
1. 53%

2. 23%

3. 71%

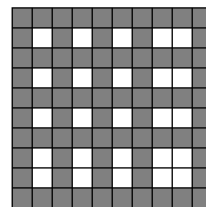**Write a percent for each shaded figure.**

4.

5.

6.

The table shows the fraction of students who participated in extracurricular activities from 1965 to 2000. For Exercises 7–14, complete the table by writing each fraction as a percent.

Students' Extracurricular Choices

Year	1965	1970	1975	1980	1985	1990	1995	2000
Student participation (fraction)	$\frac{3}{4}$	$\frac{8}{10}$	$\frac{17}{20}$	$\frac{39}{50}$	$\frac{21}{25}$	$\frac{19}{25}$	$\frac{87}{100}$	$\frac{9}{10}$
Student participation (percent)	**7.**	**8.**	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**

Write each fraction as a percent.

15. $\frac{4}{5}$

16. $\frac{3}{5}$

17. $\frac{9}{10}$

18. $\frac{3}{10}$

19. $\frac{6}{25}$

20. $\frac{7}{100}$

21. $\frac{9}{50}$

22. $\frac{9}{25}$

23. $\frac{2}{5}$

24. $\frac{7}{10}$

25. $\frac{4}{25}$

26. $\frac{16}{25}$

Skill: Percents, Fractions, and Decimals

Write each percent as a decimal and as a fraction.

1. 46%　　　　**2.** 17%　　　　**3.** 90%　　　　**4.** 5%

Write each decimal as a percent and as a fraction.

5. 0.02　　　　**6.** 0.45　　　　**7.** 0.4　　　　**8.** 0.92

Write each fraction as a decimal and as a percent.

9. $\frac{3}{5}$　　　　**10.** $\frac{7}{10}$　　　　**11.** $\frac{13}{25}$　　　　**12.** $\frac{17}{20}$

13. Write each fraction or decimal as a percent. Write the percent (without the percent sign) in the puzzle.

ACROSS	DOWN
1. $\frac{3}{5}$	**1.** $\frac{13}{20}$
2. $\frac{1}{5}$	**2.** 0.25
3. 0.55	**3.** $\frac{1}{2}$
5. 0.23	**4.** $\frac{3}{20}$
6. $\frac{7}{20}$	**5.** 0.24
7. 0.17	**6.** $\frac{3}{10}$
9. 0.4	**7.** 0.1
10. $\frac{9}{25}$	**8.** $\frac{4}{25}$