Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Learning Target 3:** I can multiply fractions and mixed numbers.

**Objective:** I can solve real world applications involving multiplying fractions and mixed numbers.

Breakfast with Friends

Directions:

Read the following scenario and solve the problems using any strategies. Be sure to show your work.

Your brother Antonio is an excellent chef! Antonio has invited friends to come over to his place for breakfast. Antonio plans to make waffles and pancakes. Antonio is getting ready to start cooking the waffles and pancakes using the instructions in his recipe book.

 

As he starts to prepare the ingredients, he realizes that he forgot to buy extra flour, sugar, and sticks of butter. Antonio is hoping that he will have enough quantities of flour, sugar, and sticks of butter for his recipe. Since you are really good at math, Antonio is asking for your help to see if he will be able to prepare the waffles and pancakes with the amount of ingredients he has in his kitchen.

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This is the list of ingredients Antonio has in his kitchen:

* 4 cups of flour
* 3 cups of sugar 
* 4 tablespoons of butter 

The **waffle** recipe requires the following quantities for each ingredient:

* $\frac{1}{3}$ cup of flour 
* $\frac{3}{4} $cups of sugar 
* $\frac{1}{8}$ tablespoon of butter

The **pancake** recipe requires the following quantities for each ingredient:

* $\frac{1}{3}$ cup of flour 
* $\frac{1}{2}$ cup of sugar 
* $\frac{1}{4}$ tablespoon of butter 

Part I

In order to have enough waffles and pancakes for everyone invited to his place, Antonio needs to double each recipe.

Questions:

1.     If Antonio doubles each recipe, will he have enough ingredients? Justify your answer.

2. If he has enough ingredients, how much of each ingredient will Antonio have left after preparing the waffles and pancakes? Show your work.

Part II

Antonio’s waffles and pancakes were a big success! Now he has been asked to make more waffles and pancakes the next day. But he will not need to double the recipe for pancakes or waffles.

Question: Does Antonio have enough ingredients leftover to make a single recipe of waffles, and a single recipe of pancakes? Explain your answer.

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Part III

Question: To triple the recipe, how much more of each ingredient (if necessary) would Antonio need to buy? Demonstrate how you found your answer.