lesson nineteen - student resource sheet

Lesson Objective: Add and subtract fractions and mixed numbers having unlike denominators, and write answers in simplest form.

Vocabulary Box

proper fraction – A fraction with a numerator that is less than the denominator. Examples: $\frac{1}{2}$, $\frac{3}{4}$, $\frac{4}{7}$, and $\frac{9}{12}$.

improper fraction – A fraction with a numerator that is greater than or equal to the denominator. Examples: $\frac{3}{2}$, $\frac{8}{4}$, $\frac{7}{7}$, and $\frac{20}{12}$.

mixed number — A number that contains a whole number part and a fraction part. Example: $2\frac{3}{4}$ is a mixed number. 2 is the whole number part and $\frac{3}{4}$ is the fraction part.

simplest form – For any fraction, the form in which 1 is the only common factor of the numerator and denominator. Example: $\frac{23}{24}$ or $\frac{5}{6}$ or $\frac{1}{2}$.

Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

Solve each problem. Remember to write your answers in simplest form.

1. $\frac{2}{3} + \frac{8}{9}$

2. $4\frac{1}{2} + 3\frac{3}{7}$

3. $\frac{3}{4} - \frac{1}{6}$

4. $2\frac{3}{10} - 1\frac{3}{5}$

5. $8\frac{1}{7} - 4\frac{2}{3}$

Directions: Find each sum. Write your answers in simplest form.

1. $\frac{1}{2} + \frac{1}{4} + \frac{1}{3} =$ _____

2. $\frac{5}{6} + \frac{1}{2} + \frac{1}{5} =$ _____

3. $1\frac{1}{4} + 3\frac{2}{3} + 2\frac{1}{6} =$ _____

4. $10\frac{3}{8} + 20\frac{3}{4} + 5\frac{1}{2} =$ _____

Problem Solving

Directions: Use problem-solving strategies to solve the word problems.

I. Latoya made pillows to sell at the school craft fair. She bought $5\frac{1}{2}$ yards of blue cloth and $2\frac{3}{4}$ yards of yellow cloth. How much cloth did Latoya buy, in all?

1. What operation should you use to solve the problem?

2. Solve the problem.

3. Write your answer in a complete sentence. Use words from the word problem.

II. Latoya used $6\frac{1}{3}$ yards of the cloth to make all the pillows. How much cloth did Latoya have left after making all the pillows? Use the three steps above to find the answer.

Directions: Use what you know about fractions with unlike denominators to answer the questions.

1. To add any two fractions, the fractions must have _____.

2. $\frac{7}{8} + \frac{5}{6} =$ _____

3. $5\frac{1}{3} - 2\frac{1}{2}$

Lesson Objective: Multiply a fraction or a whole number by a fraction, and write answers in simplest form.

Vocabulary Box

product – The result of two numbers being multiplied together; the answer to a multiplication problem. Example: In 3 x 5 = 15, 15 is the product of 3 and 5.

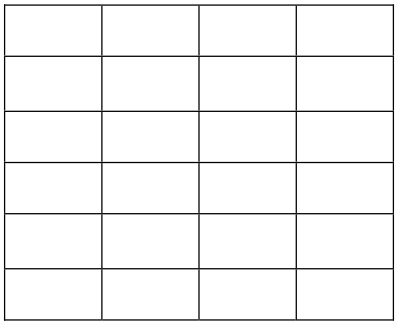
factor – One of two or more numbers that are multiplied to get a product. Example: In 2 x 4 = 8, 2 and 4 are factors of 8.

Guided Practice

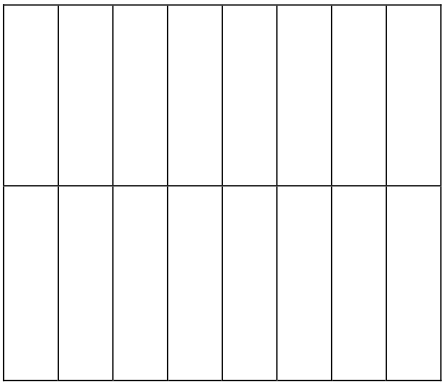
Directions: Complete the following practice problems. Your teacher will review the answers. Make sure you show all your work.

I. Work with a partner to shade the model and solve each multiplication problem. Use yellow shading to model the first factor. Use blue shading to model the second factor. Then use the model to find the product and write it in simplest form.

1. $\frac{3}{4} \times \frac{1}{6}$



2. $\frac{5}{8} \times \frac{1}{2}$



II. Work with a partner to find each product. Write your answers in simplest form.

1. $\frac{2}{5} \times \frac{3}{4}$

2. $\frac{7}{10} \times \frac{1}{6}$

3. $3 \times \frac{1}{4}$

4. $5 \times \frac{3}{8}$

III. Work independently to find each product. Write your answers in simplest form.

1. $\frac{1}{2} \times \frac{9}{12}$

2. $\frac{8}{9} \times \frac{1}{4}$

3. $\frac{2}{3} \times 12$

4. $2 \times \frac{3}{5}$

A. Vocabulary Words

Directions: Complete the sentences to describe each multiplication problem.

1. $\frac{2}{5} \times \frac{5}{6} = \frac{10}{30}$

The factors are _____ and _____.

The product is _____.

The product in simplest form is _____.

2. $\frac{7}{8} \times \frac{4}{5} = \frac{28}{40}$

The factors are _____ and _____.

The product is _____.

The product in simplest form is _____.

B. Summarize What We Learned Today

Write two sample problems that involve multiplying mixed fractions. Make sure one of your samples includes a fraction times a whole number. Then use pictures, words, or numbers to explain how you found each product and wrote it in simplest form. You will use these explanations as a personal reminder.

lesson twenty-one - student resource sheet

Lesson Objective: Multiply a fraction or a whole number by a fraction, and write answers in simplest form.

Vocabulary Box

product – The result of two numbers being multiplied; the answer to a multiplication problem. Example: In 3 x 5 = 15, 15 is the product of 3 and 5.

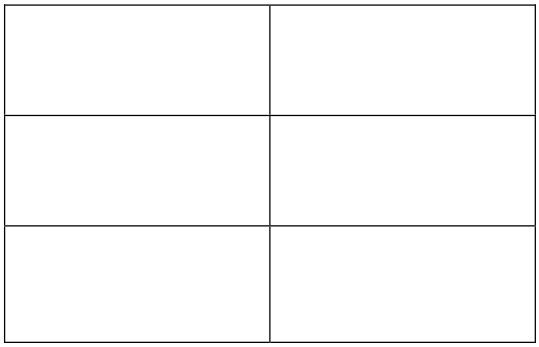
factor – One of two or more numbers that are multiplied to get a product. Example: In 2 x 4 = 8, 2 and 4 are factors of 8.

Independent Practice

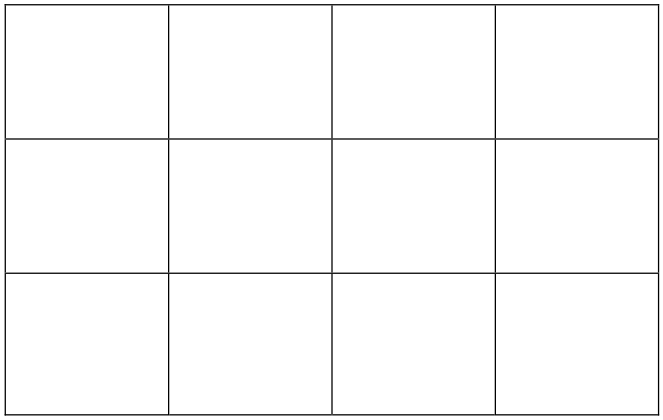
Directions: Please cComplete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

I. Shade the model to solve each problem. Use yellow shading to model the first factor. Use blue shading to model the second factor. Then use the model to find the product and write it in simplest form.

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



2. $\frac{1}{4} \times \frac{2}{3}$



II. Multiply to find each product. Write your answers in simplest form.

1. $\frac{1}{5} \times \frac{10}{11}$
2. $\frac{9}{10} \times \frac{1}{2}$
3. $\frac{3}{4} \times \frac{3}{4}$
4. $\frac{3}{8} \times \frac{4}{9}$
5. $2 \times \frac{1}{3}$
6. $10 \times \frac{3}{5}$
7. $\frac{2}{5} \times 8$
8. $4 \times \frac{7}{8}$

BONUS?

Directions: Fill in the blank with the missing factor to make each equation true.

1. $\frac{2}{7} \times \_\_\_\_ = \frac{2}{28} = \frac{1}{14}$

2. $\_\_\_\_ \times \frac{3}{4} = \frac{3}{36} = \frac{1}{12}$

3. $\frac{2}{3} \times \_\_\_\_ = \frac{10}{24} = \frac{5}{12}$

Problem Solving

Directions: Use problem-solving strategies to solve the word problem.

There are 60 students going on a field trip to the science museum. Of those students, $\frac{1}{4}$ are in the fifth grade. Of the group of fifth graders going on the field trip, $\frac{2}{3}$ are girls. And of those girls, $\frac{1}{2}$ are in the school science club. How many fifth-grade girls in the science club are going on the field trip?

To solve this problem, you have to break it up into several steps:

1. First, find how many fifth graders are going on the field trip.

2. Use your answer in step 1 to find how many of those fifth graders are girls.

3. Use your answer in step 2 to find how many of those girls are in the science club.

4. Finally, write your answer in a complete sentence using words from the problem.

lesson twenty-one - student resource sheet

Directions: Use what you know about multiplying fractions to solve each problem.

1. $\frac{1}{2} \times \frac{3}{7}$

2. $\frac{1}{4} \times \frac{10}{11}$

3. $6 \times \frac{3}{8}$