Helping With Math

Multiplication of Unlike Fractions

Suitable for students **aged 8-10**

This pack is suitable for learners aged 8 - 10 years old or 4thn and 5th graders (USA). The content covers fact files and relevant basic and advanced activities involving multiplication of unlike fractions.

THANKS GIVING

It's Thanksgiving Day and everyone is busy preparing food and activities!

There are ⅞ kilograms of sugar in the kitchen. Camille needs ¾ of the sugar to prepare her recipe. How much sugar will she use?

$$\frac{7}{8} \times \frac{3}{4} = \text{?}$$

How do you think we can solve this?
Yes, we can apply multiplication! Now, let us review the process on how to do it.

MULTIPLYING UNLIKE FRACTIONS

Look at the fractions written below. What can you say about the denominators?

Numerator ➡

Denominator ➡

$$\frac{7}{8} \qquad \frac{3}{4} \qquad \frac{1}{6}$$

Yes, the denominators are different. We call these fractions as **UNLIKE FRACTIONS.**

THE PROCESS

Step 1: Multiply the numerators.

Step 2: Multiply the denominators.

$$\frac{7}{8} \times \frac{3}{4} = \frac{7 \times 3}{8 \times 4}$$

Step 3: Simplify the resulting fraction by reducing to the lowest term, if needed.

$$\frac{7}{8} \times \frac{3}{4} = \frac{7 \times 3}{8 \times 4} = \frac{21}{32}$$

Lowest term

MULTIPLYING FRACTIONS USING CANCELLATION

USING CANCELLATION

Canceling is a way to simplify the given fractions before we multiply. Look for a pair of numerator and denominator that are divisible by the same greatest number.

Multiply then simplify the answer if possible.

$$\frac{3}{10} \times \frac{5}{7} = \frac{15}{70}$$

$$\frac{15 \div 5}{70 \div 5} = \frac{3}{14}$$

Not in simplest term, Both numbers can still be divided by 5.

Apply cancellation before multiplying the fractions.

$$\frac{3}{\cancel{10}^{2}} \times \frac{\cancel{5}^{1}}{7} = \frac{3}{14}$$

In simplest form, because there are no other numbers that can divide both numbers except for 1.

Let us help Camille to solve her another recipe for the Thanksgiving celebration by multiplying the unlike fractions using both methods.

$$\frac{6}{7} \times \frac{5}{8} = \frac{\square}{\square}$$

Multiply first the numerator and denominator. Then, simplify if needed.

Apply cancellation process completely. Then, multiply the numerator and denominator.

Will you get the same answer?

Yes, same answers should be obtained if cancellation will be applied completely.

Whether you multiply first then simplify your answer or you apply cancellation before you multiply, you will get the same answer. Make sure you cancel the possible pair of numbers so that you will get your answer in simplest form completely.

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COOKING SOMETHING UP

Happy Thanksgiving Day! Everyone is excited for the celebration and Camille is cooking something delicious. Let us help her choose the right ingredients by listing the sets of unlike fractions.

1 $\dfrac{5}{6}$ $\dfrac{6}{7}$ $\dfrac{7}{8}$

2 $\dfrac{3}{5}$ $\dfrac{3}{4}$ $\dfrac{3}{6}$

3 $\dfrac{1}{4}$ $\dfrac{2}{4}$ $\dfrac{3}{4}$

4 $\dfrac{1}{4}$ $\dfrac{1}{3}$ $\dfrac{1}{2}$

5 $\dfrac{4}{5}$ $\dfrac{3}{5}$ $\dfrac{2}{6}$

List the following sets of unlike fractions. Write only the number.

GIVE THANKS

LET'S GATHER TOGETHER!

Let us gather our friends and families for the celebration. And show them what you have learned in multiplying unlike fractions.

$$\frac{3}{8} \times \frac{5}{7} = \frac{\boxed{} \times \boxed{}}{}$$

Step 1.

_____

$$\frac{3}{8} \times \frac{5}{7} = \frac{\boxed{} \times \boxed{}}{\boxed{} \times \boxed{}}$$

Step 2.

_____

$$\frac{3}{8} \times \frac{5}{7} = \frac{\boxed{} \times \boxed{}}{\boxed{} \times \boxed{}} = \frac{\boxed{}}{\boxed{}}$$

Step 3.

_____

HEY, IT'S PARADE TIME!

Find your spot on the street as you watch the parade but before that let us answer these sets of unlike fractions.

1 $\dfrac{1}{3} \times \dfrac{2}{5} = \dfrac{\square \times \square}{\square \times \square} = \dfrac{\square}{\square}$

$\dfrac{2}{7} \times \dfrac{2}{3} = \dfrac{\square \times \square}{\square \times \square} = \dfrac{\square}{\square}$ **2**

3 $\dfrac{4}{5} \times \dfrac{3}{7} = \dfrac{\square \times \square}{\square \times \square} = \dfrac{\square}{\square}$

$\dfrac{1}{8} \times \dfrac{5}{6} = \dfrac{\square \times \square}{\square \times \square} = \dfrac{\square}{\square}$ **4**

5 $\dfrac{6}{7} \times \dfrac{3}{5} = \dfrac{\square \times \square}{\square \times \square} = \dfrac{\square}{\square}$

Camille can't decide between cranberry sauce and gravy. Let us help her decide by multiplying the fraction using the two methods.

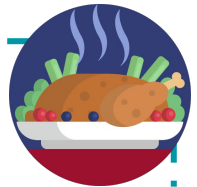$$\frac{2}{8} \times \frac{3}{5} = \frac{\square}{\square}$$

Multiply first then simplify your answer.

$$\frac{2}{8} \times \frac{3}{5}$$

Cancel out the pair/s of numbers then multiply the fractions.

$$\frac{2}{8} \times \frac{3}{5}$$

Did you get the same answer using the two methods?

_____

What is the final answer? _____

IT'S TURKEY TIME!

Time to prepare the Turkey! But Camille needs to prepare other ingredients before she puts it in the oven. Let's us complete the recipe by multiplying the following fractions.
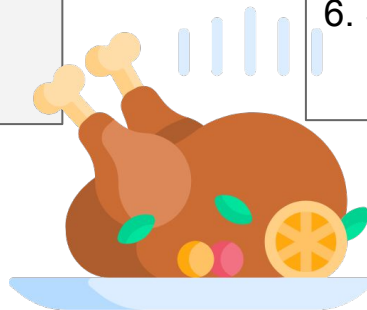
$$\frac{1}{8} \times \frac{2}{6} = \frac{}{}$$

1. Solution:

$$\frac{4}{5} \times \frac{1}{2} = \frac{}{}$$

2. Solution:

$$\frac{2}{3} \times \frac{3}{7} = \frac{}{}$$

3. Solution:

$$\frac{6}{8} \times \frac{3}{5} = \frac{}{}$$

4. Solution:

$$\frac{5}{6} \times \frac{3}{5} = \frac{}{}$$

5. Solution:

$$\frac{3}{4} \times \frac{5}{6} = \frac{}{}$$

6. Solution:

SWEET AS PUMPKIN PIE

As part of their Thanksgiving food, they want to celebrate it by making pumpkin pies. Let us help them by multiplying these sets of fractions.

1 $\dfrac{2}{11} \times \dfrac{5}{9} = \dfrac{\Box}{\Box}$ Solution:

2 $\dfrac{3}{14} \times \dfrac{1}{10} = \dfrac{\Box}{\Box}$ Solution:

3 $\dfrac{4}{15} \times \dfrac{7}{11} = \dfrac{\Box}{\Box}$ Solution:

4 $\dfrac{5}{13} \times \dfrac{11}{12} = \dfrac{\Box}{\Box}$ Solution:

5 $\dfrac{13}{14} \times \dfrac{11}{15} = \dfrac{\Box}{\Box}$ Solution:

FAMILY, TURKEY AND FOOTBALL!

It's family, turkey and football time! It is also time to show them what you have got in multiplying and simplifying fractions.

1 $\dfrac{3}{12} \times \dfrac{7}{9} = \dfrac{}{}$

Solution:

2 $\dfrac{4}{15} \times \dfrac{10}{9} = \dfrac{}{}$

Solution:

3 $\dfrac{3}{15} \times \dfrac{5}{12} = \dfrac{}{}$

Solution:

4 $\dfrac{8}{10} \times \dfrac{4}{12} = \dfrac{}{}$

Solution:

5 $\dfrac{6}{14} \times \dfrac{7}{12} = \dfrac{}{}$

Solution:

6 $\dfrac{11}{15} \times \dfrac{9}{11} = \dfrac{}{}$

Solution:

THANKSGIVING BOUNTY

Happy Thanksgiving Day! To complete the celebration, let us help Camille and her friends in solving these sets of fractions. Make sure you simplify your answers if needed.

1 $\dfrac{1}{12} \times \dfrac{4}{14} = \dfrac{\square}{\square}$

Solution:

2 $\dfrac{3}{13} \times \dfrac{2}{9} = \dfrac{\square}{\square}$

Solution:

3 $\dfrac{5}{11} \times \dfrac{5}{12} = \dfrac{\square}{\square}$

Solution:

4 $\dfrac{7}{10} \times \dfrac{8}{14} = \dfrac{\square}{\square}$

Solution:

5 $\dfrac{6}{15} \times \dfrac{2}{13} = \dfrac{\square}{\square}$

Solution:

6 $\dfrac{4}{11} \times \dfrac{9}{13} = \dfrac{\square}{\square}$

Solution:
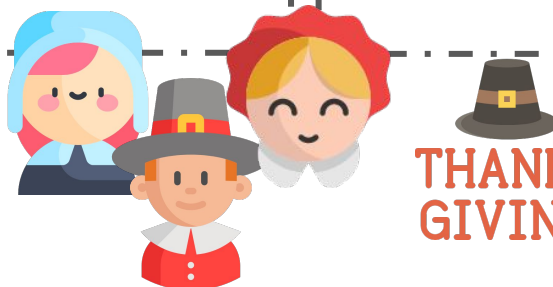
THANKS GIVING
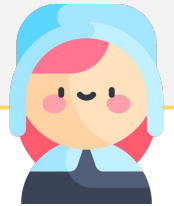
G5 Advanced

Everyone loves the feast! Now let us help Camille solve the following word problems.

1. Camille had 3/4 pound of a turkey left. She let her friend Marie ate 1/12 of the turkey. How many pounds of turkey did Marie eat?

    Solution: Answer:

2. Camille made the cranberry sauce and gravy. She made enough cranberry sauce to fill 1/2 of a jar. If she made 4/15 as much cranberry sauce as gravy, how many jars will the gravy fill?

    Solution: Answer:

For the celebration, let us not forget to give thanks, same with the process in multiplying unlike fractions. Let us answer these sets of word problems.
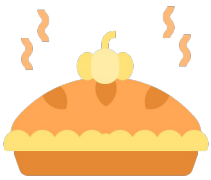
1. 8/12 of the pumpkin pie left in the fridge. Camille ate 2/4 of the leftover pie. How much of a pie did she have?
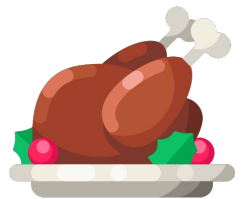
   Solution: Answer:

2. Camille has 9/12 of the kilogram of the onion and celery for the turkey stuffing. She used 3/5 of that ingredients to complete her recipe. How much of the ingredients did she use?

   Solution: Answer:

ANSWER GUIDE

Activity 1

Sets
| 1 | 2 |
| 4 | 5 |

Activity 2

1. Multiply numerators 3 and 5.
2. Multiply the denominators 8 and 7.
3. Write the final product and simplify if needed.
   Final answer is 15/56

Activity 3

1. 2/15   2. 4/21   3. 12/35   4. 5/48   5. 18/35

Activity 4

1. 2/8 x 3/5 = 6/40 or 3/20
2. 2/8 x 3/5 = 1/4 x 3/5 = 3/20

Yes, same answer must be obtained using both methods. Final answer is 3/20 (simplest form).

Activity 5

1. 1/24   2. 2/5   3. 2/7
4. 9/20   5. 1/2   6. 5/8

Activity 6

1. 10/99   2. 3/14   3. 8/165
4. 55/156   5. 143/210

Activity 7

1. 7/36   2. 8/27   3. 1/12
4. 4/15   5. 1/2   6. 3/5

Activity 8

1. 1/42   2. 2/39   3. 25/132
4. 2/5   5. 4/65   6. 36/143

Activity 9

1. 3/4 x 1/12 = 1/16
2. 1/2 x 4/15 = 2/15

Activity 10

1. 8/12 x 2/4 = 1/3
2. 9/12 x 3/5 = 9/20

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