

6TH GRADE MATH

Unit 2

Dividing Fractions

Date:

Extra! Extra! Read all about it!

Are you wondering how you can get some extra credit? If so, here is how. We are going to start Unit 2 (Dividing Fractions). Here is a list of IXL topics, for every topic you complete you will earn some extra credit. Here are the possible points you can earn on each topic. The extra credit will be due by _____.

Smart Score on IXL

- 100% - 5 extra points
- 95% - 4 extra points
- 90% - 3 extra points
- 85% - 2 extra points
- 80% - 1 extra point

Unit 2 Topics – You can earn up to 45 extra credit points! You got this 😊

(REVIEW) → 5.NF.B.6 Solve real-world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem.

1. Multiply fractions by whole numbers: word problems (5-M.13)
2. Multiply two fractions: word problems (5-M.21)
3. Multiplication with mixed numbers: word problems (5-M.36)
4. Multiply fractions and mixed numbers in recipes (5-M.37)

6.NS.A.1 Interpret and compute quotients of fractions, and solve contextual problems involving division of fractions by fractions (e.g., using visual fraction models and equations to represent the problem is suggested).

5. Reciprocals (6-L.2)
6. Divide fractions (6-L.5)
7. Divide fractions and mixed numbers (6-L.7)
8. Divide fractions by whole numbers in recipes (6-L.4)
9. Divide fractions and mixed numbers: word problems (6-L.8)

Mixed & Improper fractions

Name: _____

Date: _____

Daily Target: I can make an improper fraction a mixed number and a mixed number an improper fraction.

Improper Fraction	Mixed Number
<p>A fraction in which the _____ is _____ than or _____ to the denominator such as $\frac{11}{4}$.</p> <p>$\frac{11}{4}$ is read as "eleven-fourths"</p>	<p>A number consisting of a _____ and a fraction.</p> <p>For example: $3\frac{4}{5}$</p>

Improper Fractions and Mixed Numbers

Whole numbers can be written as _____ fractions. The whole number is the _____ and the denominator is **1**. For example: $7 = \frac{7}{1}$.

When the numerator is less than the denominator the fraction is called a **proper fraction**.

Example 1: Use multiplication and addition

(When you are changing a mixed number to an improper fraction, spiral _____ as shown in the picture. The order of operations will help you remember to multiply before you add.)

$$3\frac{2}{3} = \frac{(3 \cdot 3) + 2}{3}$$

Multiply the whole number by the denominator and add the _____.

$$= \frac{9 + 2}{3}$$

Keep the same _____.

$$= \frac{11}{3}$$

Then _____.



First _____.

Example 2: Use division

$$24 \text{ r } 3 = 24\frac{3}{5}$$

$$5 \overline{) 123}$$

$$\underline{-10}$$

$$23$$

$$\underline{-20}$$

$$3$$

_____ the numerator by the denominator.

To form the fraction part of the quotient, use the remainder as the numerator and the divisor as the denominator.

Ella made $24\frac{3}{5}$ cupcakes.

Practice with fractions!

Name: _____

Date: _____

Daily Target: I can make an improper fraction a mixed number and a mixed number an improper fraction.**Determine whether each fraction is proper or improper.**

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

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

3. $\frac{7}{4}$

Write each mixed number as an improper fraction.

1. $1\frac{1}{2}$

2. $1\frac{2}{3}$

3. $2\frac{1}{2}$

Write each improper fraction as a mixed number.

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

2. $\frac{7}{5}$

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

Word Problem:

In a Chocolate frog-jumping contest, Ron's frog hopped $2\frac{1}{3}$ feet. Harry's frog hopped $1\frac{2}{3}$ feet. Whose frog hopped $\frac{7}{3}$ feet?

Challenge Problem!

Hermione's Chocolate Frog hopped $2\frac{1}{4}$ feet. How much further did Hermione's frog hop compared to Harry's?

Converting Between Improper Fractions And Mixed Numbers

Name: _____

First, color in the squares to match each mixed fraction and then convert mixed fraction into improper fraction.

$2 \frac{3}{5} = \frac{13}{5}$

Mixed fraction

Improper Fraction

A) $1 \frac{2}{5} = \frac{\quad}{5}$

B) $3 \frac{2}{5} = \frac{\quad}{5}$

Converting Improper Fractions to Mixed Numbers

- 1) $\frac{45}{8} = \underline{\quad}$ 2) $\frac{25}{4} = \underline{\quad}$ 3) $\frac{51}{9} = \underline{\quad}$
- 4) $\frac{13}{5} = \underline{\quad}$ 5) $\frac{23}{3} = \underline{\quad}$ 6) $\frac{41}{7} = \underline{\quad}$

Converting Mixed Numbers to Improper Fractions

- 1) $6 \frac{5}{6} = \underline{\quad}$ 2) $3 \frac{4}{5} = \underline{\quad}$ 3) $4 \frac{1}{4} = \underline{\quad}$
- 4) $2 \frac{1}{6} = \underline{\quad}$ 5) $7 \frac{2}{5} = \underline{\quad}$ 6) $5 \frac{1}{3} = \underline{\quad}$

Multiplying Fractions

Name: _____

Date: _____

Daily Target: I can multiply fractions to solve real world situations.

Ansley had $\frac{1}{4}$ of a large brownie left over. She ate $\frac{2}{3}$ of it. How much of her brownie did she eat?

Step One:

_____ up your fractions across from each other.

Step Two:

_____ your numerators together and _____ the product as the new numerator.

Step Three:

Multiply your _____ and write the product as the new denominator.

_____ if possible!

Practice! (Solve the problems below) & SIMPLIFY!!!!!!

1. $\frac{1}{2} \times \frac{2}{5} = \text{---}$

2. $\frac{1}{3} \times \frac{5}{6} = \text{---}$

3. $\frac{4}{7} \cdot \frac{3}{4} = \text{---}$

4. $\frac{2}{7} \cdot \frac{3}{6} = \text{---}$

5. $\frac{3}{5} \left(\frac{2}{3}\right) = \text{---}$

6. $\frac{1}{4} \left(\frac{5}{9}\right) = \text{---}$

Dividing Fractions Reciprocal

Name: _____

Date: _____

Daily Target: I can use the reciprocal of fractions to divide two fractions.**Reciprocal**

When the _____ becomes the _____ and the denominator becomes the numerator.

Step One:

Make any _____ numbers into improper fractions. _____ the first fraction.

Step Two:

_____ the second fraction (change to the _____).

Step Three:

_____ the problem through!

$$= \frac{\text{numerator} \times \text{numerator}}{\text{denominator} \times \text{denominator}}$$

Step Four:

_____ if possible!

Example: $\frac{2}{8} \div \frac{3}{4}$

Keep**Invert****Multiply****(K.I.M)****Simplify****Practice!**

1) $\frac{1}{2} \div \frac{3}{5} = -$

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

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

4) $1\frac{2}{3} \div 2\frac{5}{6} = -$

Challenge Problem!

Hannah is working in a ribbon making factory. She has to 4 ½ feet of spool. Each ribbon must be 5/8 feet long. How many ribbons can she make from the given spool?

Using Reciprocals to Divide Fractions

Name _____ Class Period _____ Date _____

Directions: Complete the table below. Show all work.

Division	Reciprocal of the <u>DIVISOR</u>	Multiplication
$\frac{6}{1} \div \frac{2}{7} =$	—	$\frac{6}{1} \times \text{—} =$
$\frac{5}{1} \div \frac{3}{8} =$	—	$\frac{5}{1} \times \text{—} =$
$\frac{2}{1} \div \frac{5}{6} =$	—	$\frac{2}{1} \times \text{—} =$
$\frac{4}{1} \div \frac{1}{3} =$	—	$\frac{4}{1} \times \text{—} =$
$\frac{3}{4} \div \frac{1}{12} =$	—	$\frac{3}{4} \times \text{—} =$
$\frac{1}{4} \div \frac{1}{16} =$	—	$\frac{1}{4} \times \text{—} =$
$\frac{1}{12} \div \frac{1}{2} =$	—	$\frac{1}{12} \times \text{—} =$

Dividing Fractions

Remember when you are creating a division problem – what you are dividing comes FIRST, how many you are dividing it by comes AFTER the sign!

1. Five friends share $\frac{2}{3}$ of a bag of popcorn. How much popcorn did each friend eat?

What am I dividing?	How am I dividing it?	What is my equation?	Solve...

4. Jodi bought $\frac{3}{8}$ of a pound of blueberries. If she put equal portions of blueberries into 6 bags, how much did she put in each bag?

What am I dividing?	How am I dividing it?	What is my equation?	Solve...

2. How many $\frac{1}{4}$ pound hamburgers could be made from 5 pounds of hamburger?

What am I dividing?	How am I dividing it?	What is my equation?	Solve...

5. Isaac is building toy boxes that require $\frac{1}{2}$ ft long boards. How many boxes can be made from a board that is $9\frac{1}{2}$ ft long?

What am I dividing?	How am I dividing it?	What is my equation?	Solve...

3. How many servings of popcorn are in $5\frac{1}{2}$ cups if each person receives $\frac{3}{4}$ cup of popcorn?

What am I dividing?	How am I dividing it?	What is my equation?	Solve...

6. A piece of ribbon that is $\frac{2}{3}$ of a meter long will be cut into $\frac{1}{6}$ meter pieces. How many pieces will there be?

What am I dividing?	How am I dividing it?	What is my equation?	Solve...

Name: _____ Peanut Butter Cookie Task

Peanut Butter Cookie Recipe

$\frac{3}{4}$ cup peanut butter

$\frac{1}{2}$ cup vegetable shortening

1 $\frac{1}{4}$ cups firmly packed light brown sugar

3 tablespoons milk

2 $\frac{3}{4}$ teaspoons vanilla extract

1 large egg

1 $\frac{1}{2}$ cups flour

$\frac{3}{4}$ teaspoon baking soda

$\frac{1}{4}$ teaspoon salt

Makes 2 dozen cookies

Serving Size: 1 $\frac{1}{2}$ cookies

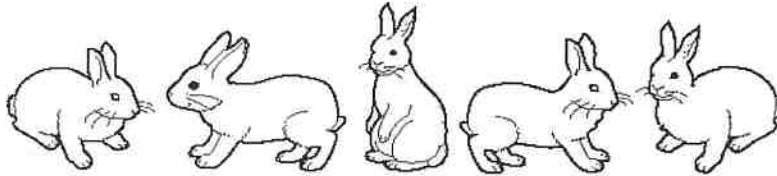
1. Caroline wants to make these cookies to bring to a party. She will need to double the recipe to have enough. How much of each ingredient will she need? Rewrite the recipe so that it will make 4 dozen cookies. Show your work.
2. Everyone loved Caroline's cookies so much that they ate them all! She wants to make some more to eat at home, but would only like to make 1 dozen cookies. How much of each ingredient will she need? Rewrite the recipe so that it will only make 1 dozen cookies. Show your work.
3. How many servings of cookies does this recipe make? How many servings are in 1 dozen cookies? How many servings are in 4 dozen cookies? Show your work.

Rabbit Costumes

This problem gives you the chance to:

- use division with fractions
-

Gail is making costumes for a school play.



Each rabbit costume needs one and one half yards of white fur fabric, a yard of blue striped fabric, and a quarter of a yard of pink felt for the ears.

1. Gail needs to make **eight** rabbit costumes.

How much material does she need?

white fur fabric: _____ yards

blue striped fabric: _____ yards

pink felt: _____ yards

2. Gail has ten yards of white fur fabric, seven yards of blue striped fabric, and one and three quarter yards of pink felt.

How many rabbit costumes can Gail make? _____

Which type of fabric does Gail use up first? Explain how you figured this out.

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ADDITIONAL NOTES

Lined writing area with 28 horizontal lines.

