

Name \_\_\_\_\_

Period \_\_\_\_\_

### Unit 4 Dividing Fractions Week of 2/3/20

Learning Targets from 6<sup>th</sup> Grade Common Core State Standards:

Lesson 8 How much in each group? (Part 1)

- I can tell when a question is asking for the amount in one group.
- I can use diagrams and multiplication and division equations to represent and answer "how much in each group?" questions.

Lesson 9 How much in each group? (Part 2)

- I can find the amount in one group in different real-world situations.

Lesson 10 Dividing by Unit and Non-Unit Fractions

- I can divide a number by a unit fraction  $1/b$  by reasoning with the denominator, which is a whole number.
- I can divide a number by a non-unit fraction  $a/b$  by reasoning with the numerator and denominator, which are whole numbers.

This Week's Vocabulary Words:

multiplication    division                  quotient                  divisor                  group                  tape diagram

Homework is due the following day.

Day	Class work—All in Spiral using iPad	Homework	Complete	Correct
Monday	Wrap up Lesson 8 How much in each group? (Part 1) PDF page 29	Pages 1 & 2: Lesson 8 Practice Problems—All	/4	/14
Tuesday	Lesson 9 How much in each group? (Part 2) PDF page 36	Pages 3 & 4: Lesson 9 Practice Problems--All	/4	/19
Wednesday	Lesson on using the "Giant One" for equivalent fractions—in Notability/spiral	Page 5: Equivalent Fractions Practice Problems--All	/4	/6
Thursday	Lesson 10 Dividing by unit and non-unit fractions PDF page 41	Pages 6 & 7: Lesson 10 Practice Problems--All	/4	/20
Friday	MAPS Mid-year assessment Math and Reading with 1 <sup>st</sup> period classes	None		
		Total	/16	
		Quality	/4	
		Total	/20	

Homework Quality—Remember, if you don't know how to complete a problem you should read it again and write down the information you have, draw a picture, or write a question you have, please do not leave blank or write "?" or idk. You can also come in and get help before school 😊!

- Work is **thorough** with **detailed** explanations (2 pts)
- Homework is corrected (with additions needed) in a different color pen/pencil (2 pts)

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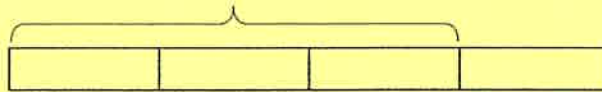
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Unit 4, Lesson 8

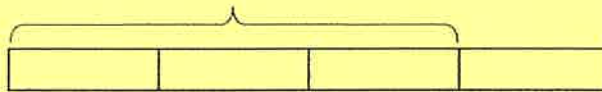
14 Practice Problems

1. For each scenario, use the given tape diagram to help you answer the question. Mark up and label the diagrams as needed.

- a. Mai has picked 1 cup of strawberries for a cake, which is enough for  $\frac{3}{4}$  of the cake. How many cups does she need for the whole cake?



- b. Priya has picked  $1\frac{1}{2}$  cups of raspberries, which is enough for  $\frac{3}{4}$  of a cake. How many cups does she need for the whole cake?

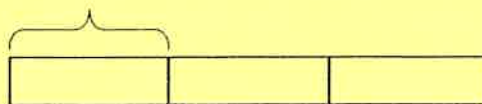


2. Tyler painted  $\frac{9}{2}$  square yards of wall area with 3 gallons of paint. How many gallons of paint does it take to paint each square yard of wall?

- a. Write multiplication and division equations to represent the situation.  
 b. Draw a diagram to represent the situation and to answer the question.

3. After walking  $\frac{1}{4}$  mile from home, Han is  $\frac{1}{3}$  of his way to school. What is the distance between his home and school?

- a. Write multiplication and division equations to represent this situation.  
 b. Use the given diagram to help you answer the question. Mark up and label it as needed.





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4. Here is a division equation:  $\frac{4}{5} \div \frac{2}{3} = ?$

- a. Write a multiplication equation that corresponds to the division equation.  
b. Draw a diagram to represent and answer the question.

2

5. A set of books that are each 1.5 inches wide are being organized on a bookshelf that is 36 inches wide. How many books can fit on the shelf?

- a. Write a multiplication equation and a division equation to represent this question.  
b. Find the answer. Draw a diagram, if needed.  
c. Use the multiplication equation to check your answer.

3

6. a. Without calculating, order the expressions based on their values, from smallest to largest.

$56 \div 8$

$56 \div 8,000,000$

$56 \div 0.000008$

b. Explain how you decided the order of the three expressions.

c. Find a number  $n$  so that  $56 \div n$  is greater than 1 but less than 7.

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## Unit 4, Lesson 9

**Practice Problems**

1. A group of friends is sharing  $2\frac{1}{2}$  pounds of berries.
- a. If each friend received  $\frac{5}{4}$  of a pound of berries, how many friends are sharing the berries?
- b. If 5 friends are sharing the berries, how many pounds of berries does each friend receive?

2.  $\frac{2}{5}$  kilogram of soil fills  $\frac{1}{3}$  of a container. Can 1 kilogram of soil fit in the container? Explain or show your reasoning.

3. After raining for  $\frac{3}{4}$  of an hour, a rain gauge is  $\frac{2}{5}$  filled. If it continues to rain at that rate for 15 more minutes, what fraction of the rain gauge will be filled?

- a. To help answer this question, Diego wrote the division equation  $\frac{3}{4} \div \frac{2}{5} = ?$ . Explain why this equation does *not* represent the situation.
- b. Write a multiplication equation and a division equation that does represent the situation.



“Rain Gauge” by Bidgee via [Wikimedia Commons](#). CC BY 3.0.



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4. 3 tickets to the museum cost \$12.75. At this rate, what is the cost of:

2  
a. 1 ticket?

b. 5 tickets?

5. Elena went 60 meters in 15 seconds. Noah went 50 meters in 10 seconds. Elena and Noah both moved at a constant speed.

3  
a. How far did Elena go in 1 second?

b. How far did Noah go in 1 second?

c. Who went faster? Explain or show your reasoning.

9  
6. The first row in the table shows a recipe for 1 batch of trail mix. Complete the remaining rows with recipes for 2, 3, and 4 batches of the same type of trail mix.

number of batches	cups of cereal	cups of almonds	cups of raisins
1	2	$\frac{1}{3}$	$\frac{1}{4}$
2			
3			
4			

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## EQUIVALENT FRACTIONS

3.1.1

Fractions that name the same value are called equivalent fractions, such as  $\frac{2}{3} = \frac{6}{9}$ . One method for finding equivalent fractions is to use the Multiplicative Identity (Identity Property of Multiplication), that is, multiplying the given fraction by a form of the number 1 such as  $\frac{2}{2}$ ,  $\frac{5}{5}$ , etc. In this course we call these fractions a "Giant One." Multiplying by 1 does not change the value of a number.

For additional information, see the Math Notes box in Lesson 3.1.1 of the *Core Connections, Course 1* text.

### Example 1

Find three equivalent fractions for  $\frac{1}{2}$ .

$$\frac{1}{2} \cdot \frac{2}{2} = \frac{2}{4}$$

$$\frac{1}{2} \cdot \frac{3}{3} = \frac{3}{6}$$

$$\frac{1}{2} \cdot \frac{4}{4} = \frac{4}{8}$$

### Example 2

Use the Giant One to find an equivalent fraction to  $\frac{7}{12}$  using 96ths:  $\frac{7}{12} \cdot \frac{\quad}{\quad} = \frac{7}{96}$

Which Giant One do you use?

Since  $\frac{96}{12} = 8$ , the Giant One is  $\frac{8}{8}$ :  $\frac{7}{12} \cdot \frac{8}{8} = \frac{56}{96}$

### Problems

Use the Giant One to find the specified equivalent fraction. Your answer should include the Giant One you use and the equivalent numerator.

1.  $\frac{4}{3} \cdot \frac{\quad}{\quad} = \frac{2}{15}$

2.  $\frac{5}{9} \cdot \frac{\quad}{\quad} = \frac{2}{36}$

3.  $\frac{9}{2} \cdot \frac{\quad}{\quad} = \frac{2}{38}$

4.  $\frac{3}{7} \cdot \frac{\quad}{\quad} = \frac{2}{28}$

5.  $\frac{5}{3} \cdot \frac{\quad}{\quad} = \frac{2}{18}$

6.  $\frac{6}{5} \cdot \frac{\quad}{\quad} = \frac{2}{15}$

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## Unit 4, Lesson 10

**Practice Problems**

1. Priya is sharing 24 apples equally with some friends. She uses division to determine how many people can have a share if each person gets a particular number of apples. For example,  $24 \div 4 = 6$  means that if each person gets 4 apples, 6 people can have apples. Here are some other calculations:

$24 \div 4 = 6$

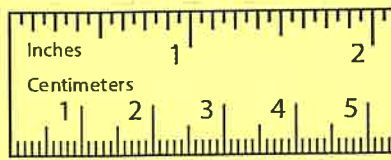
$24 \div 2 = 12$

$24 \div 1 = 24$

$24 \div \frac{1}{2} = ?$

- a. Priya thinks the “?” represents a number less than 24. Do you agree? Explain or show your reasoning.
- b. In the case of  $24 \div \frac{1}{2} = ?$ , how many people can have apples?

2. Here is a centimeter ruler.



- a. Use the ruler to find  $1 \div \frac{1}{10}$  and  $4 \div \frac{1}{10}$ .

- b. What calculation did you do each time?

- c. Use your work from the first part to find each quotient.

i.  $18 \div \frac{1}{10}$

ii.  $4 \div \frac{2}{10}$

iii.  $4 \div \frac{8}{10}$

3. Find each quotient.

a.  $5 \div \frac{1}{10}$

b.  $5 \div \frac{3}{10}$

c.  $5 \div \frac{9}{10}$

4. Use the fact that  $2\frac{1}{2} \div \frac{1}{8} = 20$  to find  $2\frac{1}{2} \div \frac{5}{8}$ . Explain or show your reasoning.



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5. It takes one week for a crew of workers to pave  $\frac{3}{5}$  kilometer of a road. At that rate, how long will it take to pave 1 kilometer?

3

Write a multiplication equation and a division equation that represent the question and then answer the question. Show your reasoning.

6. A box contains  $1\frac{3}{4}$  pounds of pancake mix. Jada used  $\frac{7}{8}$  pound for a recipe. What fraction of the pancake mix in the box did she use? Explain or show your reasoning. Draw a diagram, if needed.

1

7. Calculate each percentage mentally.

5

a. 25% of 400

c. 75% of 200

e. 5% of 20

b. 50% of 90

d. 10% of 8,000