

Homework Practice**Rational Numbers**

Write each fraction or mixed number as a decimal.

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

2. $\frac{5}{8}$

3. $\frac{9}{20}$

4. $\frac{37}{50}$

5. $-\frac{11}{16}$

6. $-\frac{9}{32}$

7. $3\frac{1}{5}$

8. $4\frac{3}{8}$

9. $\frac{5}{33}$

10. $-\frac{7}{9}$

11. $-8\frac{11}{18}$

12. $-9\frac{11}{30}$

Write each decimal as a fraction or mixed number in simplest form.

13. -0.8

14. 0.44

15. -1.35

16. $0.\overline{8}$

17. $-1.\overline{5}$

18. $4.\overline{45}$

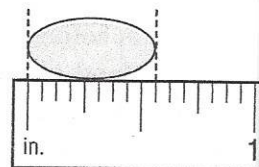
19. **POPULATION** Refer to the table at the right.

- Express the fraction for Asian as a decimal.
- Find the decimal equivalent for the fraction of the population that is African American.
- Write the fraction for Hispanic as a decimal.

Population of Florida by Race	
Race	Fraction of Total Population
Asian	$\frac{1}{50}$
African American	$\frac{4}{25}$
Hispanic	$\frac{1}{5}$

20. **MEASUREMENTS** Use the figure at the right.

- Write the width of the jellybean as a fraction.
- Write the width of the jellybean as a decimal.

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Problem-Solving Practice**Rational Numbers**

<p>1. ASTRONOMY The pull of gravity on the surface of Mars is 0.38 that of Earth. Write 0.38 as a fraction in simplest form.</p>	<p>2. ENERGY Nuclear power provided 78% of the energy used in France in 2005. Write 0.78 as a fraction in simplest form.</p>
<p>3. WEIGHTS AND MEASURES One pint is about $\frac{5}{9}$ liter. Write $\frac{5}{9}$ liter as a decimal.</p>	<p>4. WEIGHTS AND MEASURES One inch is 25.4 millimeters. Write 25.4 millimeters as a mixed number in simplest form.</p>
<p>5. EDUCATION A local middle school has 47 computers and 174 students. What is the number of students per computer at the school? Write your answer as both a mixed number in simplest form and a decimal rounded to the nearest tenth.</p>	<p>6. BASEBALL In one season, a baseball team won 84 out of 162 games. What was the ratio of wins to total games? Write your answer as both a fraction in simplest form and a decimal rounded to the nearest thousandth.</p>
<p>7. COLLEGES AND UNIVERSITIES Recently, a small college had an enrollment of 1,342 students and a total of 215 faculty. What was the student-faculty ratio for this college? Write your answer as both a mixed number in simplest form and a decimal rounded to the nearest hundredth.</p>	<p>8. BASKETBALL In the 2007–2008 season, Dwayne Wade made 439 field goals out of 937 attempts. What was Dwayne Wade’s ratio of successful field goals to attempts? Write your answer as both a fraction in simplest form and a decimal rounded to the nearest thousandth.</p>

Homework Practice**Add and Subtract Rational Numbers**

Add or subtract. Write in simplest form.

1. $-\frac{1}{4} + \frac{3}{4}$

2. $-\frac{3}{8} + \left(-\frac{1}{8}\right)$

3. $-\frac{8}{11} + \frac{10}{11}$

4. $-\frac{5}{7} - \frac{4}{7}$

5. $\frac{11}{12} - \frac{7}{12}$

6. $\frac{2}{15} - \left(-\frac{7}{15}\right)$

7. $4\frac{1}{5} + 6\frac{3}{4}$

8. $1\frac{7}{10} + \left(-5\frac{3}{5}\right)$

9. $7\frac{3}{5} - \left(-5\frac{1}{3}\right)$

10. $-3\frac{2}{3} - 4\frac{5}{9}$

11. $-4\frac{3}{5} - 5\frac{9}{10}$

12. $-18\frac{5}{12} + 14\frac{3}{4}$

13. **POPULATION** About $\frac{1}{5}$ of the world's population lives in China, and about $\frac{1}{6}$ of the world's population lives in India. What fraction of the world's population lives in other countries?

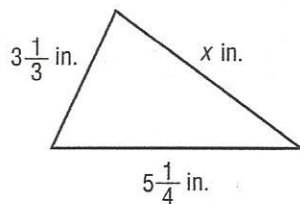
ALGEBRA Evaluate each expression for the given values.

14. $r + s$ if $r = 8\frac{4}{5}$ and $s = -3\frac{2}{5}$

15. $j - k$ if $j = -\frac{5}{9}$ and $k = 4\frac{5}{6}$

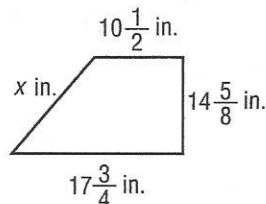
GEOMETRY Find the missing measure for each figure.

16.



perimeter = $12\frac{23}{24}$ in.

17.



perimeter = $59\frac{1}{4}$ in.

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Problem-Solving Practice**Add and Subtract Rational Numbers**

<p>1. MEASUREMENTS Tate fills a $13\frac{1}{3}$-ounce glass from a $21\frac{2}{3}$-ounce bottle of juice. How much juice is left in the bottle?</p>	<p>2. DECORATING Jeri has two posters. One is $4\frac{7}{10}$ feet wide and the other is $5\frac{1}{10}$ feet wide. Will the two posters fit beside each other on a wall that is 10 feet wide? Explain.</p>
<p>3. HUMAN BODY Tom's right foot measures $10\frac{2}{5}$ inches, while Randy's right foot measures $9\frac{4}{5}$ inches. How much longer is Tom's foot than Randy's foot?</p>	<p>4. COMPUTERS Trey has two data files on his computer that he is going to combine. One file is $1\frac{4}{9}$ megabytes, while the other file is $3\frac{8}{9}$ megabytes. What will be the size of the resulting file?</p>
<p>5. PETS Laura purchased two puppies from a litter. One of the puppies weighs $4\frac{5}{6}$ pounds and the other puppy weighs $5\frac{1}{2}$ pounds. How much more does the second puppy weigh than the first?</p>	<p>6. AGE Alma is $6\frac{3}{4}$ years old, while her brother David is $3\frac{5}{6}$ years old. What is the sum of the ages of Alma and David?</p>
<p>7. MEASUREMENT Ned pours $7\frac{2}{5}$ ounces of water from a beaker containing $10\frac{1}{4}$ ounces. How much water is left in the beaker?</p>	<p>8. GEOMETRY A triangle has sides of $1\frac{1}{6}$ yards, $1\frac{1}{3}$ yards, and $1\frac{2}{3}$ yards. What is the perimeter of the triangle?</p>

Homework Practice**Multiply Rational Numbers****Multiply. Write in simplest form.**

1. $\frac{1}{4} \cdot \frac{4}{5}$

2. $\frac{6}{7} \cdot \frac{1}{2}$

3. $\frac{3}{10} \cdot \frac{2}{3}$

4. $-\frac{15}{16} \cdot \frac{4}{5}$

5. $\left(-\frac{8}{25}\right) \frac{15}{16}$

6. $\left(-\frac{7}{8}\right)\left(-\frac{1}{7}\right)$

7. $1\frac{1}{4} \cdot \frac{1}{5}$

8. $1\frac{1}{4} \cdot 1\frac{1}{5}$

9. $-2\frac{2}{3} \cdot \left(-\frac{1}{4}\right)$

10. $\frac{1}{4} \cdot \left(-\frac{4}{15}\right) \cdot \frac{5}{7}$

11. $2\frac{2}{5} \cdot 2\frac{1}{3} \cdot 2$

12. $10 \cdot 8.56 \cdot \frac{1}{2}$

ALGEBRA Evaluate each expression if $a = -\frac{1}{5}$, $b = \frac{2}{3}$, $c = \frac{7}{8}$, and $d = -\frac{3}{4}$.

13. bc

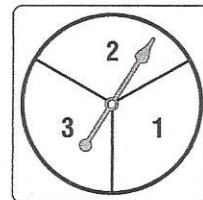
14. ab

15. abc

16. abd

17. **COOKING** A recipe calls for $2\frac{1}{4}$ cups of flour. How much flour would you need to make $\frac{1}{3}$ of the recipe?

18. **FARMING** A farmer has $6\frac{1}{2}$ acres of land for growing crops. If she plants corn on $\frac{3}{5}$ of the land, how many acres of corn will she have?

PROBABILITY The spinner at the right is spun and a number cube is rolled. Find each probability.19. $P(\text{spinning an odd number})$ 20. $P(\text{rolling a 2})$ 21. $P(\text{spinning an odd number and rolling a 2})$ 22. $P(\text{spinning a 2 or 3 and rolling a number greater than 4})$ 

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Problem-Solving Practice**Multiply Rational Numbers**

1. NUTRITION Maria's favorite granola bar has 230 Calories. The nutrition label states that $\frac{7}{8}$ of the Calories come from fat. How many Calories in the granola bar come from fat?

2. ELECTIONS In the last election, $\frac{3}{8}$ of the voters in Afton voted for the incumbent mayor. If 424 people voted in Afton in the last election, how many voted for the incumbent mayor?

3. HOBBIES Jerry is building a $\frac{1}{9}$ scale model of a race car. If the tires on the actual car are 33 inches in diameter, what is the diameter of the tires on the model?

4. COOKING Enola's recipe for cookies calls for $2\frac{1}{2}$ cups of flour. If she wants to make $\frac{3}{4}$ of a batch of cookies, how much flour should she use?

5. TRANSPORTATION Hana's car used $\frac{3}{4}$ of a tank of gas to cross Arizona. The gas tank on her car holds $15\frac{1}{2}$ gallons. How many gallons of gas did it take to cross Arizona?

6. GEOMETRY The area of a rectangle is found by multiplying its length times its width. What is the area of a rectangle with a length of $2\frac{1}{4}$ inches and a width of $1\frac{5}{9}$ inches?

7. MIDDLE SCHOOL Use the table and information below. There are 480 students enrolled in a middle school.

a. How many students are enrolled in English?

b. Are more students enrolled in math or science? Explain.

Class	Fraction of Students Enrolled
English	$\frac{7}{8}$
Math	$\frac{3}{4}$
Art	$\frac{1}{5}$
Science	$\frac{3}{5}$

Homework Practice

Divide Rational Numbers

Write the multiplicative inverse of each number.

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

2. $-\frac{7}{12}$

3. -20

4. $-5\frac{3}{8}$

Divide. Write in simplest form.

5. $\frac{1}{5} \div \frac{1}{4}$

6. $\frac{2}{5} \div \frac{5}{6}$

7. $\frac{3}{7} \div \frac{6}{11}$

8. $\frac{3}{10} \div \frac{4}{5}$

9. $\frac{3}{8} \div 6$

10. $\frac{6}{7} \div 3$

11. $\frac{4}{5} \div 10$

12. $\frac{6}{11} \div (-8)$

13. $-\frac{4}{5} \div \frac{5}{6}$

14. $\frac{5}{12} \div \left(-\frac{3}{5}\right)$

15. $-\frac{3}{10} \div \left(-\frac{2}{5}\right)$

16. $-\frac{13}{18} \div \left(-\frac{8}{9}\right)$

17. $4\frac{1}{5} \div 1\frac{3}{4}$

18. $8\frac{1}{3} \div 3\frac{3}{4}$

19. $-10\frac{1}{2} \div 2\frac{1}{3}$

20. **OFFICE SUPPLIES** A regular paper clip is $1\frac{1}{4}$ inches long, and a jumbo paper clip is $1\frac{7}{8}$ inches long. How many times longer is the jumbo paper clip than the regular paper clip?

21. **STORAGE** The ceiling in a storage unit is $7\frac{2}{3}$ feet high. How many boxes may be stacked in a single stack if each box is $\frac{3}{4}$ foot tall?

ALGEBRA Evaluate each expression for the given values.

22. $r \div s$ if $r = -\frac{7}{20}$ and $s = \frac{7}{15}$

23. $m \div n$ if $m = \frac{4}{9}$ and $n = \frac{11}{12}$



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Problem-Solving Practice

Divide Rational Numbers

1. CONTAINER GARDENING One bag of potting soil contains $8\frac{1}{4}$ quarts of soil. How many clay pots can be filled from one bag of potting soil if each pot holds $\frac{3}{4}$ quart?

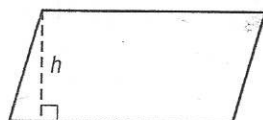
2. MUSIC Doug has a shelf $9\frac{3}{4}$ inches long for storing CDs. Each CD is $\frac{3}{8}$ inch wide. How many CDs will fit on one shelf?

3. SERVING SIZE A box of cereal contains $15\frac{3}{5}$ ounces of cereal. If a bowl holds $2\frac{2}{5}$ ounces of cereal, how many bowls of cereal are in one box?

4. HOME IMPROVEMENT Lori is building a path in her backyard using square paving stones that are $1\frac{3}{4}$ feet on each side. How many paving stones placed end-to-end are needed to make a path that is 21 feet long?

5. GEOMETRY Given the length of a rectangle and its area, you can find the width by dividing the area by the length. A rectangle has an area of $6\frac{2}{3}$ square inches and a length of $2\frac{1}{2}$ inches. What is the width of the rectangle?

6. GEOMETRY Given the length of the base b of a parallelogram and its area, you can find its height h by dividing the area by the base. The parallelogram shown has an area of $9\frac{9}{10}$ square inches. What is its height?



$$b = 4\frac{1}{2} \text{ in.}$$

7. HOBBIES Dena has a picture frame that is $13\frac{1}{2}$ inches wide. How many pictures that are $3\frac{3}{8}$ inches wide can be placed beside each other within the frame?

8. YARD WORK Leon is mowing his yard, which is $21\frac{2}{3}$ feet wide. His lawn mower makes a cut that is $1\frac{2}{3}$ feet wide on each pass. How many passes will Leon need to finish the lawn?