5th Basic

6th Advanced

Helping With Math

USA GRADES

Multiplication of Improper Fractions

Suitable for students **aged 9-11**

This pack is suitable for learners aged 9 - 11 years old or 5th and 6th graders (USA). The content covers fact files and relevant basic and advanced activities involving multiplication of improper fractions.

Rica and Rachel are baking cookies and pies for the Mother's Day as their gift. They have 9/5 cups of sugar to be used for both baked goods. 4/3 of this will be used for the pies. What fraction of the sugar will be used for the pies?

Numerator ≥ Denominator

Numerator	9	4
Denominator	5	3

An im**proper fraction** is a fraction whose numerator is greater than or equal to its denominator.

MULTIPLYING IMPROPER FRACTIONS

To multiply fractions, simply multiply the numerators and the denominators. Then, write the product in its simplest form.

$$\frac{9}{5} \times \frac{4}{3} = \frac{9 \times 4}{5 \times 3} = \frac{36}{15}$$

$$\frac{36 \div 3}{15 \div 3}$$

You can simplify the product because both 36 and 15 can still be divided by 3.

$$\frac{12}{5}$$

Canceling may be used to eliminate common factors before multiplying the numerators and denominators.

$$\frac{\overset{3}{\cancel{9}}}{5} \times \frac{4}{\cancel{3}_{1}} = \frac{12}{5}$$

This is an improper fraction. We can change this to mixed numbers as the final answer.

CHANGING IMPROPER FRACTION TO MIXED NUMBER

If the answer is an improper proper, we can change it into a mixed number as the final answer.

$$\frac{\overset{3}{\cancel{9}}}{5} \times \frac{4}{\underset{1}{\cancel{3}}} = \frac{12}{5}$$

An improper fraction

Step 1

Divide the numerator by the denominator.

$$12 \div 5 = 2 \text{ Remainder } 2$$

Step 2

Write down the whole number of the mixed number from the division. The remainder of the proper fraction will be the remainder. The denominator is the denominator of the original fraction.

$$2\frac{2}{5}$$

$$\frac{12}{5} = 2\frac{2}{5}$$

YOUR TURN!

How about multiplying with whole number? Try this one!

A whole number can be written as a fraction with denominator as 1 before multiplying it.

$$\frac{5}{3} \times \frac{12}{10} \times 8 =$$

$$\frac{5}{3} \times \frac{12}{10} \times \frac{8}{1} = \square$$

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

REMEMBER: Make sure you cancel the possible pair/s of numbers so that you will get your answer in simplest form completely.

TABLE OF ACTIVITIES

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1	Give and Send a Gift
2	Let's Cook Together
3	Mom as Best Friend
4	Special Surprise
5	Bake a Cake
Age 10-11 (Advanced)	6th Grade
6	Mother's Day Celebration
7	Gifts and Smiles
8	Wonder Mom
9	Craft Away the Day
10	Mother's Day Everyday

GIVE AND SEND A GIFT

G5 Basic

It's a very special day! Let us give and send a gift to our lovely mothers. Choose the best gift as we choose the examples of an improper fraction. Write your answer inside the box.

$\frac{7}{8}$	$\frac{2}{5}$	$\frac{6}{4}$
$\frac{8}{8}$	$\frac{3}{2}$	$\frac{4}{3}$
$\frac{6}{7}$	$\frac{9}{5}$	$\frac{2}{6}$

Examples of improper fractions:

LET'S COOK TOGETHER

G5 Basic

Rica and Rachel are planning to cook together with their mom on Mother's Day and they will have an apron matching for the special day. Let us also match the following improper fraction to its equivalent mixed number. Write only the letter of your answer.

$\frac{9}{8} = \square$

$\frac{11}{8} = \square$

$\frac{15}{8} = \square$

$\frac{27}{8} = \square$

$\frac{21}{8} = \square$

A. $2\frac{5}{8}$

B. $1\frac{3}{8}$

C. $3\frac{3}{8}$

D. $1\frac{7}{8}$

E. $1\frac{1}{8}$

MOM AS BEST FRIEND

G5 Basic

Spend different activities with your mom, your best friend. Try to show and share your ideas in multiplying improper fractions by answering the following sets. Write your solution and final answer inside the box.

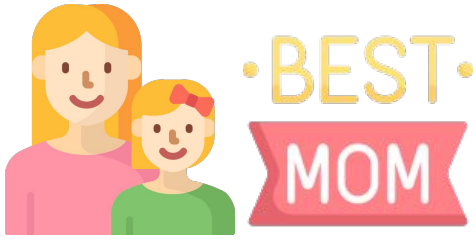
$\frac{5}{3} \times \frac{4}{3} = \square\frac{\square}{\square}$

$\frac{7}{5} \times \frac{3}{2} = \square\frac{\square}{\square}$

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

$\frac{7}{2} \times \frac{5}{4} = \square\frac{\square}{\square}$

$\frac{9}{8} \times \frac{7}{5} = \square\frac{\square}{\square}$



SPECIAL SURPRISE

G5 Basic

Rica and Rachel is throwing a surprise for their mom. But before that, they need to finish this task. Let us help them multiply the following improper fractions. Do not forget to write your solution inside the box.

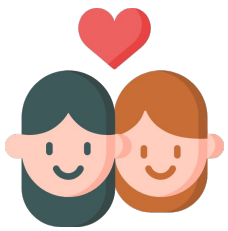
1. $\frac{10}{8} \times \frac{5}{4} =$

2. $\frac{6}{2} \times \frac{7}{6} =$

3. $\frac{12}{8} \times \frac{6}{4} =$

4. $\frac{9}{6} \times \frac{4}{3} =$

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



BAKE A CAKE

G5 Basic

Bake a cake for mom. Let us help Rica and Rachel finalize the ingredients and recipes by answering the following sets of fractions. Show your solution. Write your answer in simplest form and mixed number if possible.

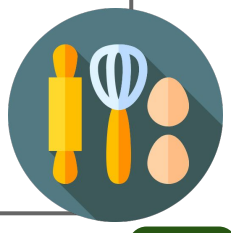
1. $\frac{5}{2} \times \frac{12}{5} =$

2. $\frac{7}{3} \times \frac{9}{6} =$

3. $\frac{9}{5} \times \frac{5}{4} \times \frac{10}{8} =$

4. $8 \times \frac{10}{6} \times \frac{9}{5} =$

5. $\frac{4}{3} \times 12 \times \frac{8}{7} =$



MOTHER'S DAY CELEBRATION

G6 Advanced

Rica and Rachel are having a great time in celebrating Mother's Day. Their plan is successful and now, it is time to answer the following by multiplying the sets of fractions. Give your answer in simplest form and mixed number if possible.

1. $\frac{12}{9} \times \frac{11}{10} =$

2. $\frac{13}{12} \times \frac{15}{13} =$

3. $\frac{10}{9} \times \frac{13}{12} =$

4. $\frac{16}{14} \times \frac{20}{10} =$

5. $\frac{18}{15} \times \frac{18}{11} =$

GIFTS AND SMILES

G6 Advanced

Let us help Rica and Rachel give the gifts for their wonderful moms. But before that, let us help them in multiplying and simplifying the products of the following sets. Give your answer in mixed number if possible.

1. $\frac{10}{9} \times \frac{12}{11}$

2. $\frac{15}{11} \times \frac{16}{12}$

3. $\frac{21}{9} \times \frac{18}{14}$

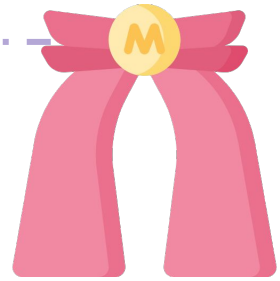
4. $\frac{24}{12} \times \frac{16}{15}$

5. $\frac{30}{9} \times \frac{18}{10}$

WONDER MOM

G6 Advanced

Let us all thank and appreciate the unconditional love given by our wonder moms. Let us also show them our wonder skills in solving the following. You can apply cancellation before multiplying. Give your answers in simplest form and mixed numbers if possible.



1. $\frac{12}{11} \times \frac{18}{15} \times \frac{20}{12} =$

2. $\frac{16}{12} \times \frac{24}{14} \times \frac{25}{15} =$

3. $\frac{24}{13} \times \frac{11}{10} \times \frac{15}{11} =$

4. $12 \times \frac{16}{14} \times \frac{12}{9} =$

5. $\frac{13}{15} \times 20 \times \frac{18}{10} =$

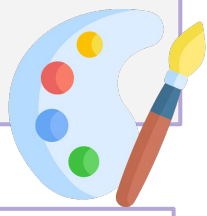
CRAFT AWAY THE DAY

G6 Advanced

Rica and Rachel will have an arts and crafts day as a gift for their mother. They will prepare some cards and paintings. Let us help them in solving the following word problems. Write your complete solution and answer in simplest form and mixed number if possible.

1. Rica has 20/8 tube of yellow paint to be used in her artwork. Each tube holds 5/4 ounces of paint. How many ounces of yellow paint will Rica use?

Solution: Answer:



2. Rachel will make a card that has 32/9 inches width and the length is 2 times its width. What is the length of the card?

Solution: Answer:

MOTHER'S DAY EVERYDAY

G6 Advanced

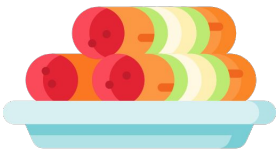
Rica and Rachel are celebrating Mother's Day not for a day but everyday. Yes! We agree with that! Let's us help again the two with the following word problems. Write your complete solution and answer in simplest form and mixed number if possible.

1. On Friday, Rica made 21/6 trays of cookies for her mother, grandmother and aunties. On Saturday, she made 8/7 as much cookies as on Friday. How many trays of cookies did Rica make on Saturday?

Solution: Answer:

2. Rachel used 24/11 cups of enchilada sauce in her beef enchiladas recipe for the family. How many cups of enchiladas sauce would she use for 37/12 recipes?

Solution: Answer:



ANSWER GUIDE

Activity 1

6/4 8/8 3/2
4/3 9/5

Activity 2

1. E 2. B 3. D
4. C 5. A

Activity 3

1. 2 2/9 2. 2 1/10 3. 4 1/6 4. 4 3/8 5. 1 23/40

Activity 4

1. 1 9/16 2. 3 1/2 3. 2 1/4 4. 2 5. 2 2/5

Activity 5

1. 6 2. 3 1/2
3. 2 13/16 4. 24
5. 18 2/7

Activity 6

1 1 7/15 2. 1 1/4
3. 1 11/54 4. 2 2/7
5. 1 53/55

Activity 7

1. 1 7/33 2. 1 9/11
2. 3 4. 2 2/15
5. 6

Activity 8

1. 2 2/11 2. 3 17/21
3. 2 10/13 4. 18 2/7
5. 31 1/5

Activity 9

1. 20/8 x 5/4 = 3 1/8
2. 32/9 x 2/1 = 7 1/9

Activity 10

1. 21/6 x 8/7 = 4
2. 24/11 x 37/12 = 6 8/11

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