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# Mathematics

Quarter 1 - Module 16: Week 8

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



Department of Education • Republic of the Philippines

Mathematics – Grade 4  
Alternative Delivery Mode  
Quarter 1 - Module 16: Solving Routine and Non-routine Word Problems Involving  
Division  
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# Mathematics

## Quarter 1 - Module 16: Week 8

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

This instructional material was collaboratively developed and reviewed by educators in the public schools. 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***

This module introduces procedures and tips in solving routine and non-routine problems particularly in breaking down problems into series of simpler steps and searching for correct solutions and answers to the problems.

In this module, you will explore different problems which enhances your ability to analyze, understand and compute. As young mathematician always be eager to find ways to face challenges in life.



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

In this module, you will be solving routine and non-routine word problems involving division of 3 to 4 digit numbers by 1 to 2 digit numbers including money using appropriate problem solving strategies and tools. Applying and drawing solution dividing whole numbers in mathematical word problems involving 3 to 4 digit numbers by 1 to 2 digit number in real-life situation.

## ***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***

Direction: Choose the letter of the best answer.

**A.**

It's Sara's birthday next day. Her mother would like to buy a gift that costs ₱2 200.00. Her cash on hand is ₱800.00. How many days does she need to save the remaining amount if she saves ₱200.00 a day?

1. What is asked in the problem?
  - a. The cost of gifts
  - b. The amount of money she saves in a day
  - c. The number of days needed to save to save ₱1 275.00
  - d. The number of days needed to save the needed amount
2. Which of the following facts are given in the problem?
  - a. ₱2 270, ₱875
  - b. ₱1 275, ₱200, ₱875
  - c. ₱ 1 275, ₱875, ₱15
  - d. ₱2 200, ₱800, ₱200
3. What are the operations to be used?
  - a. Addition and Division
  - b. Subtraction and Division
  - c. Multiplication and Division
  - d. Addition, Subtraction and Division
4. What is the hidden question?
  - a. How much is the cost of the gift?
  - b. How much money does Mother already have?
  - c. How much money does Mother already have?
  - d. How many days does Mother need to save for the needed money?
5. What is the number sentence for the hidden question?
  - a.  $2\,200 - 800 = N$
  - b.  $1\,275 + 875 = N$
  - c.  $1\,275 \div 200 = N$
  - d.  $1\,275 + 200 = N$

6. What is the number sentence?
- a.  $(2\ 275 + 875) \div 200$
  - b.  $(2\ 200 - 800) \div 200$
  - c.  $(2\ 275 + 200) \div 200$
  - d.  $(2\ 200 \times 800) \div 200$
7. What is the answer to the problem?
- a. 5 day
  - b. 6 days
  - c. 7 days
  - d. 8 days

B. Solve each problem.

8. A school has ₱64 120 to buy tents. If a tent costs ₱4 580, how many tents can the school buy?
9. Mrs. Santos paid ₱6 275 for 25 kilograms of meat. How much was the cost of meat per kilogram?

## Lesson

# 1

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



### *What's In*

Find the quotients.

1.  $7 \overline{)315}$

2.  $7 \overline{)640}$

3.  $44 \overline{)1\,450}$

4.  $23 \overline{)655}$

5.  $300 \overline{)52\,000}$



## ***What's New***

A total of 3360 pupils in District 3 joined the tree planting program. If there were 30 schools, how many pupils joined the tree-planting?

1. What is asked?
2. What are the given facts?
3. What is the process to be used?
4. What is the number sentence? Show the solution and complete answer.



## ***What is It***

To solve routine and non-routine word problems, always remember the following steps:

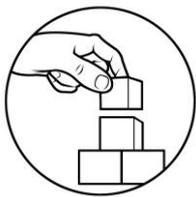
1.Understand	-Find what is asked. -Identify the given facts. -Find the hidden question if any
2.Plan	-Determine the operations to be used. -Write the number sentence for the hidden questions (if any) and for the given questions
3.Solve	-Solve for the answer.
4.Look Back	-Check if the answer is correct.

Solve the problems below.

Parents, teachers and pupils of Christian Academy will have an educational trip in Davao City. There are 725 participants from the primary grades and 1200 from the intermediate grades who are joining the trip. If 55 persons can be accommodated in one bus, how many buses will the school need?

<b>STEPS</b>	<b>INFORMATION/SOLUTION</b>
1.Understand -Find what is asked.  -Identify the given facts.	>The number of buses needed in the educational trip. >725 persons from the primary grades >1200 persons from the intermediate grades >55 persons in each bus
2.Plan -Identify the needed operations.	>There are two operations needed to solve the problem: Addition and Division. 1. Find the total number of pupils who will join the educational trip. 2. Divide the sum by 55 to get the number of buses needed.
3.Solve	>The number sentence is:

<p>-Write the number sentence.</p>	$(725 + 1200) \div 55 = N$ Total number of pupils: $725 + 1200 = 1925$ Number of buses needed: $1925 \div 55 = 35$															
<p>4.Look Back -Check if the answer is correct and makes sense</p>	<p>Use the inverse operation.</p> <table style="width: 100%; text-align: center;"> <tr> <td style="width: 33%;">35</td> <td style="width: 33%;">x</td> <td style="width: 33%;">55</td> <td style="width: 33%;">=</td> <td style="width: 33%;">975</td> </tr> <tr> <td>↓</td> <td></td> <td>↓</td> <td></td> <td>↓</td> </tr> <tr> <td>Number of buses</td> <td></td> <td>Number of persons in a bus</td> <td></td> <td>Total number of persons who would like to join the trip</td> </tr> </table>	35	x	55	=	975	↓		↓		↓	Number of buses		Number of persons in a bus		Total number of persons who would like to join the trip
35	x	55	=	975												
↓		↓		↓												
Number of buses		Number of persons in a bus		Total number of persons who would like to join the trip												



### **What's More**

**Direction:** Read and analyze the problem below. Answer the questions that follow.

**Problem 1:** Vilma baked 100 peanut cookies and 80 pili nut cookies. She placed them equally in 20 boxes. How many pieces of each kind of cookie are there in a box?

1. What is asked in the problem? \_\_\_\_\_
2. What operation will be used to solve the problem? \_\_\_\_\_
3. What is the hidden question? \_\_\_\_\_
4. What is the complete number sentence? \_\_\_\_\_
5. What is the answer? \_\_\_\_\_

**Problem 2:** There are 410 000 guavas to be placed equally in 2 500 baskets. How many guavas will be in each baskets?

6. What is asked in the problem? \_\_\_\_\_
7. What operation will be used to solve the problem? \_\_\_\_\_
8. What is the hidden question? \_\_\_\_\_
9. What is the complete number sentence? \_\_\_\_\_
10. What is the answer? \_\_\_\_\_

**Problem 3:** After a good harvest, Mr. Diaz set aside ₱867 888 to be shared equally to his 756 workers. How much will each worker receive?

11. What is asked in the problem? \_\_\_\_\_
12. What operation will be used to solve the problem? \_\_\_\_\_
13. What is the hidden question? \_\_\_\_\_
14. What is the complete number sentence? \_\_\_\_\_
15. What is the answer? \_\_\_\_\_



***What I Have Learned***

To solve routine and non-routine word problems, always remember the following steps:

- a. **Understand** – Know what is asked and what are given.
- b. **Plan** – Know the operation. Write the number sentence.
- c. **Solve** – Write the correct answer.
- d. **Check and Look Back** – Review and check your answer.

**> Understand**

- Find what is asked.
- Identify the given facts.
- Find the hidden question if any.

**>Plan**

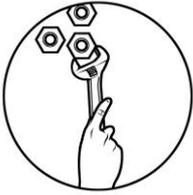
- Determine the operations to be used.
- Write the number sentence for the hidden questions.

**>Solve**

- Solve the correct answer.

**>Look Back**

- Check if the answer.



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

**Direction: Solve the following problems.**

1. Mary bought a “buy-one-take-one” shirt. She paid Php1456. How much did each shirt cost?
2. One bamboo can be made into 45 small baskets. How many small baskets can be made out of 270 bamboos?
3. In 30 days, 76 380 people had visited Manaoag Church in Pangasinan. On the average, how many people visited the church per day?
4. Jasmyn orders 300 flowers to be placed in 6 big vases. How many flowers will each vase have?
5. Mr. Reyes spent a total of ₱788 740 for fertilizer last year. If each sacks of fertilizer cost ₱3 490, how many sacks of fertilizer did he use?



## ***Post Assessment***

**Direction: Solve the following problems.**

1. There are 800 000 mangoes to be place equally in 5 000 baskets. How many mangoes will be in each basket?
2. After a good harvest, Mr. Carlos set aside ₱96 000 to be shared equally by his 120 workers. How much will each worker receive?
3. Mr. Jose spent a total of ₱41 125 for pesticides last year. If each box of pesticides cost ₱1 645, how many box of pesticides did he use?

4. Diana orders 600 flowers to be placed in 10 vases. How many flowers will each vase have?
5. Six Girl scouts are asked to make 396m cotton balls for their school clinic. How many cotton balls should each Girl scouts make?
6. Brian received a paycheck amounting to ₱13 500 for 30 days. How much did he earn for each day?
7. An employee in a sales agent earns a basic salary of ₱216 000 a year. How much does he earn per month?
8. A fund-raising project collected ₱108 750 from the artworks sold. If each piece of artwork cost ₱725, how many pieces of artworks were sold?
9. Miss Delfin is a nurse. She earns an annual salary of ₱240 000. How much does she earn a month?
10. Ryan gathered 576 eggs from the poultry farm. If a tray can hold 36 eggs, how many trays can he fill?



## ***Additional Activities***

**Direction:** Solve the following problems. Show your solution.

1. Twenty boy scouts are asked to collect 800 straws to be used in their class projects. How many straws should each boy scout collect?
2. David saved ₱140 every month. How much money will he have saved in 8 months?
3. Miss Palma bought 60 kilograms of rice. She kept 20 kg of the rice and divided the remaining kilograms equally among her 5 pupils. How many kilograms of rice each pupil receive?
4. Liza, Maria and Ramon shared the amount of ₱798 to buy a birthday gift for their teacher. How much did each of them share?
5. In a parade, there were 1 196 participants. If there were 52 participants per row, how many rows of people were in the parade?



## Answer Key

13.251
12.14
7.c
6.b
5.a
4.d
3.b
2.d
1.d
What I know

5.173
4.28
3.32
2.91
1.45
What's In

5.112
4. $3360 \div 30 = N$
3. Division
2. 3360 pupils and 30 school
1. Number of pupils joined the tree-planting
What's New

What's More
1. Number of pieces of each kind of cookie in the box
2. Addition & Division
3. Pieces of cookies in each box.
4. $(100 + 80) \div 20 = N$
5. 5
6. How many guavas will be in each baskets
7. Division
8. Number of guava in each basket
9. $410\,000 \div 2\,500 = N$
10. 164
11. How much will each worker receive
12. Division
13. amount of money will received of each worker
14. $867\,888 \div 756 = N$
15. ₱1 148

What I Can Do
1. ₱728
2. 6
3. 2 546
4. 50
5. 226

Post Assessment
1. 160
2. 80
3. 25
4. 60
5. 66
6. 450
7. 18 000
8. 150
9. 20 000
10. 16

Additional Activities
1.40
2. 1120
3. 8

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