



4th  
Basic

5th  
Advanced

# Helping With Math

USA  
GRADES

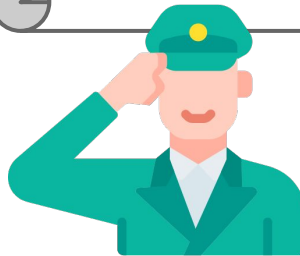
## Multiplication of Proper Fractions

*Suitable for students  
aged 8-10*



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

During the Veterans Day parade,  $\frac{3}{4}$  of the participants are men and  $\frac{1}{3}$  of them are holding the flags. What fraction of the men are holding the flags?



Look at the given fractions. What do you call these fractions?

Numerator



3

1

Denominator



4

3

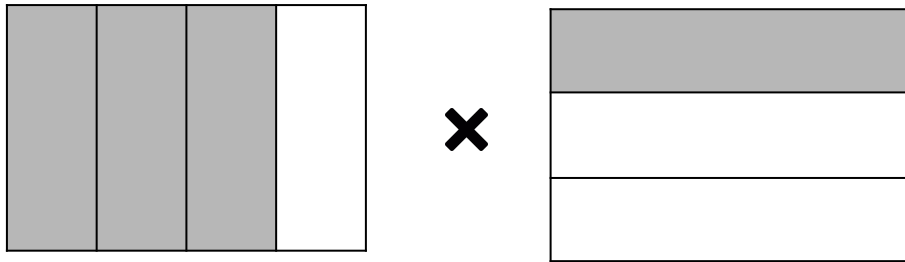
A **proper fraction** is a fraction whose numerator is smaller than its denominator.

Now, let us take a look on how to solve the problem.



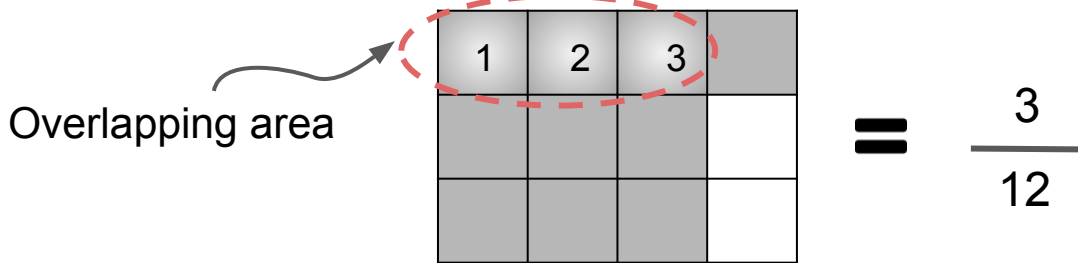
## MULTIPLYING PROPER FRACTIONS

To solve the problem, we need to multiply the two proper fractions. Look at the illustration below.



$$\frac{3}{4}$$

$$\frac{1}{3}$$



$$= \frac{3}{12}$$

$$\frac{3}{12} \rightarrow \text{Overlapping area}$$

$$12 \rightarrow \text{Total number of boxes}$$

$$= \frac{1}{4}$$

Illustrate the given fractions by using a model. Combine the two models and look at the overlapping area. Then, simplify your answer if needed.



## THE PROCESS



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

$$\frac{3}{4} \times \frac{1}{3} = \frac{3 \times 1}{4 \times 3} = \frac{3}{12}$$

$$\frac{3 \div 3}{12 \div 3} = \frac{1}{4}$$

You can simplify the product because both 3 and 12 can still be divided by 3.

$$\frac{1}{4}$$

Lowest term



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

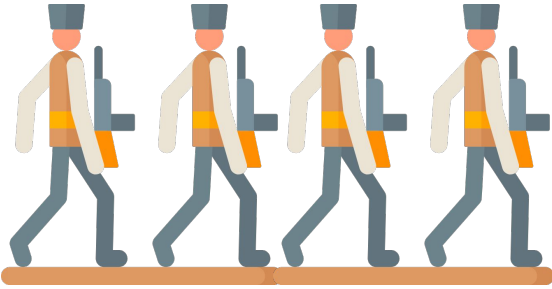
$$\frac{\overset{1}{\cancel{3}}}{4} \times \frac{1}{\cancel{3} \underset{1}{}} = \frac{1}{4}$$

Lowest term



## YOUR TURN!

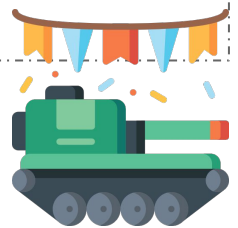
During the parade,  $\frac{4}{7}$  of the participants are officers,  $\frac{1}{4}$  of the officers are wearing brown uniform. What fraction of the officers are wearing brown uniform?



$$\frac{4}{7} \times \frac{1}{4} = \frac{\boxed{\phantom{000}}}{\boxed{\phantom{000}}}$$

Find the product using the models.

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

<b>Age 8-9</b> (Basic)		<u>4th Grade</u>
1	Care Package on the Go	
2	Invite, Connect and Share	
3	Ready for the Veterans Day Parade	
4	Treat Them to a Treat	
5	Write and Send a Note	
<b>Age 9-10</b> (Advanced)		<u>5th Grade</u>
6	Home of the Brave	
7	True Heroism	
8	Fly the Flag Correctly	
9	A Community of Support	
10	Celebrate with Service	



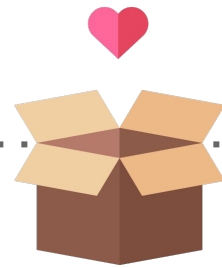
# CARE PACKAGE ON THE GO

G4  
Basic

To show appreciation and support to our veterans, one of the simple ways is to create and send them care packages. Let us make a list of all the the things that we can include but before that, choose and encircle the proper fractions so that we can start preparing the care packages.

$$\frac{2}{6}$$

$$\frac{4}{3}$$



$$\frac{7}{7}$$

$$\frac{7}{8}$$

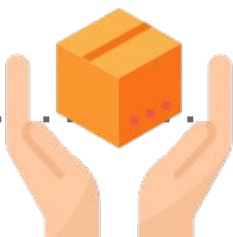
$$\frac{5}{6}$$

$$\frac{1}{4}$$

$$\frac{8}{6}$$

$$\frac{10}{5}$$

$$\frac{5}{8}$$



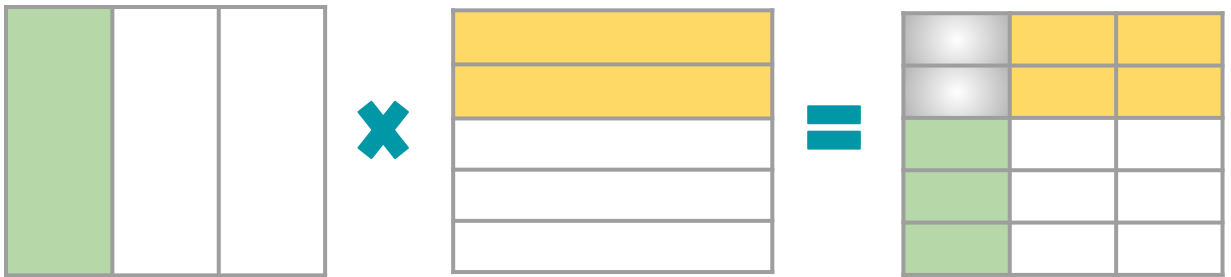
# INVITE, CONNECT AND SHARE

G4  
Basic

Your school will be inviting veterans as guest speakers to share their experiences in the military service. Connect and show your appreciation to them. Also, share what you have learned in multiplication of proper fractions using models.

1.

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square}$$



2.

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square}$$



# READY FOR THE VETERANS DAY PARADE

G4  
Basic

You and your friends are preparing to watch the Veterans Day parade to show support. Before going out, one of your friends need help in solving the following. Let us help him first by showing the complete process of multiplying fractions.

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

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



3  $\frac{4}{7} \times \frac{2}{3} = \frac{\square \times \square}{\square \times \square} = \frac{\square}{\square}$

4  $\frac{2}{5} \times \frac{1}{7} = \frac{\square \times \square}{\square \times \square} = \frac{\square}{\square}$

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





# TREAT THEM TO A TREAT

G4  
Basic

As part of celebrating the Veterans Day, treat them for a simple lunch by preparing food as a way of showing honor and gratitude. Before that, make a checklist of the menu, is it correct? Let us answer the following fractions by checking if the given answers are correct or not.

1  $\frac{1}{8} \times \frac{2}{6} = \frac{1}{24}$

Solution:

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

Solution:

3  $\frac{6}{7} \times \frac{5}{6} = \frac{5}{42}$

Solution:

4  $\frac{1}{3} \times \frac{4}{8} = \frac{1}{6}$

Solution:

5  $\frac{3}{8} \times \frac{4}{6} = \frac{1}{8}$

Solution:


# WRITE AND SEND A NOTE

G4  
Basic

Small acts of recognizing someone's service are indeed appreciated. Let us send a thank you note to our veterans but before that, find the product of the following sets of fractions by choosing the correct answer written below.

1.  $\frac{2}{8} \times \frac{3}{7} = \frac{\square}{\square}$

Solution:

2.  $\frac{5}{6} \times \frac{2}{5} = \frac{\square}{\square}$

Solution:

3.  $\frac{1}{4} \times \frac{2}{6} = \frac{\square}{\square}$

Solution:

4.  $\frac{2}{8} \times \frac{3}{4} = \frac{\square}{\square}$

Solution:

5.  $\frac{3}{5} \times \frac{6}{7} = \frac{\square}{\square}$

Solution:

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

Solution:

THANK YOU

$\frac{3}{16}$

$\frac{3}{28}$

$\frac{1}{3}$

$\frac{18}{35}$

$\frac{2}{5}$

$\frac{1}{12}$



# HOME OF THE BRAVE

G5  
Advanced

To appreciate the sacrifices made by the veterans, learn more about the important battles in which they fought by reading a book or watching a movie about military history. Let us learn together as we learn the process of multiplying proper fractions. Let us practice and answer the following.



1

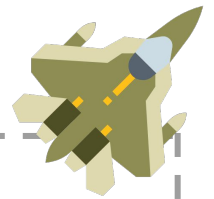
$$\frac{3}{13} \times \frac{2}{11}$$

2

$$\frac{5}{12} \times \frac{11}{14}$$

3

$$\frac{7}{12} \times \frac{7}{10}$$



4

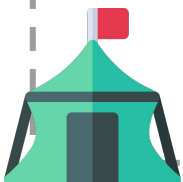
$$\frac{2}{15} \times \frac{11}{13}$$

5

$$\frac{1}{14} \times \frac{5}{9}$$

6

$$\frac{11}{12} \times \frac{5}{13}$$



# TRUE HEROISM

G5  
Advanced

Another meaningful way to celebrate the Veterans Day is by visiting a nursing home. You can thank the veterans with your time and a smile but before we prepare for that, let us answer the following sets of fractions by multiplying them. Write your solution and answer on the box.

1

$$\frac{4}{10} \times \frac{4}{12} =$$

Answer:

2

$$\frac{8}{14} \times \frac{7}{10} =$$

Answer:

3

$$\frac{3}{15} \times \frac{5}{11} =$$

Answer:

4

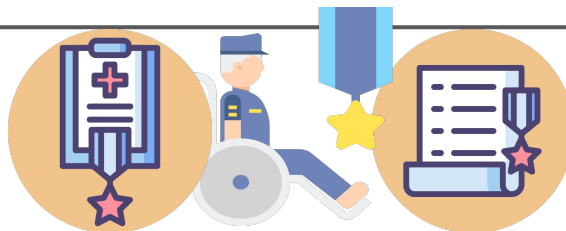
$$\frac{7}{10} \times \frac{2}{11} =$$

Answer:

5

$$\frac{3}{13} \times \frac{2}{15} =$$

Answer:



# FLY THE FLAG CORRECTLY

G5  
Advanced

Veterans Day is a great opportunity to fly the flag but make sure you're raising the flag correctly. In line with this, apply your learning in multiplying proper fractions. Show your complete solution and final answer.



$$\frac{2}{14} \times \frac{8}{10}$$

$$= \frac{\square}{\square}$$

$$\frac{5}{13} \times \frac{9}{11}$$

$$= \frac{\square}{\square}$$

$$\frac{6}{14} \times \frac{7}{12}$$

$$= \frac{\square}{\square}$$

$$\frac{13}{15} \times \frac{5}{13}$$

$$= \frac{\square}{\square}$$

$$\frac{3}{9} \times \frac{12}{15}$$

$$= \frac{\square}{\square}$$



# A COMMUNITY OF SUPPORT

G5  
Advanced

Mico and his friends are preparing something for the veteran community. They will have snacks and care packages for the veterans. Let us help them by answering the following word problems.

1. Mico has a list of items to be included in the care package.  $\frac{5}{12}$  of the list are not yet available,  $\frac{2}{10}$  of that unavailable items will be donated by one of his friends. What fraction of the unavailable items will be donated by his friend?

Solution:

Answer:



2. As part of their activity, they are preparing healthy snacks for the veterans.  $\frac{6}{8}$  of the snacks will be served by Miko and  $\frac{10}{14}$  of that snacks are already inside the bag. What fraction of the snacks are already inside the bag?

Solution:

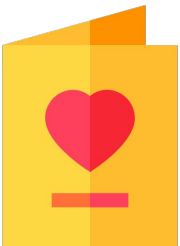
Answer:



# CELEBRATE WITH SERVICE

G5  
Advanced

Mico and his friends are also planning to celebrate Veterans Day by volunteering and giving a thank you note for them. Let us look at the given word problems below and help them by writing the complete solution and answer.



1. They will prepare thank you note cards for the veterans to show gratitude.  $\frac{7}{15}$  of the cards are already cut and  $\frac{3}{14}$  of that cards are color yellow. What fraction of the cards are color yellow?

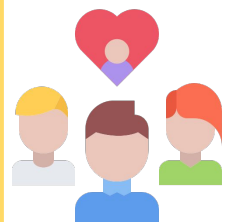
Solution:

Answer:

2. Mico and his friends will also visit a nursing home. They will spend  $\frac{6}{13}$  of their time on the first floor and  $\frac{4}{12}$  of that time on the garden area with the veterans. What fraction of that time will be spent in the garden area?

Solution:

Answer:



# ANSWER GUIDE

## Activity 1

$\frac{2}{6}$        $\frac{7}{8}$        $\frac{5}{6}$   
 $\frac{1}{4}$        $\frac{5}{8}$

## Activity 2

- $\frac{1}{3} \times \frac{2}{5} = \frac{2}{15}$
- $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

## Activity 3

- $\frac{10}{21}$
- $\frac{3}{40}$
- $\frac{8}{21}$
- $\frac{2}{35}$
- $\frac{15}{56}$

## Activity 4

- Yes
- $\frac{2}{5}$
- $\frac{5}{7}$
- Yes
- $\frac{1}{4}$

## Activity 5

- $\frac{3}{28}$
- $\frac{1}{3}$
- $\frac{1}{12}$
- $\frac{3}{16}$
- $\frac{18}{35}$
- $\frac{2}{5}$

## Activity 6

- $\frac{6}{143}$
- $\frac{55}{168}$
- $\frac{49}{120}$
- $\frac{22}{195}$
- $\frac{5}{126}$
- $\frac{55}{156}$

## Activity 7

- $\frac{2}{3}$
- $\frac{2}{5}$
- $\frac{1}{11}$
- $\frac{7}{55}$
- $\frac{2}{65}$

## Activity 8

- $\frac{4}{35}$
- $\frac{45}{143}$
- $\frac{1}{4}$
- $\frac{1}{3}$
- $\frac{4}{15}$

## Activity 9

- $\frac{5}{12} \times \frac{2}{10} = \frac{1}{12}$
- $\frac{6}{8} \times \frac{10}{14} = \frac{15}{28}$

## Activity 10

- $\frac{7}{15} \times \frac{3}{14} = \frac{1}{10}$
- $\frac{6}{13} \times \frac{4}{12} = \frac{2}{13}$





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