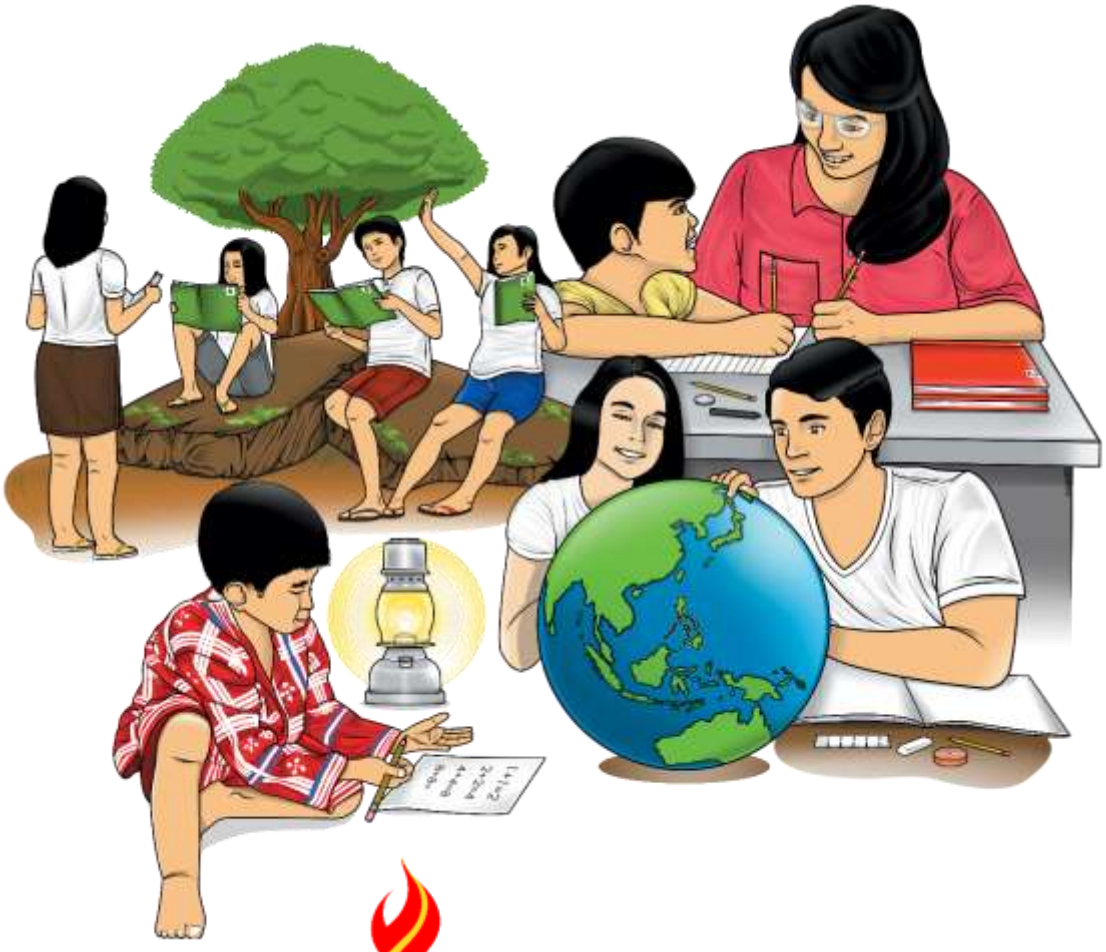
5

DepED
DEPARTMENT OF EDUCATION

Mathematics

Quarter 1 – Module 11:
Fun in Multiplying Fractions and a Whole Number and Another Fraction



ALTERNATIVE DELIVERY MODE
ADM

GOVERNMENT PROPERTY
NOT FOR SALE

Mathematics – Grade 5
Alternative Delivery Mode
Quarter 1 – Module 11: Fun in Multiplying Fractions and a Whole Numbers and Another Fractions.
First Edition, 2020

Republic Act 8293, Section 176 states that: No copyright shall subsist in any work of the Government of the Philippines. However, prior approval of the government agency or office wherein the work is created shall be necessary for the exploitation of such work for a profit. Such agency or office may, among other things, impose as a condition the payment of royalties.

Borrowed materials (i.e., songs, stories, poems, pictures, photos, brand names, trademarks, etc.) included in this book are owned by their respective copyright holders. Every effort has been exerted to locate and seek permission to use these materials from their respective copyright owners. The publisher and authors do not represent nor claim ownership over them.

Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Writers: Elena Danduan
Editors: Zosimo M. Miñozo Jr., Josephine L. Gallardo Jim Anthony C. Morfe, Ramil R. Magdua, Joseph Randolp Palattao, Lilia Martinez, Bernadeth Daran
Reviewers: Renato S. Cagomoc, Rolando Lacbo, Joshua Sherwin T. Lim, Normel John A. Manuales
Illustrator: Edgar B. Castillo
Layout Artist: Modesto Y. Sapinit
Management Team:
Ramir B. Uytico
Arnulfo M. Balane
Rosemarie M. Guino
Joy B. Bihag
Ryan R. Tiu
Sarah S. Cabaluna
Thelma Cabadsan-Quitalig
Elena S. De Luna
Renato S. Cagomoc
Noel E. Sagayap
Geraldine P. Sumbise
Joshua Sherwin T. Lim

Printed in the Philippines by _____

Department of Education – Region VIII

Office Address: Government Center, Candahug, Palo, Leyte
Telefax: 053 – 832-2997
E-mail Address: region8@deped.gov.ph

5

Mathematics

Quarter 1 – Module 11:
Fun in Multiplying
Fractions and a Whole Number
and Another Fraction

DepED
DEPARTMENT OF EDUCATION

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests, and read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Good luck and happy learning!

What I Need to Know

Hi, Mathletes**!**

In this module, you will be dealing with multiplication of a fraction by a fraction and a whole number.

At the end of this module, you will be able to:

- multiply a fraction and a whole number and another fraction.

M5NS-Ig-90.1

What I Know

Now, answer the questions below:

Directions: Choose the letter of the correct answers and write them in your Activity Notebook.

1) If $\frac{2}{3}$ x $\frac{1}{2}$ = N, what is the value of N?

A. $\frac{1}{4}$ B. $\frac{1}{3}$ C. $\frac{1}{2}$ D. $\frac{1}{5}$

2) If you multiply $\frac{1}{4}$ by $\frac{2}{3}$, what will be the product?

A. $\frac{1}{5}$ B. $\frac{1}{6}$ C. $\frac{1}{7}$ D. $\frac{1}{12}$

3) What is $\frac{3}{4}$ of 20?

A. 5 B. 10 C. 15 D. 25

4) In a class of 40, $\frac{4}{5}$ are boys. How many are boys?

A. 40 B. 32 C. 45 D. 35

5) What is $\frac{3}{7}$ of 35?

A. 5 B. 15 C. 25 D. 30

6) Find the product of 3 and $\frac{5}{8}$.

A. $2\frac{7}{8}$ B. $\frac{7}{8}$ C. $1\frac{7}{8}$ D. $\frac{8}{8}$

7) If you multiply 10 by $\frac{6}{10}$, the product is _____.

A. 6 B. $10\frac{6}{8}$ C. $\frac{6}{100}$ D. $\frac{60}{100}$

8) What is $\frac{3}{10}$ multiplied by 5?

A. $\frac{1}{2}$ B. $1\frac{1}{2}$ C. $1\frac{1}{4}$ D. $\frac{1}{5}$

9) What is the value of N in the expression $\frac{4}{5} \times \frac{5}{8} = N$?

A. $\frac{1}{2}$ B. $\frac{1}{5}$ C. $\frac{1}{4}$ D. $\frac{1}{3}$

10) Multiplying $\frac{1}{3}$, $\frac{2}{5}$ and $\frac{1}{3}$ will give a product of _____.

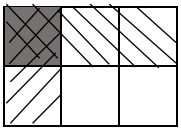
A. $\frac{2}{15}$ B. $\frac{2}{35}$ C. $\frac{2}{45}$ D. $\frac{2}{11}$

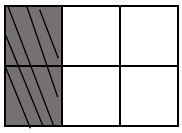
Lesson 1 Fun in Multiplying Fractions

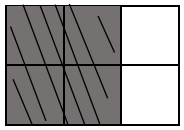
What's In

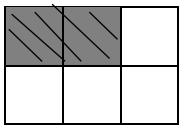
Directions: Write your correct answers in your Math Activity notebook.

1) Which is the correct illustration of the product of the fraction $\frac{1}{3}$ of $\frac{1}{2}$?

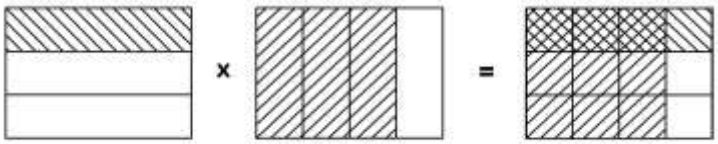
A. 

B. 

C. 

D. 

2) Which is the correct number sentence of the illustration below?



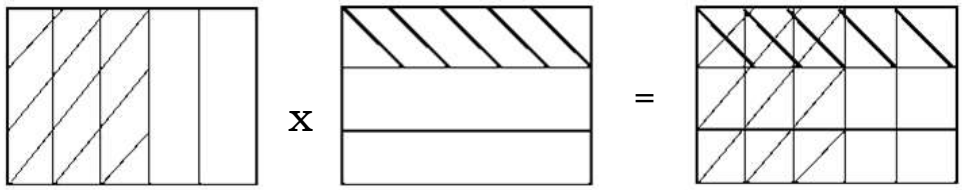
A. $\frac{1}{3} \times \frac{3}{4} = \frac{3}{12}$ or $\frac{1}{4}$

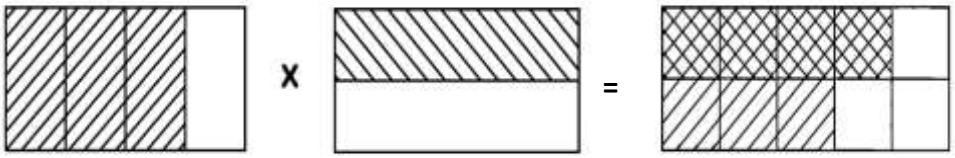
C. $\frac{1}{3} \times \frac{2}{5} = \frac{2}{15}$

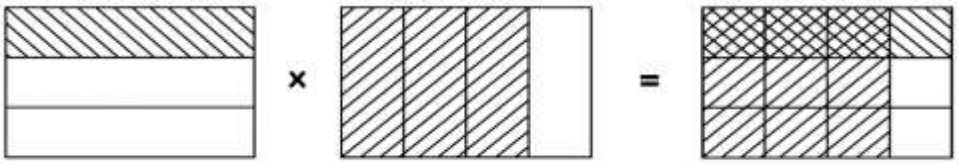
B. $\frac{3}{5} \times \frac{5}{9} = \frac{15}{45}$ or $\frac{1}{3}$

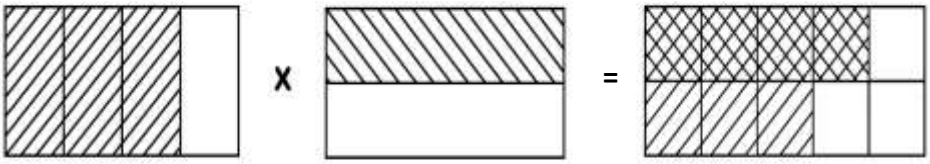
D. $\frac{2}{3} \times \frac{1}{4} = \frac{2}{12}$ or $\frac{1}{6}$

3. Illustrate the fraction $\frac{3}{5}$ x $\frac{1}{3}$.

A 

B. 

C. 

D. 

What's New

Are you ready for the next task? Let us read and analyze the problem below.

Robert has 3 gallons of paint. He used $\frac{3}{4}$ of the paint. How many gallons of paint did he use?

What is asked in the problem?

What facts are given?

What operation are we going to use?

How to solve the problem?

What is the correct answer?

What Is It

Robert has 3 gallons of paint. He used $\frac{3}{4}$ of the paint. How many gallons of paint did he use?

What is asked in the problem?

The gallons of paint Robert used.

What are the facts given?

3 gallons of paint, $\frac{3}{4}$ *of the paint*

What operation are we going to use?

Multiplication

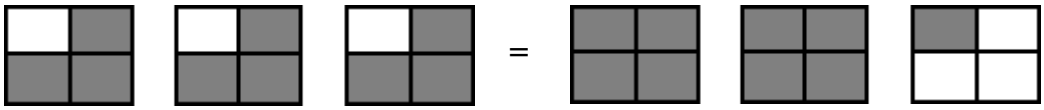
How to solve the problem?

One way to think and solve the problem is to rewrite the problem.

In words: What is $\frac{3}{4}$ *of 3?*

As a number sentence: $\frac{3}{4} \times 3 = N$

An illustration can help you to solve this problem:



How many fourths are there in total?

There are nine-fourths in total. So, $\frac{3}{4} \, x \, 3 = \frac{3 \text{ X } 3}{4} = \frac{9}{4}$.

What is the correct answer?

Therefore, Robert used $\frac{9}{4}$ *gallons of paint or* $2 \frac{1}{4}$ *gallons of paint.*

To multiply fractions to fractions, simply multiply the numerator to numerator and denominator to denominator, then if the product is not in the lowest term, it is necessary to simplify to lowest or simplest term.

Consider the following examples.

A. Multiply: $\frac{2}{3} \text{ x } \frac{4}{5}$

Solution:

$$\frac{2}{3} \text{ x } \frac{4}{5} = \frac{2 \text{ x } 4}{3 \text{ x } 5} = \frac{8}{15}$$

B. What is $\frac{1}{4}$ of 24?

Solution:

$\frac{1}{4}$ of 24 means $\frac{1}{4} \text{ x } 24$.

$$\frac{1}{4} \text{ x } 24 = \frac{1}{4} \text{ x } \frac{24}{1}$$

$$= \frac{1}{4} \text{ x } \frac{24}{1} = \frac{24}{4} = 6$$

What's More

Let us practice!

Directions: Multiply the following fractions. Choose the answer from the box.

1) $\frac{4}{5}$ x 30 =____

2) $\frac{3}{5}$ of 15 = ____

3) 3 x $\frac{2}{12}$ = _____

4) $\frac{2}{8}$ x 40 = _____

5) $\frac{4}{5}$ of 20 = _____

6) $\frac{2}{5}$ x $\frac{3}{6}$ = ____

7) $\frac{4}{7}$ x $\frac{5}{6}$ = ____

8) $\frac{2}{3}$ of $\frac{3}{5}$ = ____

9) $\frac{5}{12}$ x $\frac{3}{4}$ = ____

10) $\frac{6}{20}$ x $\frac{5}{7}$ = ____

24	16	$\frac{2}{5}$	$\frac{3}{14}$	$\frac{5}{16}$
9	$\frac{1}{2}$	10	$\frac{1}{5}$	$\frac{10}{21}$

What I Have Learned

Directions: Supply the missing term:

In multiplying a whole number by a fraction:

Multiply the whole number by the (1) _____ of the fraction to get the numerator of the (2) _____.

Copy the (3) _____ of the fraction to get the denominator of the product.

Express the obtained product in (4) _____.

In multiplying fraction by a fraction:

(5) _____ the numerators of the fraction to get the numerator of the product.

Multiply the denominators of the (6) _____ to get the denominator of the product

(7) _____ the answer in lowest terms.

What I Can Do

Now you can do this independently. Good luck!

Directions: Find the product of the following fractions in lowest terms.

1) $\frac{3}{4}$ x 60 = _____

2) $\frac{1}{4}$ x 80 = _____

3) $\frac{5}{6}$ x 120 = _____

4) $\frac{4}{7}$ x $\frac{3}{4}$ = _____

5) $\frac{9}{10}$ x $\frac{2}{15}$ = _____

6) 14 x $\frac{5}{6}$ = _____

7) 25 x $\frac{3}{5}$ = _____

8) $\frac{4}{5}$ x $\frac{2}{3}$ = _____

9) $\frac{3}{8}$ of $\frac{5}{6}$ = _____

10) $\frac{7}{8}$ x $\frac{2}{3}$ = _____

Assessment

Time to find out what you have learned.

Directions: Read and understand the items carefully. Then write your answers in Activity Notebook.

1) If you multiply $\frac{1}{4}$ and $\frac{2}{3}$, what will be the product?

2) What is $\frac{2}{7}$ of $\frac{3}{5}$?

3) What is the value of N in $\frac{4}{7}$ x $\frac{7}{8}$ = N?

4) Multiply $\frac{5}{6}$ by $\frac{4}{5}$. What will be the product?

5) What is $\frac{4}{5}$ of 40?

6) Find the product of 6 and $\frac{5}{8}$. The answer is _____.

7) If you multiply 12 and $\frac{6}{10}$, the answer would be _____.

8) What is $\frac{3}{7}$ multiplied by 5.

9) What is the value of N? $\frac{4}{7} \times \frac{7}{8} = N$

10) When you multiply $\frac{2}{5}$, $\frac{3}{4}$ and $\frac{4}{5}$. It will give a product of _____.

Additional Activities

Practice more!

Directions: Multiply. Write each answer in lowest term if possible.

1) What is $\frac{1}{4}$ of 80?

2) Find $\frac{5}{6}$ of 15.

3) How many is $\frac{2}{7}$ of 12?

4) Get $\frac{3}{7}$ of 35.

5) Show the 45 is $\frac{3}{4}$ of 60

Answer Key

What I Know

1. B
2. B
3. C
4. B
5. B
6. C
7. A
8. B
9. A
10. C

What's In

1. A
2. A
3. A

What's More

1. 24
2. 9
3. 1/1
4. 10
5. 16
6. 1/5
7. 10/21
8. 2/5
9. 5/16
10. 3/14

What I can Do

1. 45
2. 20
3. 100
4. 3/7
5. 3/25
6. 35/3
7. 15
8. 8/15
9. 5/16
10. 7/12

What's New

1. The gallons of paint Robert use.
2. 3 gallons, ¾ of paint
3. Multiplication
4. 3 x ¾ = 3 x 3 = 9 or 2 ¼
5. 2 ¼ gallons of paint used

Assessment

1. 2/12 or 1/6
2. 6/35
3. N= 4/8 or ½
4. 2/3
5. 32
6. 3 ¼
7. 7 -1/5
8. 2 -1/7
9. ½
10. 6/25

Additional Activities

1. 20
2. 12- 1/2
3. 3-3/7
4. 15
5. 60 x ¾ = 45

What I have Learned

Numerator
Product
Denominator
Lowest Term
Multiply
Fraction
reduce

Reference

DepEd Bureau of Elementary Education. 2010. *Lesson Guide in Mathematics*

For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph