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# Mathematics

Quarter 1 - Module 17: Week 9

## Solving Multi-Step Routine and Non-routine Word Problem Involving Division



Department of Education • Republic of the Philippines

Mathematics – Grade 4  
Alternative Delivery Mode  
Quarter 1 - Module 17: Solving Multi-Step Routine and Non-routine Word Problem  
Involving Mathematics  
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This instructional material was collaboratively developed and reviewed by educators from public and private schools, colleges, and/or universities. We encourage teachers and other education stakeholders to email their feedback, comments, and recommendations to the Department of Education at [region10@deped.gov.ph](mailto:region10@deped.gov.ph).

**We value your feedback and recommendations.**

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## ***What This Module is About***

Mathematical problems are experienced in ones daily life activities may it be in school, home, malls, and anywhere.. Some are simple and some are difficult or complicated.

In mathematics, there are simple problems which can be solved easily using one operation. There are also problems that seem difficult because it can be solved using more than one operations. This is what we call multi-step problems. These problems can be solved if you follow the steps and use appropriate operations to obtain the answer.



## ***What I Need to Know***

In this module, you will learn to solve multi – step routine and non-routine word problems involving division and any other operations of whole numbers including money and using appropriate problem solving strategies and tools. Through the drills and exercises given, you will realize that problem solving in mathematics is easy and fun.

In going through this learning adventure, you are expected to:

1. Recognize basic division facts, concepts of four operation and steps in solving problems
2. Apply the knowledge on solving multi-step routine and non-routine word problems in daily activities
3. Demonstrate the steps in solving actual problems involving division and any of the other operations of whole numbers including money

## ***How to Learn from this Module***

For you to achieve the objectives cited above, you are to do the following:

- Take your time reading the lessons carefully.
- Follow the directions and/or instructions in the activities and exercises diligently.
- Answer all the given tests and exercises.

## Icons of this Module

	What I Need to Know	This part contains learning objectives that are set for you to learn as you go along the module.
	What I Know	This is an assessment as to your level of knowledge to the subject matter at hand, meant specifically to gauge prior related knowledge.
	What's In	This part connects previous lessons with that of what you are going to learn.
	What's New	An introduction of the new lesson through various activities, before it will be presented to you.
	What is It	These are discussions of the activities as a way to deepen your discovery and understanding of the concept.
	What's More	These are follow-up activities that are intended for you to practice further in order to master the competencies.
	What I Have Learned	Activities designed to process what you have learned from the lesson
	What I Can Do	These are tasks designed to showcase your skills and knowledge gained, and applied into real-life concerns and situations.
	Post Assessment	This assessment evaluates your level of mastery in achieving the learning objectives.
	More Activities	These are additional activities designed to increase the level of your skills and knowledge.



## ***What I Know***

Solve the following problems:

1. Liza and Karen have ₱847.00 together. If Kathleen has ₱150.00 more than Noemi, how much money does each girl have?
2. Mrs. Marcos bought a television on an installment plan basis worth ₱25 500. He gave a down payment of ₱5 000 and paid the balance equally for 10 months. How much was his monthly installment?
3. Elmer is a family driver who receives ₱18 500 as monthly salary. This month, he gave ₱8 550 to his wife and divided equally the remaining amount to his three children for their weekly allowances. How much allowance did each child receive?
4. Chelsea brought 150 pineapples from Bukidnon. She gave 5 pieces to each of her 10 friends and sold the rest. If she had a total sale of ₱6 750, how much did she sell for the pineapples per piece?
5. There are 634 girls and 466 boys in Batangan Integrated School. To help raise funds for their foundation day, 15 400 tickets were distributed equally among the students. How many tickets did each student get?

# Lesson

# 1

# Solving Multi- step Routine and Non-routine Word Problems Involving Division



## *What's In*

Let us recall the steps in solving multi-step problems.



## *What's New*

Do you have fun in solving word problems?

Today , we will be solving more problems.



## *What is It*

**Problem 1:** Rolly bought 4 T – shirts and 2 pairs of pants for only Php3,000.00. If the T– shirts cost Php300 each, find the cost of each pair of pants.

**Solution for problem 1:**

*Step 1: **Understand:** Cost of each pair of pants.*

*Step 2: **Plan:*** Given: cost of T-shirts and pairs of pants for P3,000.00 , cost of one T-shirt is P300.00

*Step 3: **Solve:*** Cost of 4 T-shirts at P300.00 each =  $4 \times P300.00 =$  **P1,200.00**. If the total cost of 4 T-shirts and a pair of pants is P3,000.00 then, the cost of 2 pair of pants is,  $P3,000.00 - 1,200.00 =$  **P1,800.00**. Since there are 2 pair of pants, therefore the cost of each pair of pants is  $P1,800.00 \div 2 = P 900.00$

So, the cost of each pair of pants is Php 900.00

**Problem 2:**

Dianne wants to buy a pair of shoes that cost ₱850. She has a cash on hand of ₱450. If she saves ₱50 a day, in how many days will she be able to save the amount she needs?

**Solution for problem 2:**

*Step 1: **Understand:*** Number of days Dianne needs to save the amount she needs to buy a pair of shoes

*Step 2: **Plan:*** Given: ₱850.00 -Cost of pair of shoes  
₱450.00 cash on hand  
₱50.00 savings per day.

*Step 3: **Solve:***  $850 - 450 = 400$   
 $400 \div 50 = 8$

*Therefore, Dianne needs 8 days to save the amount of shoes.*



## ***What's More***

***Solve the following problems:***

Problem 1: Louise has Php54 , Liza has Php35, and Randy has Php40. They gave their money to the three school janitors. If the janitors divide the money equally among themselves, how much will each of them get?

1. Understand : \_\_\_\_\_
2. Plan: \_\_\_\_\_
3. Solve: \_\_\_\_\_

Problem 2: An egg vendor bought 720 eggs from the poultry farm. She paid Php75 per dozen. How much did she pay in all?

4. Understand : \_\_\_\_\_
5. Plan: \_\_\_\_\_
6. Solve: \_\_\_\_\_



## ***What I Have Learned***

The steps in solving multi – step routine problems are:

**Understand** – know what is asked, what are given.

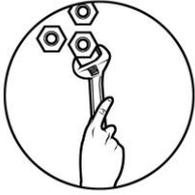
**Plan** – know the operations to be used. Know the hidden question/s.

Write the number sentence.

**Solve** – solve first the operation to find the answer to the hidden question. Then, solve for the final/last operation. Write the correct units/label.

**Check and look back** – review and check your answers.

To solve multi – step non – routine problems involving division and any other operations, read and analyze the problem carefully. Determine what is asked and what are given. Then, use strategies like acting out the problem, listing/table method, guess and check, drawing/making a diagram. using patterns. working backwards. etc. to solve it.



## ***What I Can Do***

### **Solve the following problems:**

1. There are 507 boys and 533 girls who like to join the Alay Lakad. How many buses will be hired if 80 persons can be accommodated in a bus?
2. Ten pupils harvested 3 baskets of tomatoes. There were 75 tomatoes in the first basket, 55 in the second basket, and 34 in the last basket. How many tomatoes did each pupil harvest?
3. Rhea has Php60, Rheena has Php35 and Ronald has Php40. They give their money to the 3 street sweepers. If the three street sweepers divide the money equally among themselves, how much will each of them get?
4. Mrs. Dela Cruz has given an amount of ₱11 000 to his grandchildren last Christmas. How much did each of the 10 grandchildren receive if they were given the same amount each?
5. Rey, Tom, and Jack went bowling together. Rey's score was 66. Tom's score was exactly double of Rey. Jack had 13 fewer points than Rey. What was Jack's score?



## ***Post Assessment***

### **Direction:**

Solve the following problems:

1. Mr. Castro had 55,650 kilograms of apple available for sale. Two hundred sixty five vendors bought equal weight of apples. How many kilograms did each vendor get?

2. There are 30,625 cupcakes to be packed in plastic containers. One hundred twenty - five cupcakes are in each pack. About how many plastic containers are needed to pack all the cupcakes?
  
3. Lara and Kate have Php757 together. If Kathleen has Php145 more than Noemi, how much money does each girl have?
  
4. An egg vendor bought 792 eggs from the poultry farm. She paid Php65 per dozen. How much did she pay in all?
  
5. Mr. Jose gave a 6 Php20-bill, 10 Php50-bills and 5 Php100-bills to her 5 grandchildren. What was the average share of each grandchild?



## ***Additional Activities***

Solve the following problems:

1. 1500 Grade 4 pupils are going on a field trip to Malaybalay City Zoo. The school assigns one teacher for every 30 pupils. How many teachers are joining the trip?
2. Harry collected 195 eggs from one poultry house and 125 eggs from a second poultry house. If Harry placed 20 eggs to a carton, how many cartons did he fill?
3. A factory worker packed 792 cans of sardines in boxes where 24 cans are placed in each box. How many boxes did he use? If he sold the sardines at ₱504 per box, how much is his total sale?
4. A company spends Php150 000 every month for the salaries of its 20 security guards. If the security guards receive the same amount of salary, how much does each security guard gets?
5. Marissa and Liezel have ₱945 together. If Marissa has ₱175 more than Liezel, how much money does each girl have?



## Answer Key

What I Know
1. #423.50
2. #2050
3. #3316
4. #67.50
5. 14

What's More
1. The amount of money each of the janitor received from the three girls
2. Php54, Php35, Php40
3. $54 + 35 + 40 = 129$
$129 \div 3 = 43$
4. The amount she paid for 720 eggs
5. 270 eggs, 75
6. $720 \div 12 = 60$
$60 \times 75 = 4,500$

What Can I Do
1. 13
2. 164
3. 45
4. #1 100
5. 119

Post assessment
1. 210
2. 245
3. 306
4. Php2 310
5. #224

Additional Activities	1.50
	2.16
	3.33 boxes/15,632
	4.7500
5. Mariss money ₱257 + ₱175/Liezel ₱385	

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