

Unit 3 Packet Fractions

Name \_\_\_\_\_

**Layer C** - You must do all the assignments marked as required. Then, choose any additional assignments to earn a maximum of 70 points. You must complete assignments in Layer C before you can move on to Layer B.

Teacher Initials	Points	Assignment Description <i>**Indicates the assignment is required.</i>
	5	***Add/subtract fraction notes/HW page 1 & 2
	5	***Multiply Fraction notes page 3
	5	***Model Fraction Multiplication HW page 4
	5	***Multiply Mixed Number notes page 5
	5	***Modeling Multiplying Fractions with mixed numbers HW p6
	5	***Divide with whole number divisor /HW page 7 & 8
	5	***Divide Fractions notes/HW page 9 & 10
	5	***Dividing Fraction by Fraction notes/HW page 11 & 12
	5	***Add/Subtract/Multiply Fraction Quiz (not required to be completed before moving to next layer)
	5	***Divide Fraction Quiz (not required to be completed before moving to next layer)
	10	***Unit test (not required to be completed before moving to next layer)
	5	<u>Paint Problem WS (show your work)</u>
	5	<u>Fraction Action 85 &amp; 86</u>
	5	<u>Word Problem Practice Multiplying Mixed Number WS (show your work)</u>
	5	<u>Pizzazz "What is the friendliest kind of airplane?" C-57 (show your work)</u>
	5	<u>Division of Fractions with Remainders WS</u>
	5	<u>Fraction designs WS</u>
	5	Study Guide Unit 3

<b>Layer B</b> - 10 Maximum Points - 10 points to move to Layer A.		
	10	Video yourself teaching an adult to model and divide fractions. Use the <u>form provided</u> for them to fill out and turn in with your video.
	10	Use google slides to teach how to add, subtract, multiply and divide fractions. Also include 2 real world examples (word problems) of each of the four operations as a quiz or practice.
	10	Complete the <u>cross cancel frogs WS</u> and then create one of your own to submit. Have 3 people complete the activity and turn their completed worksheets in.

<b>Layer A</b> - Maximum of 15 points		
	15	<p><b>Option 1:</b> <u>Multiplication Magic WS</u>-Complete and then create one of your own to submit. Have 3 people complete the activity and turn in their completed work with yours.</p> <p><b>Option 2:</b> Create a matching game for add/sub/multiply and divide fractions. See the example. You need at least 16 problems for the game (32 pieces total)</p>

<b>Layer A+</b> - Maximum of 5 points		
	5	<p><b>WOW me!</b>                      <b>#salemproud</b></p>

**A=100-90**

**B=90-80**

**C=80-70**

**D=70-60**

**F= below 60**

**Total Points** \_\_\_\_\_ **Grade** \_\_\_\_\_

Add/Subtract Fractions Notes

1) Paul and his brother were eating the same kind of candy bar. Paul had  $\frac{1}{4}$  of his candy bar. His brother still had  $\frac{3}{8}$  of a candy bar. How much candy did both boys have together?

2) Jack and Jill ordered two identical-sized pizzas, one cheese and one pepperoni. Jack ate  $\frac{1}{6}$  of his pizza and Jill ate  $\frac{1}{2}$  of her pizza. How much pizza did they eat all together?

3) Sarah is making dessert that calls for  $\frac{3}{4}$  of crushed cookies. If she has already crushed  $\frac{1}{8}$  of a cup, how much more does she need?

4) Cedric is making an Italian dish that calls for  $\frac{1}{2}$  cup of mozzarella cheese. If Cedric has grated  $\frac{1}{3}$  of the mozzarella, how much more does he need?

5) Jack babysat for  $4\frac{1}{4}$  hours on Friday and  $3\frac{2}{3}$  hours on Saturday. How many hours did he babysit in all?

6) Bonita planted an oak tree and an elm tree in her backyard. Three years later the oak tree was  $5\frac{1}{6}$  feet tall and the elm tree was  $7\frac{1}{2}$  feet tall. How much taller was the elm tree?

7) Donald is making a party mix. He bought  $2\frac{1}{4}$  pounds of pecans and  $3\frac{1}{6}$  pounds of walnuts. How many pounds of nuts did he buy in all?

8) Mrs. Watson's cookie recipe calls for  $3\frac{4}{7}$  cups of sugar. Mr. Clark's recipe calls for  $4\frac{2}{3}$  cups of sugar. How much more sugar does Mr. Clark's recipe use?

## Adding / Subtracting Mixed Fractions With Unlike Denominators

### Steps

1. Find the common denominator using LCM
2. Write an equivalent fraction
3. Add or subtract the numerators
4. Keep the same denominator
5. Simplify the fraction
6. Add or subtract the whole numbers

Example  $\frac{1}{3} + \frac{1}{5} =$

Step 1:

LCM 3: 3, 6, 9, 12, 15, 18 ...

5: 5, 10, 15, 20 ...

LCM = 15

Step 2.  $\frac{1}{3} = \frac{5}{15}$

$$+ \frac{1}{5} = \frac{3}{15}$$

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$$\frac{8}{15}$$

Practice:

1.  $\frac{3}{10} + \frac{1}{2} =$

2.  $\frac{9}{15} - \frac{7}{30} =$

3.  $\frac{15}{21} + \frac{1}{7} =$

4.  $12 \frac{21}{25} + 5 \frac{7}{50} =$

5.  $17 \frac{9}{10} - 4 \frac{2}{7} =$

6.  $10 \frac{4}{9} - 8 \frac{3}{18} =$

Multiply Fraction notes

1) There are 15 cars in Michael's toy car collection. Two-thirds of the cars are red. How many red cars does Michael have? (use a picture to show your answer)

2) Suzanne has 11 cookies. She wants to share them with her three friends. How many cookies will Suzanne and each of her friends get? (use a picture to show your answer)

3) Wayne filled 5 glasses with two-thirds liter of soda in each glass. How much soda did Wayne use? (use a picture to show your answer)

4) You have  $\frac{3}{4}$  of a pizza left. If you give  $\frac{1}{3}$  of the leftover pizza to your brother, how much of the whole pizza will your brother get? (use a picture to show your answer)

5) Someone ate  $\frac{1}{10}$  of the cake, leaving only  $\frac{9}{10}$ . If you eat  $\frac{2}{3}$  of the cake that is left, how much of the whole cake will you have eaten? (use a picture to show your answer)

6) Gloria used  $2\frac{1}{2}$  tubes of blue paint to paint the sky in her picture. Each tube holds  $\frac{4}{5}$  ounces of paint. How many ounces of blue paint did Gloria use? (use a picture to show your answer)

Skills check

1)  $\frac{1}{2} \cdot \frac{3}{4}$

2)  $\frac{8}{15} \cdot \frac{3}{4}$

F

### Model Fraction Multiplication HW

Use the grid to model each expression

1)  $\frac{2}{3} \cdot \frac{1}{4}$


2)  $\frac{2}{3} \cdot \frac{1}{3}$


3)  $\frac{1}{4} \cdot \frac{2}{3}$


4)  $\frac{1}{3} \cdot \frac{3}{4}$


Write the multiplication expression modeled on each grid.

5)

////	////	////	////
////	////	////	////

6)

////	////	////	////

7)

////	////	////	////

Tell whether the product is greater than or less than the fractions you started with.

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Multiply Mixed Numbers notes

1) Zack had  $\frac{2}{3}$  of the lawn left to cut. After lunch, he cut  $\frac{3}{4}$  of the grass he had left. How much of the whole lawn did Zack cut after lunch? (use a picture to show your answer)

2) The zookeeper had a huge bottle of the animal's favorite liquid treat, Zoo Cola. The monkey drank  $\frac{1}{5}$  of the bottle. The zebra drank  $\frac{2}{3}$  of what was left. How much of the bottle of Zoo Cola did the zebra drink?(use a picture to show your answer)

3) Tyrone spent  $2\frac{2}{3}$  hours volunteering at a food drive. He sorted canned goods for  $\frac{1}{2}$  of that time. How long did Tyrone sort canned goods? (use a picture to show your answer)

4) Dominick lives  $2\frac{1}{4}$  miles from his school. If his mother drives him three quarters of the way, how far will Dominick have to walk to get to school. (use a picture to show your answer)

5) How would you model  $\frac{3}{5} \cdot \frac{3}{4}$ ?

What does the numerator tell us?

What does the denominator tell us?

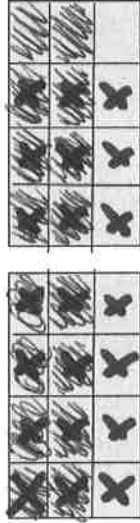
HW

Modeling Multiplying Fractions with Mixed Numbers

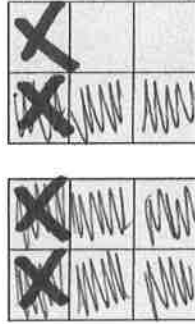
Use a grid to model each multiplication expression.

Write the multiplication expression modeled on each grid.

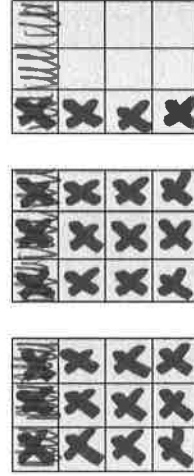
1)  $1\frac{1}{2} \cdot \frac{1}{3}$



2)  $2\frac{1}{3} \cdot \frac{2}{3}$



3)  $2\frac{2}{3} \cdot \frac{1}{4}$



4)  $1\frac{3}{4} \cdot \frac{1}{3}$



Divide with whole number divisor

1) Cassie has  $5\frac{1}{4}$  yards of ribbon to make three bows for birthday packages. How much ribbon should she use for each bow if she wants to use the same length of ribbon for each? (use a picture to show your answer)

2) Mark has  $1\frac{1}{2}$  hours to finish 5 chores. If he divides his time evenly, how many hours can he give to each chore? (use a picture to show your answer)

3) A piece of ribbon is  $\frac{1}{6}$  yard long is needed to make a bookmark. How many bookmarks can be made from 2 yards of ribbon? (use a picture to show your answer)

4) Jenny has 5 feet of wrapping paper. Each gift will require  $\frac{2}{3}$  feet of paper to wrap. How many gifts can she wrap? How much of the wrapping paper is left over? (use a picture to show your answer)

5) Stella has 6 pounds of chocolate. She will use  $\frac{2}{3}$  pound of the chocolate to make one cake. How many cakes can she make? (use a picture to show your answer)

6) How many  $\frac{3}{4}$  cup servings can you get from a 5 cup bag of popcorn? How much of a serving is left over? What part of the whole serving is left? (use a picture to show your answer)

7) Mark has  $1\frac{1}{4}$  hours to complete 3 subjects for HW. If he divides his time evenly between the 3 subjects, how many hours can he give to each? (use a picture to show your answer)

## Dividing Fractions by Fractions with Models Independent Practice

HW

Choose 5 expressions from the box and complete the following steps.

1. Rename one or both of the fractions so they have common denominators.
2. Draw a rectangular model to represent the dividend.
3. Circle sets in the rectangle that are the size of the divisor.
4. How many sets of the divisor fit in the dividend? This is the quotient.

$\frac{1}{2} \div \frac{1}{4}$	$\frac{1}{2} \div \frac{1}{8}$	$\frac{2}{3} \div \frac{1}{6}$
$\frac{2}{3} \div \frac{2}{6}$	$\frac{1}{4} \div \frac{1}{8}$	$\frac{5}{8} \div \frac{1}{8}$
$\frac{3}{4} \div \frac{1}{8}$	$\frac{1}{3} \div \frac{1}{6}$	$\frac{2}{3} \div \frac{1}{3}$

**IN YOUR OWN WORDS** How do you divide by a fraction? Give an example.

### Dividing Fractions

- 1) You are going to a birthday party. From Ben and Jerry's ice cream factory, you order 8 pints of ice cream. If you serve  $\frac{2}{3}$  of a pint of ice cream to each guest, how many guests will be served?
- 2) At Lina's restaurant, one serving of chili is  $1\frac{1}{2}$  cups. The restaurant makes 24 cups of chili each night. How many servings of chili are in 24 cups?
- 3) Rhula bought 12 pounds of raisins. She packed them into freezer bags so that each bag weighs  $\frac{3}{4}$  pounds. How many freezer bags did she pack?

- 4) Lisa has some wood that was  $12\frac{1}{2}$  feet long. She cut it into 5 pieces that are equal length. How long is each piece of wood?
- 5) The Johnson family of five ordered pizza. They had  $3\frac{3}{4}$  pizzas left over. The next night they ate it for dinner. If everyone at the same amount, how much leftover pizza did each family member get?
- 6) The Smith family sold apples at the farmers market. Today they had  $14\frac{2}{5}$  pounds of apples to sell. Six people came to the stand and bought the same amount of apples. How many pounds of apples did each person buy?

## Dividing Fractions by Fractions with Models Homework

Find each product. Write your answer in simplest form.

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

2.  $\frac{2}{4} \times \frac{4}{5}$

3.  $\frac{5}{8} \times \frac{7}{10}$

Find the LCM of each set of numbers.

4. 3, 5

5. 2, 3, 5

6. 3, 4, 6

Find each difference using remaining

7.  $4\frac{3}{4} - 2\frac{7}{8}$

8.  $5\frac{1}{8} - 3\frac{1}{3}$

9.  $6\frac{3}{5} - 2\frac{11}{15}$

Divide. Use models to find each quotient.

10.  $\frac{8}{12} \div \frac{2}{6}$

11.  $\frac{2}{3} \div \frac{1}{6}$

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

Dividing fraction by fraction

1) Farmer Brown found that he had  $2\frac{1}{4}$  gallons of liquid fertilizer concentrate. It takes  $\frac{3}{4}$  gallon of concentrate to make a tank of mixed fertilizer. How many tankfuls can he make?

2) Rhonda put  $2\frac{3}{4}$  pounds of pecans into  $\frac{1}{4}$  pound bags. How many bags did Rhonda fill?

3) Linda has  $4\frac{2}{3}$  yards of material. She is making baby clothes for a bazar. Each dress pattern requires  $1\frac{1}{6}$  yards of material. How many dresses will she be able to make from the material she has?

4) Shiloh drives  $\frac{3}{4}$  miles to school each day. There is a stop sign every  $\frac{3}{8}$  of a mile. How many times does Shiloh have to stop on her way to school?

5) Brennan bought  $7\frac{7}{8}$  pounds of salmon for his family. He wanted to portion it and freeze it in  $\frac{3}{4}$  pound servings. How many  $\frac{3}{4}$  pound portions did he freeze?  
What size portion was left over?  
How much of a pound of salmon was left over?

6) Issac built a trechouse for his daughter. He cut some boards into 5 equal pieces. How long is each piece of board if the original board was  $11\frac{1}{2}$  feet long?

## Dividing Fractions HW

Show all your work

1)  $\frac{3}{16} \div \frac{3}{4}$

2)  $3\frac{3}{16} \div 2\frac{5}{8}$

3) The stage is  $8\frac{3}{4}$  feet wide. Each chair is  $1\frac{5}{12}$  feet wide. How many chairs will fit across the stage?

4) If three sisters are driving to an amusement park that is  $102\frac{3}{4}$  miles away and each takes turns driving an equal distance, how far will each sister drive?

5) A juicer holds  $43\frac{3}{4}$  pints of juice. How many  $2\frac{1}{2}$  pint bottles can be filled with that much juice?