

LESSON 1: EXPLORE FRACTION DIVISION

EXERCISES

EXERCISES

1. Write three things you already know about fractions.
Share your work with a classmate.
Did your classmate understand what you wrote?
2. Write three things you already know about decimals.
Share your work with a classmate.
Compare what you wrote with what your classmate wrote.
3. Write your wonderings about fractions and decimals.
4. In the exercises for Lesson 1 of Unit 1: Rational Numbers, you were asked to respond to this prompt:
Based on your previous work in math, write three things that you will do during this unit to increase your success.
For example, consider ways you will participate in classroom discussions, your study habits, how you will organize your time, what you will do when you have a question, and so on.
Think about the three things you planned to do. If you can't recall, look back at what you wrote.
 - a. Did you do the things you planned? Why or why not?
 - b. Which of the three things most helped you to be successful in the previous unit?
 - c. Write one thing you will do differently or something you will do more of during this unit to increase your success.

LESSON 2: A FRACTION BY A WHOLE NUMBER

EXERCISES

EXERCISES

1. Divide. $\frac{3}{8} \div 4 = \underline{\hspace{2cm}}$

A $\frac{3}{2}$

B $\frac{32}{3}$

C $\frac{3}{32}$

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

2. Consider this division expression. $1\frac{1}{3} \div 5$

Which of these expressions represents an approach to solving the division expression?
There may be more than one correct expression.

A $1\frac{1}{3} \cdot 5$

B $\frac{20 \div 5}{15}$

C $\frac{4 \div 5}{3 \div 5}$

D $\left(1 \cdot \frac{1}{5}\right) + \left(\frac{1}{3} \cdot \frac{1}{5}\right)$

E $\frac{4}{3} \cdot \frac{1}{5}$

3. A pitcher contains $2\frac{5}{8}$ cups of lemonade. If Mia and her 2 cousins share the lemonade equally, how much lemonade will each person get?

Show your work.

4. A landscaper has $\frac{4}{5}$ ton of mulch. If she divides it evenly among 20 flower beds, how much mulch will she use for each bed?

Show your work.

LESSON 2: A FRACTION BY A WHOLE NUMBER

EXERCISES

5. Divide. $2\frac{1}{4} \div 3 = \underline{\hspace{2cm}}$

A $\frac{3}{4}$

B $\frac{27}{4}$

C $\frac{21}{4}$

D $2\frac{3}{4}$

6. Carlos is going to bake some banana muffins for his friend's birthday, but he wants to make only half of a batch. A full batch calls for $1\frac{3}{4}$ cups of flour.

Write a division expression that you could use to find the amount of flour in half a batch of banana muffins.

7. Carlos is going to bake some banana muffins for his friend's birthday, but he wants to make only half of a batch. A full batch calls for $1\frac{3}{4}$ cups of flour.
- Draw a diagram to help you find the solution to this division situation.
 - How much flour should Carlos use? Write your response as a complete sentence.
 - Check your solution using multiplication. Show your work.

8. Denzel is wrapping gifts to celebrate the holidays. He has $3\frac{1}{8}$ yards of ribbon left. He has 4 more gifts to wrap.

Write a division expression that you could use to find the amount of ribbon Denzel can use to wrap each of the 4 remaining gifts. Assume that he will use the same amount of ribbon for each gift.

9. Denzel is wrapping gifts to celebrate the holidays. He has $3\frac{1}{8}$ yards of ribbon left. He has 4 more gifts to wrap.
- Draw a diagram to help you find the solution to this division situation.
 - How much ribbon can he use per gift if each package requires the same amount of ribbon? Write your response as a complete sentence.
 - How can you use multiplication to solve this problem? Explain.

LESSON 2: A FRACTION BY A WHOLE NUMBER

EXERCISES

10. Emma is having a slumber party. She orders 2 pizzas, each cut into 12 equal slices. She has 5 friends over. Before anyone can start eating, she accidentally drops 1 slice, leaving $1\frac{11}{12}$ pizzas.

Write a division expression that you could use to find the amount of pizza each person will get. Assume each person receives an equal portion.

11. Emma is having a slumber party. She orders 2 pizzas, each cut into 12 equal slices. She has 5 friends over. Before anyone can start eating, she accidentally drops 1 slice, leaving $1\frac{11}{12}$ pizzas.
- How much of the pizza can Emma and each of her friends eat? Write your response as a complete sentence.
 - Your fractional answer is a fraction that is hard to describe. Using that amount, estimate about how much of the pizza each person will get.
 - How can you use multiplication to solve this problem? Explain.

Challenge Problem

12. Consider the fraction $\frac{3}{4}$ and the whole number 4. Use these amounts to write your own word problems based on real-world situations.
- Write a word problem that can be solved by finding $\frac{3}{4} \div 4$
 - Write another word problem that can be solved by finding $\frac{3}{4} \cdot 4$

LESSON 3: A WHOLE NUMBER BY A FRACTION

EXERCISES

EXERCISES

1. Divide. $9 \div \frac{1}{7} = \underline{\hspace{2cm}}$
 - (A) $\frac{9}{7}$
 - (B) 63
 - (C) $\frac{1}{63}$
 - (D) $\frac{64}{7}$

2. Divide. $5 \div 1\frac{1}{3} = \underline{\hspace{2cm}}$
 - (A) $\frac{20}{3}$
 - (B) $\frac{4}{15}$
 - (C) $\frac{19}{3}$
 - (D) $\frac{15}{4}$

3. An airplane flies 62 miles in $\frac{1}{4}$ hour. How many miles can the airplane travel in 1 hour?
In 1 hour, the plane can travel $\underline{\hspace{2cm}}$ miles.

4. A road construction company is hired to install signs every $\frac{2}{5}$ mile along a 22-mile-long stretch of road. How many signs will the company need?
The company will need $\underline{\hspace{2cm}}$ signs.

5. Consider this division expression. $6 \div \frac{2}{3}$.
 - a. Draw a model for the division.
 - b. Explain how your model represents this division.
 - c. Check your solution using multiplication.

LESSON 3: A WHOLE NUMBER BY A FRACTION

EXERCISES

6. Martin is hosting a party for his friend's birthday. He fills a punch bowl with 32 cups of juice. He provides glasses that hold $\frac{2}{3}$ cup each.
- Write a division expression that you could use to find the number of glasses that Martin can fill.
 - How many glasses can Martin fill? Write your response as a complete sentence.
 - Use multiplication to check your solution. Show your work.
7. For his friend's birthday, Martin fills a container with 32 cups of juice. At first, he planned to provide glasses that hold $\frac{2}{3}$ cup each. Then, he decides he needs bigger glasses. Martin purchases new glasses that hold $1\frac{1}{2}$ cups each.
- Write a division expression that you could use to find the number of bigger glasses that Martin can fill.
 - How many of the bigger glasses can Martin fill? Write your response as a complete sentence.
8. Emma and Mia decide to go on a 9-mile hike. Along the way, they plan to stop and rest every $1\frac{1}{2}$ miles.
- Write a division expression that you could use to find the number of times they will stop.
 - Draw a diagram to help you find the solution to this division situation.
 - How many times will Emma and Mia stop to rest during their hike? Write your response as a complete sentence.
9. During their 9 mile hike, Emma and Mia plan to stop and rest every $1\frac{1}{2}$ miles. Rework this division situation using multiplication. Explain your approach.
10. Emma and Mia planned to go on a 9 mile hike, stopping every $1\frac{1}{2}$ miles for a rest. Suppose they decide to take a longer hike: 9 miles each way for a total of 18 miles out and back.
- Write a division equation with a solution that gives the number of times they will stop during the 18 mile hike. (Assume they still stop every $1\frac{1}{2}$ miles.)
 - How many times will Emma and Mia stop to rest during the 18 mile hike? Write your response as a complete sentence.
 - How does your solution compare with your solution for how often they would stop during a 9 mile hike?

Challenge Problem

11. Let a be any positive integer.
Explain why $\frac{1}{5} \div a$ must be less than $a \div \frac{1}{5}$.

LESSON 4: A FRACTION BY A UNIT FRACTION

EXERCISES

EXERCISES

1. Divide. $\frac{3}{7} \div \frac{1}{4} = \underline{\hspace{2cm}}$

A $\frac{3}{28}$

B $\frac{12}{7}$

C $\frac{7}{12}$

D $\frac{21}{4}$

2. Divide. $\frac{5}{8} \div \frac{1}{6} = \underline{\hspace{2cm}}$

A $\frac{15}{4}$

B $\frac{4}{15}$

C $\frac{20}{3}$

D $\frac{5}{48}$

3. Divide. $3\frac{1}{8} \div \frac{1}{3} = \underline{\hspace{2cm}}$

A $\frac{13}{12}$

B $\frac{24}{25}$

C $\frac{75}{8}$

D $\frac{25}{24}$

LESSON 4: A FRACTION BY A UNIT FRACTION

EXERCISES

4. Divide. $\frac{7}{12} \div \frac{1}{10} = \underline{\hspace{2cm}}$

A $5\frac{5}{6}$

B $1\frac{5}{12}$

C $\frac{7}{120}$

D $\frac{7}{22}$

5. Denzel needs $2\frac{1}{2}$ cups of oats for a recipe. He only has a measuring cup that holds $\frac{1}{3}$ cup. How many times should he fill this measuring cup? Show your work.

6. How long will it take a giant tortoise moving $\frac{1}{4}$ kilometer per hour to cover a distance of $\frac{3}{20}$ kilometer? Show your work.

7. Use a model to explain why this equation is true.

$$\frac{4}{5} \div \frac{1}{2} = 1\frac{3}{5}$$

8. a. How many eighths are there in one whole—in other words, what is $1 \div \frac{1}{8}$?

b. Explain how you can use your solution to solve $\frac{3}{4} \div \frac{1}{8}$.

9. Write a word problem that can be solved by dividing a fraction or mixed number by a unit fraction. Include the solution to your problem.

Challenge Problem

10. Write the first six terms for each pattern. Compare the patterns and give the multiplication rule for each.

a. Begin with 1 and divide by 2 to find the next term. Write the first six terms for this pattern.

b. Begin with 1 and divide by $\frac{1}{2}$ to find the next term. Write the first six terms for this pattern.

c. Compare the two patterns and give the multiplication rule for each.

LESSON 5: A FRACTION BY A FRACTION

EXERCISES

EXERCISES

1. Divide. $\frac{8}{9} \div \frac{5}{3} = \underline{\hspace{2cm}}$

A $\frac{40}{27}$

B $\frac{8}{5}$

C $\frac{11}{14}$

D $\frac{8}{15}$

2. Divide. $\frac{2}{5} \div \frac{3}{5} = \underline{\hspace{2cm}}$

A $\frac{6}{25}$

B $\frac{3}{2}$

C $\frac{1}{5}$

D $\frac{2}{3}$

3. Jason makes stuffed bears that he sells online. He uses $\frac{2}{3}$ yard of fabric for each animal. How many bears can he make with $5\frac{1}{3}$ yards of fabric?

Jason can make _____ bears.

4. Jan feeds her dog $1\frac{3}{4}$ cups of dog food each day. How many more days will her bag of dog food last if there are $12\frac{1}{4}$ cups of food left?

Jan's bag of dog food will last _____ more days.

LESSON 5: A FRACTION BY A FRACTION

EXERCISES

5. Divide. $\frac{3}{4} \div \frac{4}{10} = \underline{\hspace{2cm}}$

(A) $1\frac{7}{8}$

(B) $\frac{3}{10}$

(C) $3\frac{1}{3}$

(D) $\frac{7}{20}$

6. Divide. $2\frac{2}{3} \div \frac{5}{6} = \underline{\hspace{2cm}}$

(A) $2\frac{2}{9}$

(B) 3

(C) $3\frac{1}{5}$

(D) $\frac{5}{16}$

7. Divide. $4\frac{3}{8} \div 1\frac{2}{3} = \underline{\hspace{2cm}}$

(A) $2\frac{5}{8}$

(B) $\frac{7}{8}$

(C) $\frac{8}{21}$

(D) $\frac{7}{21}$

8. Explain why this equation is true.

$$\frac{5}{7} \div \frac{2}{7} = 5 \div 2$$

Use a model if you find it to be helpful.

9. Write a word problem that can be solved by finding $4\frac{1}{2} \div \frac{3}{4}$. Include the solution to your word problem.

LESSON 5: A FRACTION BY A FRACTION

EXERCISES

10. Look at these two division expressions.

$$6\frac{7}{8} \div \frac{1}{5} \qquad 6\frac{7}{8} \div \frac{1}{3}$$

Explain how you can tell which solution will be greater without actually solving the problems. Then, check your conjecture by solving both problems.

11. Emma and Carlos are solving this word problem.

How many $\frac{5}{8}$ cup servings are in $3\frac{1}{2}$ cups of oatmeal?

Emma argues that you can solve this problem by dividing $\frac{7}{2}$ by $\frac{5}{8}$.

Carlos argues that you can solve this problem by multiplying $\frac{5}{8}$ by $\frac{7}{2}$.

- Who is correct? Explain.
- Find the solution.

Challenge Problem

12. Show that the result of dividing 1 by any fraction $\frac{a}{b}$ is always the reciprocal of $\frac{a}{b}$.

LESSON 6: SOLVING WORD PROBLEMS

EXERCISES

EXERCISES

- Which of these situations can be solved by calculating $\frac{1}{2} \div \frac{1}{4}$? There may be more than one correct situation.
 - The length of $\frac{1}{4}$ of a $\frac{1}{2}$ mile track
 - The width of a rectangle with an area of $\frac{1}{2}$ square centimeter and a length of $\frac{1}{4}$ centimeter
 - The number of 15 minute intervals in $\frac{1}{2}$ hour
 - The number of $\frac{1}{4}$ inch segments that a 0.5 inch long ribbon can be cut into
 - The number of quarters in \$0.50
- Jason and his sister collect pennants (flags) of their favorite baseball teams. Jason has 8 baseball pennants. He has $\frac{2}{3}$ as many pennants as his sister. How many pennants does Jason's sister have?
Jason's sister has _____ pennants.
- Emma likes to run on a path surrounding a nearby park. Today she went around the path $5\frac{1}{2}$ times, running a total of $6\frac{3}{5}$ miles. How long is the path? Show your work.
- Carlos is making sourdough bread. The recipe calls for 4 tablespoons of butter. Carlos can only find the measuring spoon that measures 1 teaspoon. (There are 3 teaspoons in 1 tablespoon.) How many teaspoons of butter should Carlos use?
_____ teaspoons
- Emma is filling a kiddie pool that holds $42\frac{1}{2}$ gallons. She is using a bucket that holds $1\frac{3}{4}$ gallons of water. How many buckets will Emma need to fill the pool?
- How wide is a rectangular strip of land with a length of $\frac{1}{4}$ mile and an area of $\frac{3}{4}$ square mile?
_____ miles

LESSON 6: SOLVING WORD PROBLEMS

EXERCISES

7. Denzel and his father are driving from Des Moines, Iowa to Boston, Massachusetts, to visit a family friend. They travel at a steady pace of $63\frac{1}{2}$ miles per hour for exactly $4\frac{7}{12}$ hours.
- Write a multiplication equation that can be used to calculate the distance they drove during this period of time. Solve the equation.
 - Use your solution to part a to restate the word problem as a division problem.
8. Mia's backyard is the shape of a rectangle. It has a total area of $236\frac{8}{9}$ square yards. It is $17\frac{1}{3}$ yards long.
- Write a division equation that can be used to calculate the width of Mia's backyard. Solve the equation.
 - Use your solution to part a to restate the question as a multiplication problem.
9.
 - Write a word problem that can be solved by dividing a fraction by a fraction. Solve the problem.
 - Create a new word problem that uses the solution from part a. However, use this solution in a problem that uses multiplication instead of division. Solve the problem.

Challenge Problem

10. Unit fractions with denominators that are consecutive numbers are called consecutive unit fractions. $\frac{1}{2}$ and $\frac{1}{3}$ are an example of consecutive unit fractions, as are $\frac{1}{99}$ and $\frac{1}{100}$.
- Solve. $\frac{1}{2} - \frac{1}{3}$ and $\frac{1}{2} \cdot \frac{1}{3}$.
 - Solve. $\frac{1}{3} - \frac{1}{4}$ and $\frac{1}{3} \cdot \frac{1}{4}$.
 - Solve. $\frac{1}{4} - \frac{1}{5}$ and $\frac{1}{4} \cdot \frac{1}{5}$.
 - Use your results from parts a–c to make a conjecture about the difference and product of consecutive unit fractions. Test your conjecture for at least two other cases.

LESSON 8: DIVIDING WHOLE NUMBERS

EXERCISES

EXERCISES

- A group of 5 friends spent the summer doing yard work. They divided the money they made equally. How much did each friend get if the group made a total of \$2,476?

Each friend earned \$_____.
- There will be 336 sixth graders attending Malone Middle School next fall. School administrators plan to divide the students into homeroom classrooms of 28 students each. How many homeroom classes will there be?

There will be _____ homeroom classes.
- Select the appropriate sign ($<$, $=$, $>$) for this pair of expressions.

$$42 \div 300 \text{ _____ } 0.2$$
- A soccer coach went to the sporting goods store with \$395. He bought as many soccer balls as he could for \$17 each. How many soccer balls did he buy?

He bought _____ soccer balls.
- Jason is buying cases to hold his baseball card collection. Each case holds 48 cards. How many cases will he need if he has 363 baseball cards?

He will need _____ cases.
- Divide. $4,848 \div 1,515 = \text{_____}$
- Which of these numbers shows a valid way of expressing the solution to $34 \div 8$? There may be more than one correct number.

A 4.4

B $\frac{17}{4}$

C 4.25

D 4 R4

E $4\frac{1}{4}$

LESSON 8: DIVIDING WHOLE NUMBERS

EXERCISES

8. Write the solution to $381 \div 9$ in these ways.
 - a. A whole number with a remainder
 - b. A fraction
 - c. A mixed number
 - d. A decimal

9. Write two word problems that require calculating $650 \div 15$. Write one with a solution of 43, and write the other one with a solution of 44.

10. Carlos is printing copies of a 72-page play. He has a package of 500 sheets of paper. He wants to print as many copies as he can.
 - a. How many copies will he be able to print? How many sheets of paper will he have left over?
 - b. How many sheets of paper will he need to borrow if he needs to print exactly 9 copies? Show your work.

Challenge Problem

11. The context of a real-world situation helps you decide the way the solution to a long division problem should be written: as a whole number, a decimal, a fraction, or a mixed number. When the context indicates a whole number solution should be used, the context also helps you decide whether to drop the remainder, to round up, or to use the remainder itself as the solution.
 - a. Write a word problem involving division of two large whole numbers in which the context indicates the solution should be a decimal. Include the solution to your word problem.
 - b. Create a new word problem that uses the same values in part a. However, use those values in a problem in which the context indicates the solution should be written in a different way (not as a decimal). Explain how the solution should be written and why.

LESSON 9: REVIEW DECIMAL OPERATIONS

EXERCISES

EXERCISES

1. Solve this problem using mental math. $0.8 \cdot 0.4 =$ _____
2. Divide. $0.15 \div 30 =$ _____
 - A 0.005
 - B 0.05
 - C 0.5
 - D 5
3. Solve. $0.12 \times 1.2 =$ _____
4. Solve. $4.8 \div 6 =$ _____
5. Jan's garden is 2.6 meters long and 0.8 meters wide. What is the area of her garden?
 - a. Draw a diagram to represent the situation.
 - b. Find the area of Jan's garden.
6. Jason wants to create chartreuse paint by mixing 2.6 gallons of green paint with 0.8 gallons of yellow paint. How much chartreuse paint can he make?
 - a. Draw a diagram to represent the situation.
 - b. Find the amount of chartreuse paint he can make.
7. Emma has \$2.60 in her pocket, and Denzel has \$0.80 in his wallet. How much more money does Emma have than Denzel?
8. Martin needs 0.8 ton of gravel to cover his driveway. How many driveways of the same size can he cover with 2.6 tons of gravel?
9. Select the appropriate sign ($<$, $=$, $>$) for these two expressions.

$$900 \div 0.3 \quad \underline{\hspace{1cm}} \quad 900 \div 0.2$$

Challenge Problem

10. Suppose $a \div b = c$.
 - a. How does the value of c change if a is multiplied by 10?
 - b. How does the value of c change if b is multiplied by 10?
 - c. How does the value of c change if a is divided by 10?
 - d. How does the value of c change if b is divided by 10?

LESSON 10: MULTIDIGIT DECIMALS

EXERCISES

EXERCISES

1. Rewrite the product with the decimal point in the correct location.

$$\begin{array}{r} 4.2 \\ \times 35 \\ \hline 1470 \end{array}$$

2. Rewrite the quotient with the decimal point in the correct location.

$$\begin{array}{r} 392 \\ 65 \overline{)25.48} \end{array}$$

3. Rewrite the quotient with the decimal point in the correct location.

$$\begin{array}{r} 47 \\ 101.2 \overline{)475.65} \end{array}$$

4. Rewrite the product with the decimal point in the correct location.

$$\begin{array}{r} 7.44 \\ \times 65 \\ \hline 48360 \end{array}$$

5. Multiply. $0.42 \cdot 5.61 =$ _____

- A 0.023562
- B 0.23562
- C 2.3562
- D 23.562

6. Add. $6.017 + 348.99 =$ _____

- A 3,550.07
- B 355.007
- C 35.5007
- D 3.55007

LESSON 10: MULTIDIGIT DECIMALS

EXERCISES

7. Subtract. $592.6 - 11.11 = \underline{\hspace{2cm}}$

- A** 581.49
- B** 481.5
- C** 58.149
- D** 4.815

8. Denzel bought suntan lotion, a towel, and two other items for his trip to the beach. What other items did he buy if he spent a total of \$47.44? Explain how you know.

Item	Price
Suntan Lotion	\$7.95
Bottled Water	\$1.29
Flip-flops	\$8.47
Towel	\$16.75
Beach Ball	\$2.79
Fruit Bar	\$0.88
Sunglasses	\$19.95

9. Jan bought a pair of sunglasses for her trip to the beach. She also bought fruit bars to share with her friends.

Item	Price
Suntan Lotion	\$7.95
Bottled Water	\$1.29
Flip-flops	\$8.47
Towel	\$16.75
Beach Ball	\$2.79
Fruit Bar	\$0.88
Sunglasses	\$19.95

- a. How many fruit bars did she buy if she spent a total of \$26.11? Explain.
- b. How much change did she get if she gave \$30 to the cashier?

LESSON 10: MULTIDIGIT DECIMALS

EXERCISES

10. Mia has \$22 to spend on bottled water for herself and all her friends.

Item	Price
Suntan Lotion	\$7.95
Bottled Water	\$1.29
Flip-flops	\$8.47
Towel	\$16.75
Beach Ball	\$2.79
Fruit Bar	\$0.88
Sunglasses	\$19.95

- How many bottles of water can Mia buy?
- How much more money would Mia have to borrow if she wanted to buy 25 bottles of water?

Challenge Problem

11. The state of California charges a sales tax of 7.5%. That is, if you buy something in California, 7.5% of your purchase value is added to find the total cost.
- Find a formula for determining the cost of an item including sales tax.
 - Pick an item from the table. Calculate its cost including tax.

Item	Price	Cost Including Tax
Suntan Lotion	\$7.95	
Bottled Water	\$1.29	
Flip-flops	\$8.47	
Towel	\$16.75	
Beach Ball	\$2.79	
Fruit Bar	\$0.88	
Sunglasses	\$19.95	

LESSON 11: REASONING ABOUT OPERATIONS

EXERCISES

EXERCISES

1. Select the appropriate sign (<, =, >) for these two expressions.

$$3.5 \times 17 \text{ _____ } 17$$

2. Select the appropriate sign (<, =, >) for these two expressions.

$$\frac{7}{9} \cdot \frac{1}{12} \text{ _____ } \frac{7}{9} \div \frac{1}{12}$$

3. Select the appropriate sign (<, =, >) for these two expressions.

$$5 \div 0.9 \text{ _____ } 5$$

4. Select the appropriate sign (<, =, >) for these two expressions.

$$\frac{3}{4} \div 1\frac{2}{7} \text{ _____ } \frac{3}{4}$$

5. Select the appropriate sign (<, =, >) for these two expressions.

$$4 \div \frac{3}{5} \text{ _____ } 4 \cdot \frac{3}{5}$$

6. Select the appropriate sign (<, =, >) for these two expressions.

$$0.63 \div 1.07 \text{ _____ } 0.63 \cdot 1.07$$

7. Describe a real-world situation in which multiplying does not give a larger result than the first factor.
8. Describe a real-world situation in which dividing does not give a smaller result than the dividend.
9. A box of crisped-rice cereal contains 10 cups of cereal. One serving is $1\frac{1}{4}$ cups.
- Without doing any calculations, determine whether there are more than or fewer than 10 servings per box.
 - How many servings are there per box?
10. The distance from Emma's home to her school is $\frac{7}{8}$ mile. Emma walks this distance 10 times per week.
- Without doing any calculations, determine whether Emma walks more than or fewer than 10 miles to and from school each week. Explain how you know.
 - How far does Emma walk per week?

LESSON 11: REASONING ABOUT OPERATIONS

EXERCISES

Challenge Problem

11. Consider a multiplication situation $a \times b = c$ and how the location of decimals in the two multiplicands affects the product.

Create a table to help you investigate the following situations.

- a. Name two numbers with a product, c , that is greater than both numbers a and b .
- b. Adjust the decimal point location in one or both of the numbers from part a so that the product, c , is less than both numbers a and b .
- c. Adjust the decimal point location in one or both of the numbers from part a so that the product, c , is between the two numbers a and b .

LESSON 12: PUTTING IT TOGETHER

EXERCISES

EXERCISES

1. Read your notes and think about your work in this unit.

Write down three things about fractions and decimals you have learned.

Share your work with a classmate.

Does your classmate understand what you wrote?

2. Read your work on the Self Check task.

What would you do differently if you were starting the Self Check task now?

3. Consider the different methods you explored in this unit for dividing fractions.

Create a graphic organizer to show your favorite methods (include at least two different methods). Organize your visual in a way that will allow you to use it as a reference throughout the rest of the school year.

Use a chart similar to the one shown.

Word or Phrase	Examples
Bar model	
Multiply by the reciprocal fraction	
Convert fractions to common denominators	

4. In this unit, you learned about using the four operations (i.e., division, multiplication, subtraction, and addition) in situations with decimals and with fractions.

You had to decide which operation made sense in the context of a word problem or situation.

Explain a strategy or method you like to use to double-check your work and ensure you have not made a mistake in your reasoning about which operation to use.

Share your work with a classmate.

Does your classmate agree with what you wrote?

5. Complete any exercises from this unit that you have not finished.