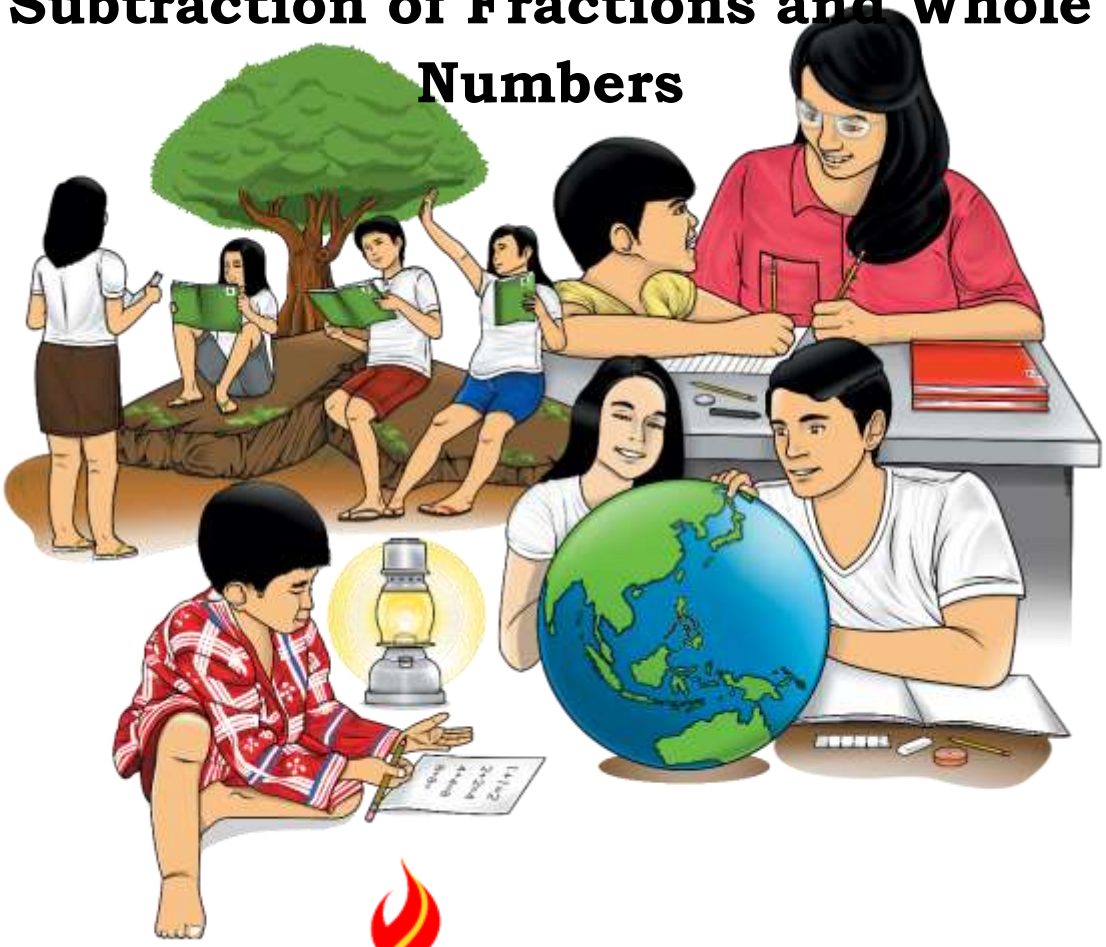
5

DepED
DEPARTMENT OF EDUCATION

Mathematics

Quarter 1 – Module 13:
Solving Routine and Non-Routine Problems Involving Multiplication without or with Addition or Subtraction of Fractions and Whole Numbers



ALTERNATIVE DELIVERY MODE
ADM

Mathematics – Grade 5
Alternative Delivery Mode
Quarter 1 – Module 13: Solving Routine and Non-Routine Problems Involving Multiplication without or with Addition or Subtraction of Fractions and Whole Numbers
First Edition, 2020

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

Development Team of the Module

Writer: Ivie C. Loayon
Editors: Zosimo M. Miñozo Jr., Catherine Cortez, Aida F. Bantiles, John Michael C. and Jalayajay, Ramil R. Magdua, Joseph Randolp Palattao, Lilia Martinez, Bernadeth Daran
Reviewers: Renato S. Cagomoc, Rolando Lacbo, Joshua Sherwin T. Lim, Robirth Ornopia, and Aida F. Bantiles
Illustrator: Angel L. Porlares
Layout Artist: Modesto Y. Sapinit, Ryan R. Tiu
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 – 323-3156
E-mail Address: region8@deped.gov.ph

5

Mathematics

Quarter 1 – Module 13: Solving Routine and Non-Routine Problems Involving Multiplication without or with Addition or Subtraction of Fractions and Whole Numbers

DepED
DEPARTMENT OF EDUCATION

Introductory Message

For the Facilitator:

Welcome to the Mathematics Grade 5 Alternative Delivery Mode (ADM) Module 13 on Solving Routine and Non-Routine Problems Involving Multiplication without or with Addition or Subtraction of Fractions and Whole Numbers

This module was collaboratively designed, developed and reviewed by educators from both public and private institutions to assist you, the teacher or facilitator, in helping the learners to meet the standards set by the K to 12 Curriculum while overcoming their personal, social, and economic constraints in schooling.

This learning resource hopes to engage the learners into guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:

Notes to the Teacher

This contains helpful tips or strategies that will help you in guiding the learners.

As a Facilitator, you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Furthermore, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the Learner:

Welcome to the Mathematics 5 Alternative Delivery Mode (ADM) Module 13 on Solving Routine and Non-Routine Problems Involving Multiplication without or with Addition or Subtraction of Fractions and Whole Numbers!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning resource while being an active learner.

This module has the following parts and corresponding icons:

 ***What I Need to Know***	This will give you an idea of the skills or competencies you are expected to learn in the module.
 ***What I Know***	This part is composed of a 10-item activity to check what you already know about the lesson to take. If you get all the answers correct (100%) you may decide to skip this module.
 ***What's In***	This is a brief drill or review to help you link the current lesson with the previous one.
 ***What's New***	In this portion, the new lesson will be introduced to you in various ways: a story, a song, a poem, a problem opener, an activity, or a situation.
 ***What is It***	This section provides a brief discussion of the lesson. This aims to help you discover and understand new concepts and skills.
 ***What's More***	This comprises activities for independent practice to solidify your understanding and skills of the topic. You may check the answers to the exercises using the Answer Key at the end of the module.
 ***What I Have Learned***	This includes questions or fill in the blank sentence/paragraph to process what you have learned from the lesson.
 ***What I Can Do***	This section provides an activity that will help you transfer your new knowledge or skill in real-life situations or concerns.

 ***Assessment***	This is another 10-item task that aims to evaluate your level of mastery in achieving the learning competency.
 ***Additional Activities***	In this portion, another activity will be given to you to enrich your knowledge or skill of the lesson learned.
 ***Answer Key***	This contains answers to all activities in the module.

At the end of this module you will also find:

References:	This is a list of all sources used in developing this module.

The following are some reminders in using this module:

1. Use the module with care. Do not put unnecessary marks on any part of the module. Use a separate sheet of paper in answering the exercises.
2. Don't forget to answer *What I Know* before moving on to the other activities included in the module.
3. Read the instructions carefully before doing each task.
4. Observe honesty and integrity in doing the tasks and checking your answers.
5. Finish the task at hand before proceeding to the next.
6. Return this module to your teacher/facilitator once you are through with it.

If you encounter any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator. Always bear in mind that you are not alone.

We hope that through this material, you will experience meaningful learning and gain a deep understanding of the relevant competencies. You can do it!

What I Need to Know

Good day, Mathlete!

In this module, you are going to gain understanding in solving routine and non-routine problems involving multiplication without or with addition or subtraction of fractions and whole numbers using appropriate problem-solving strategies and tools.

What I Know

You need to answer this pre-test before you proceed to the lesson proper.

Directions: Solve the following problems. Write the letter of the correct answer on a separate sheet of paper.

1) Jerick's daily allowance is P32.00. If he saves $\frac{1}{4}$ of it, how much does he save daily?
   A. P12.00 B. P5.00 C. P10.00 D. P8.00

2) Three-fifths of a 10-item quiz were answered correctly by Lorenzo. How many points did he get if one item scored one point?
   A. 3 B. 6 C. 7 D. 5

3) There are 40 girls in a class. Three-eighths of them have long hair, while the rest have short hair. How many girls have short hair?
   A. 13 B. 18 C. 25 D. 28

4) In a graduating class of 164 students, $\frac{2}{4}$ decided to take technical courses, $\frac{1}{4}$ wanted to take education, and the rest decided to study nursing. How many students will enroll in nursing?
   A. 41 B. 20 C. 26 D. 32

5) A car travels at a speed of $2\frac{1}{4}$ kph. How far can it go in $3\frac{1}{3}$ hours?
   A. $4\frac{1}{5}$ B. $5\frac{1}{3}$ C. $7\frac{1}{2}$ D. $10\frac{3}{4}$

6) Rita has 10 guavas. She shared $\frac{3}{5}$ of these guavas with her classmates. She then gave her brother 2 of the remaining guavas. How many guavas are left for Rita?

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

7) Sam walks to school every day for $\frac{2}{3}$ of an hour. Dana walks to school 5 more minutes than Sam. How many minutes does it take Dana to reach the school?

A. 50 B. 45 C. 40 D. 35

8) Eight pupils have 5 marbles each. If they gave away $\frac{5}{8}$ of these marbles, how many marbles are left?

A. 15 B. 20 C. 25 D. 30

9) There are 45 books in a shelf. Three of these books were given to a child and $\frac{2}{3}$ of the remaining books were donated to the barangay reading center. How many books were donated to the reading center?

A. 14 B. 16 C. 28 D. 32

10) Cris wants to buy a mountain bike worth P5,463.00. He has saved only $\frac{5}{9}$ of that amount so far. How much more money does Cris need?

A. P3,305.00 B. P3,035.00 C. P2,824.00 D. P2,428.00

Lesson 1	Solving Routine and Non-Routine Problems Involving Multiplication without or with Addition or Subtraction of Fractions and Whole Numbers

What's In

Do you still remember how to get the product of the fractions? How about multiplying fractions and whole numbers? Recall the process by answering the exercise below. The first one is done for you.

Directions: Find the product of the following given fractions and whole number. Do this in your Activity Notebook.

1) $\frac{2}{\cancel{5}} \times \frac{\cancel{5}}{7} = \frac{2}{7}$, *Why? You may cross out or cancel the 5 (both in the numerator and denominator).*

Start here!

2) $\frac{6}{9} \times \frac{1}{6} = —$

3) $\frac{3}{5} \times \frac{2}{3} = —$

4) $\frac{2}{6} \times \frac{3}{4} = —$

5) $\frac{4}{5} \times \frac{1}{3} = —$

6) $\frac{2}{6} \times \frac{3}{9} = —$

7) $6 \times \frac{2}{3} = —$

8) $\frac{5}{6} \times 3 = —$

9) $\frac{5}{6} \times 4 = —$

10) $2 \times \frac{2}{3} = —$

Notes to the Learner

To multiply proper fractions mentally, simplify first the product expression before multiplying. If the numerators and denominators have common factors, divide the numerator and the denominator by their factor before multiplying.

What's New

Directions: Solve the problem below.

1) Joey spent 16 years of his life studying from elementary to college. He spent $\frac{3}{8}$ of this length of time in college. How many years did he spend in college?

2) Pedro is 144 cm tall, and his sister Joan is $\frac{1}{6}$ taller than him. How tall is Joan?

3) A rectangular piece of paper is **8-**$\frac{1}{2}$ inches wide and 13 inches long. If a border of $\frac{3}{4}$ inch is to be drawn on all sides of the paper, what is the area enclosed by the border?

What Is It

To solve the above problems, follow the four-step plan (Understand, Plan, Solve and Check).

Solution to Problem#1:

Understand

a. What is asked?
   - the total number of years Joey spent in college

b. What are the given?
   - Joey spent 16 years of his life studying
   - $\frac{3}{8}$ of Joey's life studying is spent in college

- **Plan**

a. What operation will be used?
   - Multiplication

b. Write a number sentence.

- $\frac{3}{8}$ **x 16** = *n* *(Note: N or n represent what is being asked)*

- **Solve**
  - .

$$\frac{3}{8}\text{ x }16 = \frac{3}{8}\text{ x }\frac{16}{1}$$
$$= \frac{3}{8}\frac{x}{x}\frac{16}{1}$$
$$= \frac{48}{8}$$
$$= 6$$

Answer: n = 6,

Therefore, Joey spent 6 years in college.

- **Check**
  - Verify if your answer is correct.
  - One way to check is to go back to your solution or try another method.

$$\frac{3}{8}\text{ x }\cancel{16}^{2} = \frac{3}{8}\text{ x }\frac{16}{1}$$
$$\cancel{1}$$

$$= \frac{3}{1}\frac{x}{x}\frac{2}{1}$$
$$= \frac{6}{1}$$
$$n = 6$$

The answer is correct.

Solution to Problem #2

- Understand
  a) What is asked?
     - The height of Joan
  b) What are given?
     - Her brother Pedro is 144 cm tall
     - Joan is $\frac{1}{6}$ taller than his brother Pedro
- Plan
  a) What operation will be used?
     - Multiplication and Addition

b) Write a number sentence.

- $\left(144\ x\frac{1}{6)}\right) + 144 = n$

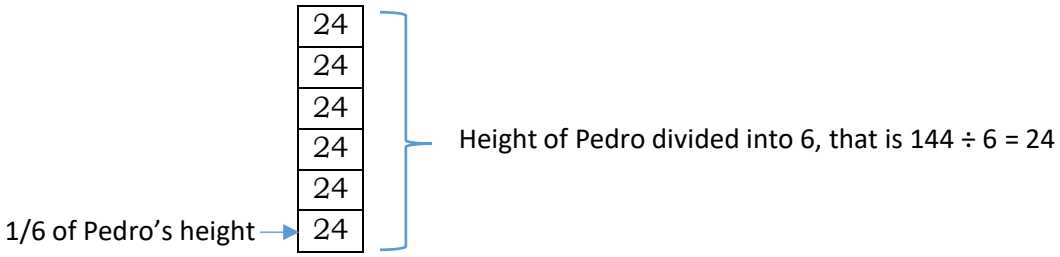
- Solve

$$\left(144\ x\frac{1}{6}\right) + 144 = n$$
$$\left(\frac{144}{1}x\frac{1}{6}\right) + 144 = n$$
$$\left(\frac{144\ x\ 1}{1x\ 6}\right) + 144 = n$$
$$\left(\frac{144}{6}\right) + 144 = n$$
$$(24) + 144 \ = n$$
$$24 + 144 \ = n$$
$$168 \ = n$$

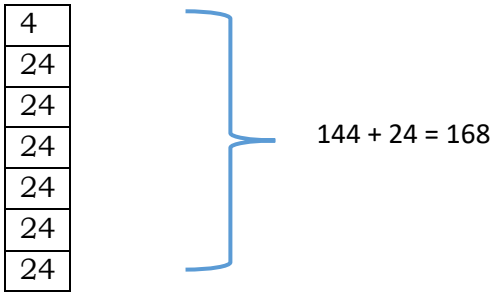
Answer: Joan is 168 cm tall

- Check

a) You may use the Block Model approach to check if the answer is correct.



Since Joan is $\mathbf{\frac{1}{6}}$ taller than Pedro, add 24 cm to Pedro's height to obtain Joan's height.2



The answer is correct.

Solution to Problem #3

- Understand

  a) What is asked?
     - The area enclosed by the border

  b) What are given?
     - The dimension of the paper which is $\mathbf{8\text{-}\frac{1}{2}}$ inches wide and 13 inches long
     - The width of the border drawn on all sides of the paper which is $\mathbf{\frac{3}{4}}$ of an inch

- Plan

  a) How to find the area of a rectangle?
     - Multiply length by its width **(L x W)**

  b) With the border, how does the length and width of the enclosed area differs from the width and length of the rectangular paper?
     - Both the length and width of the enclosed area are shorter by $2 \text{ x}\frac{3}{4}$ than the length and width of the rectangular paper?

  c) What operation will be used?
     - Multiply and Subtraction

  d) Write the number sentence.
     - Length; $13 - (2\ x\frac{3}{4})$
     - Width; $8\frac{1}{2} - (2\ x\frac{3}{4})$
     - **Area enclosed by the border;** $\boldsymbol{A = l\ x\ w}$
     - $\boldsymbol{A = \left[13 - \left(2\ x\frac{3}{4}\right)\right]\ x\ [8\frac{1}{2} - \left(2\ x\frac{3}{4}\right)]}$

- Solve

$A = \left[13 - \left(2\ x\frac{3}{4}\right)\right]\ x\ \left[8\frac{1}{2} - \left(2\ x\frac{3}{4}\right)\right]$	Rewrite the whole number to fraction
$A = \left[13 - \left(\frac{2}{1}\ x\frac{3}{4}\right)\right]\ x\ \left[8\frac{1}{2} - \left(\frac{2}{1}\ x\frac{3}{4}\right)\right]$	Multiply the fractions
$A = \left[13 - \left(\frac{6}{4}\right)\right]\ x\ \left[8\frac{1}{2} - \left(\frac{6}{4}\right)\right]$	Rewrite the mixed number to improper fraction and the whole number as a fraction with a denominator of 2.
$A = \left[13 - \left(\frac{3}{2}\right)\right]\ x\ \left[8\frac{1}{2} - \left(\frac{3}{2}\right)\right]$	Reduced the fraction $\mathbf{\frac{6}{4}}$ to lowest

$$A = \left[\frac{26}{2} - \left(\frac{3}{2}\right)\right] x \left[\frac{17}{2} - \left(\frac{3}{2}\right)\right]$$ Remove the parentheses

$$A = \left[\frac{26}{2} - \frac{3}{2}\right] x \left[\frac{17}{2} - \frac{3}{2}\right]$$ Subtraction of Similar Fractions

$$A = \left[\frac{23}{2}\right] x \left[\frac{14}{2}\right]$$ Remove the bracket

$$A = \left[\frac{23}{2}\right] x [7]$$

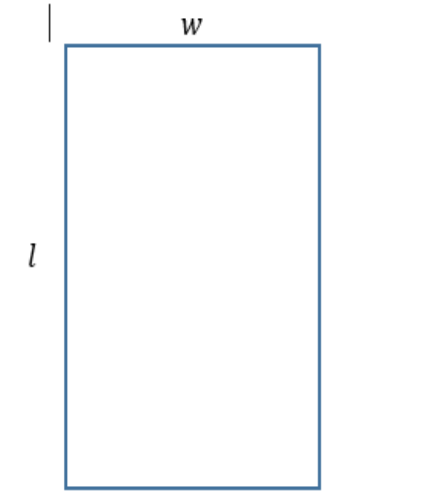
$$A = \frac{23}{2} x 7$$ Multiply

$$A = \frac{161}{2}$$ Simplify

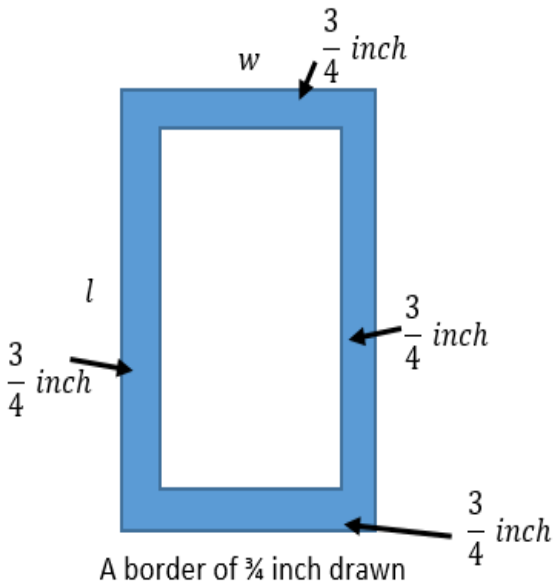
$A = 80\frac{1}{2}$ square inches

Answer: The area enclosed by the border is $80\frac{1}{2}$ square inches.

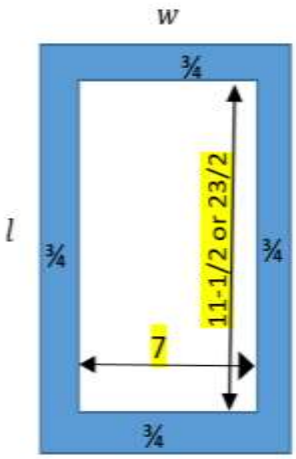
- Check
  a) You may show the problem by drawing to check if your answer is correct.



Rectangular piece of paper, 8-1/2 inches wide and 13 inches long



A border of ¾ inch drawn on all sides of the paper



width of the area enclosed by the border;
7 inches

length of the area enclosed by the border;
23/2 inches

Length = 23/2 inches ; width = 7 inches

Area enclosed by the border = l x w

A = 23/2 x 7

A = 161/2

A = 80-1/2 square inches

Therefore, the answer is correct.

Activity 1: Let us try!

Directions: Show your solution to solve the following problems. Choose the answer that will complete each statement from the box.

80			**6**			**8**	
	27			**10**	**4**		**2**

1) One rainy day, $\frac{1}{5}$ of the 40 pupils in Miss Trigo's class were absent. How many pupils were absent?
   Answer: There are _____ pupils who were absent.

2) The school band has 36 members. Three-fourths of them are girls. How many girls are in the band?
   Answer: There are _____ girls in the band.

3) The distance around the oval track is 160 m. If Kent ran around the track $\frac{1}{2}$ times, how far did he run?
   Answer: He run _____ meters around the oval track.

4) Joel made 10 garden plots. He planted pechay on $\frac{2}{5}$ of these. Find the number of garden plots planted with pechay.

Answer: There are _____ garden plots planted with pechay.

5) A garden plot is $\frac{6}{9}$ m wide and 9 m long. What is the area of the plot in square meters?

Answer: The area of the garden plot is _____ square meters.

Let us have another try! Use color pen or crayon to answer the activity below. Do this in your activity notebook.

Activity 2: The Color of My Heart

Directions: Rewrite the following in your worksheet. Use appropriate problem-solving strategies to solve the problems below. If the answer is a whole number, color the heart RED ❤ ; if the answer is a proper fraction, color the heart YELLOW 💛 and if the answer is neither a whole number nor a proper fraction, color it BLUE 💙.

1) On Saturday, 24 people bought cars at Best Car Shoppe. Of the 24 customers, $\frac{3}{4}$ bought new cars. How many people bought new cars?

2) Scarlet can pick $\frac{3}{4}$ kg of berries in an hour. Rey can pick $\frac{1}{6}$ kg more berries than Scarlet. How many kilograms of berries can Rey and Scarlet pick in an hour?

3) The store owner ordered $\frac{3}{4}$ of a sack of sugar. Each sacks of sugar contained 50 kilograms. The supplier sent only $\frac{2}{3}$ of the order. How many more kilograms of sugar should the supplier send?

4) Donna can walk at a rate of 3 $\frac{1}{2}$ kilometers per hour. On a Saturday, she covers $\frac{1}{5}$ kilometers more than her usual rate. How far can she walk in 2 hours on a Saturday?

5) Forty-two teachers attended the seminar. Two-thirds of them are Math teachers. Out of these Math teachers, $\frac{1}{2}$ are Math majors. How many teachers are not Math majors?

Try to solve sample of a Non-routine problem:

1) A little monkey had 60 bananas.

   a) On the **first** day he decided to keep $\frac{3}{4}$ of his bananas.
   He gave the rest away. Then he ate one.

   b) On the **second** day he decided to keep $\frac{7}{11}$ of his bananas.
   He gave the rest away. Then he ate one.

What I Have Learned

A.

To solve routine and non-routine problems involving multiplication without or with the addition or subtraction of fractions and whole numbers using appropriate problem-solving strategies and tools, follow the four-step plan: (a) _____, (b) _____ , (c) _____, and (d) _____.

B. Refer to the original problem to continue to answer below:

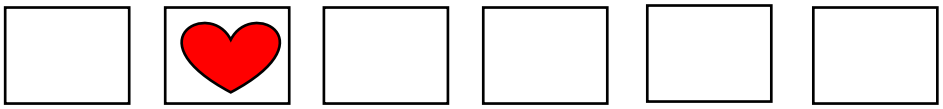
   c) On the **third** day he decided to keep $\frac{5}{9}$ of his bananas.
   He gave the rest away. Then he ate one.

   d) On the **fourth** day he decided to keep $\frac{2}{7}$ of his bananas.
   He gave the rest away. Then he ate one.

   e) On the **fifth** day he decided to keep $\frac{2}{3}$ of his bananas.
   He gave the rest away. Then he ate one. How many did he have left at the end?

What I Can Do

Directions: Solve the following problems to unlock the hidden word. Choose the letter of the correct answer from the big rectangle box then write it on the small square boxes below.



1 **2** **3** **4** **5**

9 = I		128 = T		120 = A	$13\frac{2}{7}$=I	11= T
	$36\frac{1}{4}$ = H	21=A	7 = M	112=M	30 =H	

You may start now! Good luck and enjoy!

1) Janine had two 7-meter pieces of ribbon. She used $\frac{5}{7}$ of the ribbon for her sash. How many meters of ribbon was left?

2) A man weighing 75 kg can pull a maximum load of $1\frac{3}{5}$ times his weight. How heavy is the maximum load that he can pull?

3) There are 50 pupils in Mr. Borela's class. Three-fifths of them are girls. If $\frac{7}{10}$ of the girls are members of Math Club, how many girls are not members of the club?

4) On average, a box turtle lives $1\frac{3}{5}$ times longer than a human being. If the average life span of a human being is 80 years, what is the average life span of a box turtle?

A square plot $6\frac{1}{2}$ m long is covered with Bermuda grass. The plot is surrounded by a cemented path $\frac{1}{2}$ m wide. What is the area enclosed by the cemented path?

Assessment

Are you now ready to take the test below? If not, take your time to review the previous activities.

Directions: Solve the following problems using appropriate strategies and tool. The answers are provided in Column B.

Column A	**Column B**
1) Six pitchers each filled with $\frac{3}{4}$ liter of juice was served to Jobelle's visitors. Find the total amount of juice served.	A. $110\frac{1}{4}$
2) Mrs. Fuelas wants to cover the floor of her square living room with a red carpet. One side of the room is $10\frac{2}{4}$ meters long. Find the area of the carpet that will cover the floor of her living room.	B. 64
3) Christian has 20 prizes. He decided to give $\frac{1}{2}$ to the winners of the relay game. How many of the prizes are for the relay game?	C. 18
4) In one parade, $\frac{3}{4}$ of 24 girls wore skirts made of straw. How many girls wore straw skirts?	D. 10
5) Mr. Mendez had twenty pieces of lumber that were all of the same lengths. If each piece of lumber were $3\frac{1}{5}$ inches long and he put them side by side, what would be the total length of all pieces together?	E. $4\frac{1}{2}$
6) I spent $\frac{2}{3}$ of my weekly allowance on food and save $\frac{1}{2}$ of the remaining amount. If my weekly allowance is P165.00, how much money do I get to save every week?	F. 27
7) Consider that $\frac{2}{5}$ of a group of children are girls. If there are 12 girls, how many children are in the group?	G. 180

8) Aydz thought that travel from home to school would take $\frac{3}{4}$ of an hour; but because of traffic, the travel took $\frac{1}{5}$ hr. longer. How many minutes did the actual travel take?

H. 90

9) Ms. Fabi made 450 cookies. She sold $\frac{2}{5}$ of the cookies and gave $\frac{1}{3}$ of the remaining cookies to the frontliners. How many cookies are left?

I. 57

10) In a 30-item test, Gina answered $\frac{4}{5}$ of the items correctly. Rafael got 3 more items correct than Gina. How many items did Rafael answer correctly?

J. 30

K. 27.5

Additional Activities

For mastery, answer the problem below. Good luck!

Directions: Use separate sheet to answer the activity below. Show your solutions.

1) James' house is $\frac{3}{4}$ km from the school. He had already biked $\frac{\mathbf{2}}{\mathbf{3}}$ of that distance when one of his tires went flat. What part of a kilometer had he biked?

2) A parking lot is equally divided into four areas. One-half of Area 1 is reserved for motorcycles. What part of the whole parking lot is reserved for motorcycles?

3) Lyra is given Php72.00 by her mother as her daily allowance. She spends $\frac{\mathbf{5}}{\mathbf{8}}$ of her daily allowance on fare and $\frac{\mathbf{2}}{\mathbf{3}}$ of the remaining money for food. How much does she spend from food?

4) Mark had $\frac{\mathbf{5}}{\mathbf{6}}$ of a liter of paint. He used $\frac{\mathbf{4}}{\mathbf{5}}$ of it to paint the door. How much paint did Mark use?

5) The length of a rectangle is 1200 cm and its width is 900 cm. If the length is decreased by $\frac{\mathbf{3}}{\mathbf{20}}$ and the width is increased by $\frac{1}{5}$. Find the area of the new rectangle.

Answer Key

What I Know

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

What's More

Activity 1	Activity 2
1) 8	1) RED
2) 27	2) BLUE
3) 80	3) BLUE
4) 4	4) YELLOW
5) 6	5) RED

Assessment

1. E
2. A
3. D
4. C
5. B
6. K
7. J
8. I
9. G
10. F

Additional Activities

1. 1/2 km
2. 1/8
3. Php18
4. 2/3 L
5. 110,1 60 sq. cm

What I Have Learned

a. understand
b. plan
c. solve
d. check

What I Can Do Answer: I ♥ CAKE

1	2	3	4	5
I	M	A	T	H

What's In

1. $\frac{2}{7}$
2. $\frac{1}{9}$
3. $\frac{2}{5}$
4. $\frac{1}{4}$
5. $\frac{4}{15}$
6. $\frac{1}{9}$
7. 4
8. 5/2
9. 10/3
10. 4/3

References

Ursua, A. C. and A. P. Lumbre. 2016. *21st Century Mathletes Textbook*. Quezon City: Vibal Group, Inc.

Coronel, C. C. and N.D. Bamba. 2010. *Mathematics for a Better Life Textbook.* Quezon City: SD Publications, Inc.

https://nrich.maths.org/2420)

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