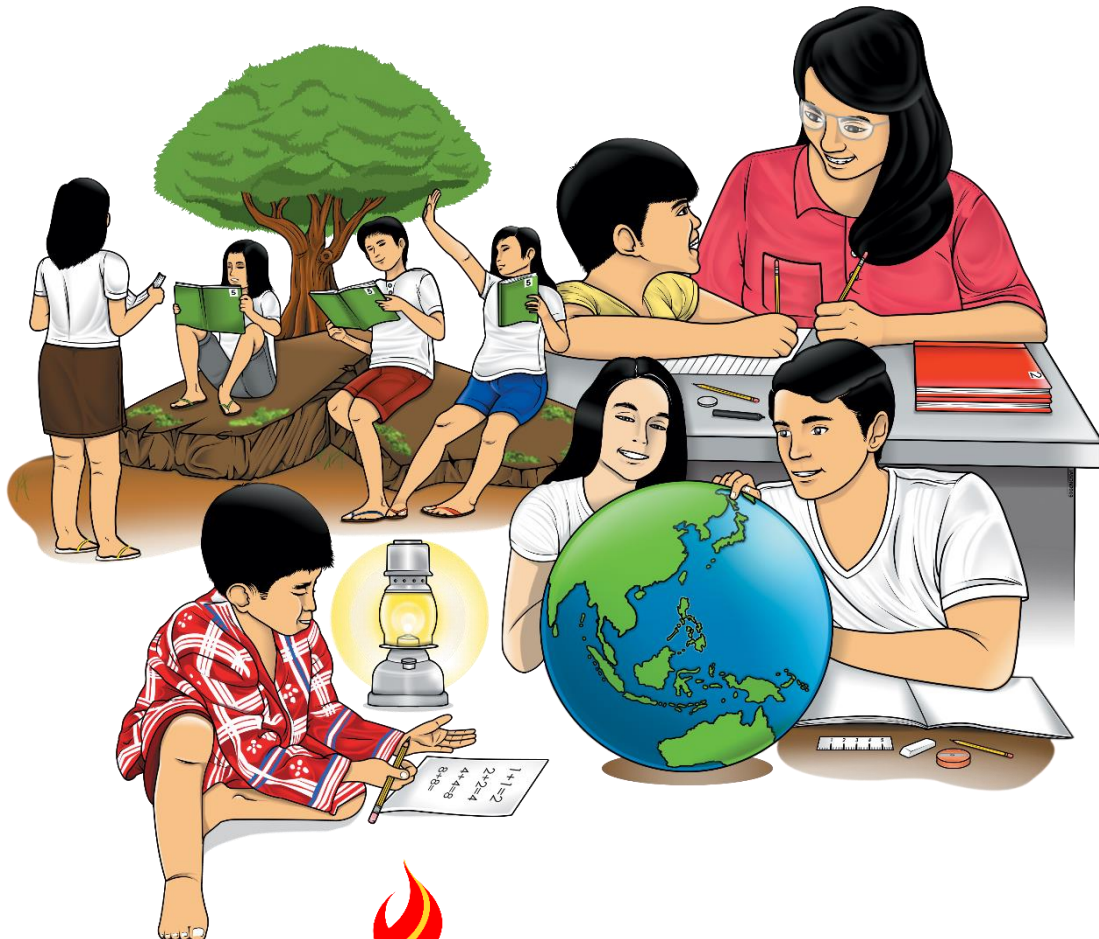


Mathematics

Quarter 1 – Module 7: Multiplication of Decimals and Mixed Decimals With Factors Up To 2 Decimal Places



Mathematics – Grade 6

Alternative Delivery Mode

Quarter 1 – Module 7: Multiplication of Decimals and Mixed Decimals With Factors Up To 2 Decimal Places

First Edition, 2020

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Development Team of the Module

Authors: Charlyn Joy A. Estimera and Marina B. Damasco

Editors: Ma. Portia G. Galanto and Rebecca O. Billones

Reviewers: Elleda E. De la Cruz and Rosemarie D. Aclan

Illustrators: Charlyn Joy A. Estimera and Marina B. Damasco

Layout Artist: Felizardo S. Valdez III

Management Team: Ma. Gemma M. Ledesma

Josilyn S. Solana

Elena P. Gonzaga

Donald T. Genine

Ma. Roselyn J. Palcat

Novelyn M. Vilchez

Elleda E. De la Cruz

Rosemarie D. Aclan

Arthur J. Cotimo

Felizardo S. Valdez III

Marve E. Gelera

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Department of Education – Region VI

Office Address: Duran Street, Iloilo City

Telefax: (033)336-2816, (033)509-7653

E-mail Address: region6@deped.gov.ph

Mathematics

**Quarter 1 – Module 7:
Multiplication of Decimals And
Mixed Decimals With Factors Up
To 2 Decimal Places**

Introductory Message

For the facilitator:

Welcome to the Mathematics 6 Alternative Delivery Mode (ADM) Module on Multiplication of Decimals and Mixed Decimals With Factors Up To 2 Decimal Places!

This module was collaboratively designed, developed and reviewed by educators both from public and private institutions to assist you, the teacher or facilitator in helping the learners 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 6 Alternative Delivery Mode (ADM) Module on Multiplication of Decimals and Mixed Decimals With Factors Up To 2 Decimal Places! 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 includes an activity that aims 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 blank sentence/paragraph to be filled in to process what you learned from the lesson.



What I Can Do

This section provides an activity which will help you transfer your new knowledge or skill into real life situations or concerns.



Assessment

This is a task which 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 mark/s 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 instruction 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 deep understanding of the relevant competencies. You can do it!



What I Need to Know

This module was designed and written with you in mind. It is here to help you master the skills in multiplying decimals. The scope of this module allows you to use it in many different learning situations. The language used recognizes your diverse vocabulary level. The lessons are arranged to follow the standard sequence of your course. But the order in which you read them can be changed to match with the textbook you are now using.

The module is divided into three lessons, namely:

- Lesson 1 – Multiplying Decimals with Factors Up to 2 Decimal Places
- Lesson 2 – Multiplying Mixed Decimals with Factors Up to 2 Decimal Places
- Lesson 3 – Multiplying Decimals and Mixed Decimals with Factors Up to 2 Decimal Places

After going through this module, you are expected to:

1. multiply decimals with factors up to 2 decimal places; **(M6NS-Ie-111.3)**
2. multiply mixed decimals with factors up to 2 decimal places; **(M6NS-Ie-111.3)**
3. multiply decimals and mixed decimals with factors up to 2 decimal places; **(M6NS-Ie-111.3)**
4. solve routine and non-routine problems involving multiplication of decimals and mixed decimals including money using appropriate problem-solving strategies; **(M6NS-Ie-113.2)** and
5. solve multi-step problems involving multiplication and addition or subtraction of decimals, mixed decimals and whole numbers including money using appropriate problem-solving strategies and tools. **(M6NS-If-113.3)**



What I Know

Write in column and multiply. Write your answers on your answer sheet.

Example: $0.32 \times 0.22 =$

Solution:

$$\begin{array}{r} 0.32 \\ \times 0.22 \\ \hline 064 \\ 064 \\ + 000 \\ \hline 0.0704 \end{array}$$

- 1) $0.53 \times 0.41 =$
- 2) $0.67 \times 0.12 =$
- 3) $0.94 \times 0.25 =$
- 4) $0.42 \times 0.31 =$
- 5) $0.23 \times 0.14 =$
- 6) $0.82 \times 0.76 =$
- 7) $0.28 \times 0.35 =$
- 8) $0.40 \times 0.36 =$
- 9) $0.71 \times 0.29 =$
- 10) $0.42 \times 0.14 =$

Lesson 1

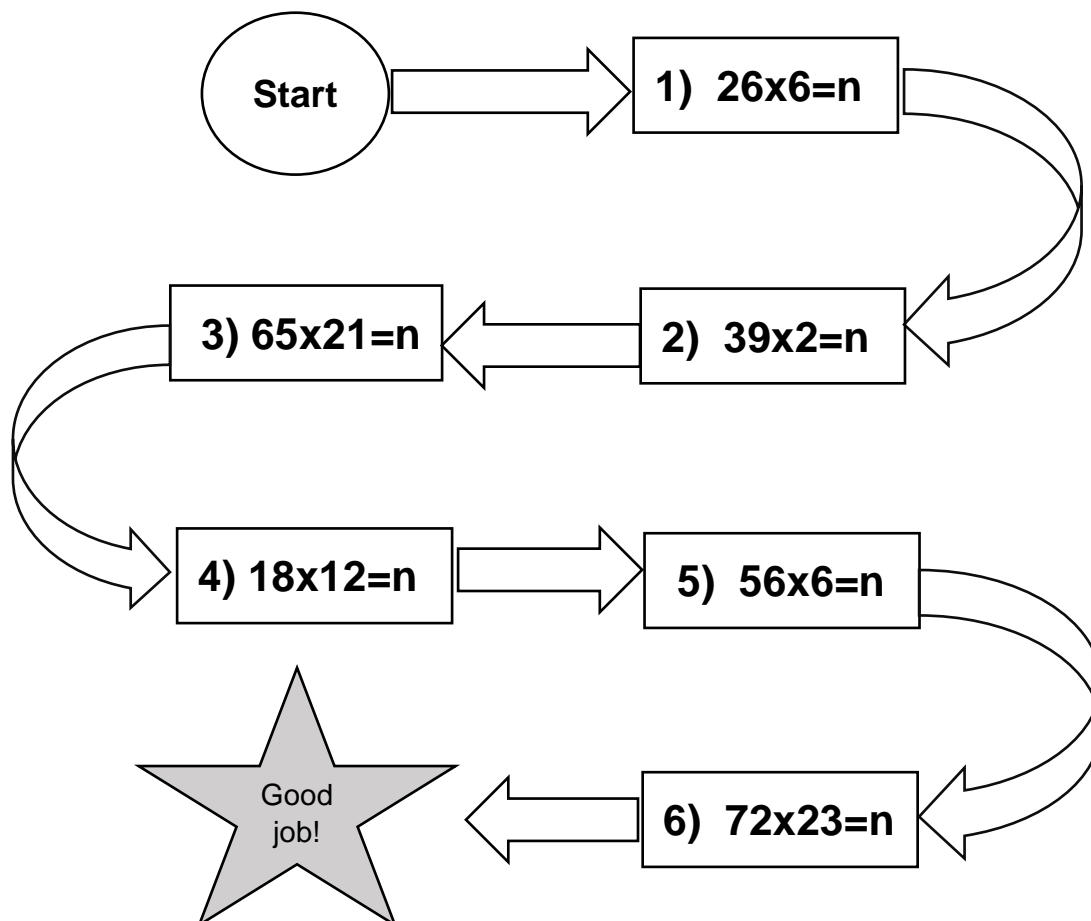
Multiplying Decimals with Factors Up to 2 Decimal Places

Learning decimals is fun, right? Since you are already aware of the steps involved in adding and subtracting decimals, you will be moving forward to multiplying decimals with factors up to 2 decimal places.



What's In

Find the value of **n** by getting the product of the given numbers. Write your answers on your answer sheet.





What's New

Multiplying decimals is just like multiplying whole numbers. You get the partial product and then get the sum. Count the number of decimal places in the factors and put the decimal point in the product.



What is It

Let us study the examples below.

Example: Find the product of

a. $0.23 \times 0.13 =$

$$\begin{array}{r} 0.23 \leftarrow 2 \text{ decimal places} \\ \times 0.13 \leftarrow 2 \text{ decimal places} \\ \hline 069 \\ + 023 \\ \hline 000 \\ \hline 0.0299 \leftarrow 4 \text{ decimal places} \end{array}$$

- Therefore, the product is 0.0299.

b. $0.63 \times 0.44 =$

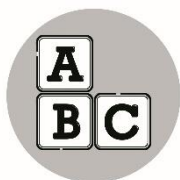
$$\begin{array}{r}
 \begin{array}{cc} 2 & 1 \\ 2 & 1 \end{array} \\
 0.63 \leftarrow 2 \text{ decimal places} \\
 \times \\
 0.44 \leftarrow 2 \text{ decimal places} \\
 \hline
 \begin{array}{r} 252 \\ 252 \\ 000 \end{array} \\
 + \\
 \hline
 0.2772 \leftarrow 4 \text{ decimal places}
 \end{array}$$

- Therefore, the product is 0.2772.

c. $0.45 \times 0.32 =$

$$\begin{array}{r}
 \begin{array}{cc} & 1 \\ 1 & 1 \end{array} \\
 0.45 \leftarrow 2 \text{ decimal places} \\
 \times \\
 0.32 \leftarrow 2 \text{ decimal places} \\
 \hline
 \begin{array}{r} 090 \\ 135 \\ 000 \end{array} \\
 + \\
 \hline
 0.1440 \leftarrow 4 \text{ decimal places}
 \end{array}$$

- Therefore, the product is 0.1440.



What's More

Write in column, and multiply. Write your answers on your answer sheet.

Example: $0.43 \times 0.02 =$

Solution:

$$\begin{array}{r} 0.43 \\ \times 0.02 \\ \hline 086 \\ + 000 \\ \hline 000 \\ \hline 0.0086 \end{array}$$

1.) $0.72 \times 0.41 =$

2.) $0.26 \times 0.39 =$

3.) $0.12 \times 0.62 =$

4.) $0.38 \times 0.58 =$

5.) $0.26 \times 0.05 =$



What I Have Learned

When two decimals are multiplied,

- align the decimal points in a straight column.
- use 0 as placeholder if needed.
- multiply just like multiplying whole numbers.
- count the number of decimal places in the factors and this should be equal to the number of decimal places in the product. (**Note:** Start counting from right to left.)



What I Can Do

A. Find the product of the following decimal numbers. Write your answers on your answer sheet.

$$\begin{array}{r} 1.) \quad 0.95 \\ \times 0.46 \\ \hline \end{array}$$

$$\begin{array}{r} 2.) \quad 0.43 \\ \times 0.21 \\ \hline \end{array}$$

$$\begin{array}{r} 3.) \quad 0.38 \\ \times 0.27 \\ \hline \end{array}$$

4.) If 0.57 is multiplied to 0.23, the product is _____.

5.) 0.94 multiplied by 0.34 is _____?

B. Read and solve. Write your solutions on your answer sheet.

6.) Ara wishes to win the game in their Mathematics class. She was holding a strip of paper with the decimal number 0.82. Her teacher instructed her to multiply it with 0.45 in order to get the prize. What will be her answer?

7.) What will be the value of N if 0.94 is multiplied by 0.62?



Assessment

Find the product of the following decimal numbers. Write your answers on your answer sheet.

1) $0.70 \times 0.39 =$

2) $0.34 \times 0.26 =$

3) $0.09 \times 0.16 =$

4) $0.23 \times 0.12 =$

5) $0.47 \times 0.06 =$

6) $0.49 \times 0.30 =$

7) $0.76 \times 0.34 =$

8) $0.89 \times 0.43 =$

9) $0.98 \times 0.32 =$

10) $0.79 \times 0.19 =$



Additional Activities

A. Find the product of the following decimal numbers. Write your answers on your answer sheet.

1) $0.86 \times 0.46 =$

2) $0.12 \times 0.02 =$

3) $0.73 \times 0.54 =$

4) $0.97 \times 0.64 =$

5) $0.89 \times 0.35 =$

B. Read and solve. Write your solutions on your answer sheet.

- 6) Find the area of a handkerchief with a length of 0.75 decimeter and a width of 0.60 decimeter.
- 7.) A study table is in the shape of a square. Its side measures 0.92 meter. What is its area?
- 8.) Serafin is preparing a seed box which is rectangular in shape. It has a length of 0.82 meter and a width of 0.76 m. Find the area of the seed box.
- 9.) A square box has a side of 0.88 decimeter. How much wrapper is needed to cover the whole box?
- 10.) Find the area of a shoe box with a length of 0.96 decimeter and a width of 0.78 decimeter.



Answer Key

<p>Assessment</p> <p>1. 0.273 2. 0.0884 3. 0.0144 4. 0.0276 5. 0.0282 6. 0.147 7. 0.2584 8. 0.3827 9. 0.3136 10. 0.1501</p> <p>Additional Activities</p> <p>A. 1. 0.3956 2. 0.0024 3. 0.3942 4. 0.6208 5. 0.3115 6. 0.45 dm² – area of the handkerchief 7. 0.8464 m² – area of the study table 8. 0.6232 m² – area of the seed box 9. 0.7744 dm² – wrapper needed to wrap the square box 10. 0.7488 dm² – area of the shoe box</p>	<p>What's More</p> <p>1. 0.2952 2. 0.1014 3. 0.0744 4. 0.2204 5. 0.013</p> <p>What I Can Do</p> <p>A. 1. 0.437 2. 0.0903 3. 0.1026 4. 0.1311 5. 0.3196 6. 0.369 – Ara's correct answer to get the prize 7. 0.5828 – value of N</p> <p>B. 1. 0.3956 2. 0.0024 3. 0.3942 4. 0.6208 5. 0.3115 6. 0.45 dm² – area of the handkerchief 7. 0.8464 m² – area of the study table 8. 0.6232 m² – area of the seed box 9. 0.7744 dm² – wrapper needed to wrap the square box 10. 0.7488 dm² – area of the shoe box</p>	<p>What I Know</p> <p>1. 0.2173 2. 0.0804 3. 0.235 4. 0.1302 5. 0.0322 6. 0.6232 7. 0.098 8. 0.144 9. 0.2059 10. 0.0588</p> <p>What's In</p> <p>1. 156 2. 78 3. 1365 4. 216 5. 336 6. 1656</p>
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What I Know

Find the product. Write your solutions on your answer sheet.

$$\begin{array}{r} 1.) \quad 1.32 \\ \times 2.11 \\ \hline \end{array}$$

$$\begin{array}{r} 2.) \quad 2.42 \\ \times 1.23 \\ \hline \end{array}$$

$$\begin{array}{r} 3.) \quad 5.12 \\ \times 3.41 \\ \hline \end{array}$$

$$\begin{array}{r} 4.) \quad 1.92 \\ \times 2.34 \\ \hline \end{array}$$

$$\begin{array}{r} 5.) \quad 5.16 \\ \times 2.12 \\ \hline \end{array}$$

$$\begin{array}{r} 6.) \quad 4.01 \\ \times 1.03 \\ \hline \end{array}$$

$$\begin{array}{r} 7.) \quad 3.15 \\ \times 6.02 \\ \hline \end{array}$$

$$\begin{array}{r} 8.) \quad 1.72 \\ \times 3.21 \\ \hline \end{array}$$

$$\begin{array}{r} 9.) \quad 5.63 \\ \times 4.22 \\ \hline \end{array}$$

$$\begin{array}{r} 10.) \quad 3.58 \\ \times 2.24 \\ \hline \end{array}$$

Lesson**2****Multiplying Mixed Decimals
with Factors Up to 2
Decimal Places**

A step-by-step process on how to multiply mixed decimals with factors up to 2 decimal places will be illustrated to you. You have to analyze each step well in order to be guided on how to go about the whole procedure.

***What's In***

In the previous lesson, you have learned on how to multiply decimals with factors up to 2 decimal places. You will answer another exercise related to this which will be a good preparation for the next lesson.

REACH FOR THE STAR

Find the product. Start from the lower part of the ladder going up. Write your solutions on your answer sheet.



$$\begin{array}{r} 5) \ 0.75 \\ \times 0.46 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \ 0.63 \\ \times 0.08 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \ 0.56 \\ \times 0.07 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \ 0.41 \\ \times 0.17 \\ \hline \end{array}$$

$$\begin{array}{r} 1) \ 0.23 \\ \times 0.7 \\ \hline \end{array}$$



What's New

Study and analyze the problem below.

Alvin weighs 32.53 kilograms. Dino weighs 1.02 times as Alvin's weight. What is Dino's weight?

How will you find Dino's weight?



What is It

To find for Dino's weight, do the following steps:

Step 1: Write the decimals in column.

32.53 \longleftarrow multiplicand

x 1.02 \longleftarrow multiplier

Step 2: Multiply 2 to all the digits in the multiplicand from right to left to get the first partial product.

32.53

x 1.02

65 06 \longleftarrow 1st partial product

Step 3: Multiply 0 to all the digits in the multiplicand from right to left to get the second partial product.

32.53

x 1.02

65 06 \longleftarrow 1st partial product

000 0 \longleftarrow 2nd partial product

Step 4: Multiply 1 to all the digits in the multiplicand to get the third partial product.

$$\begin{array}{r}
 32.53 \\
 \times 1.02 \\
 \hline
 65\ 06 \quad \longleftarrow 1^{\text{st}} \text{ partial product} \\
 000\ 0 \quad \longleftarrow 2^{\text{nd}} \text{ partial product} \\
 3253 \quad \longleftarrow 3^{\text{rd}} \text{ partial product}
 \end{array}$$

Step 5: Add the three partial products to get the final product. Then, count the number of decimal places in the factors to determine the number of decimal places in the final answer.

(Note: There are four decimal places in the factors, so there must be four decimal places in the final product.)

$$\begin{array}{r}
 32.53 \\
 \times 1.02 \\
 \hline
 65\ 06 \quad \longleftarrow 1^{\text{st}} \text{ partial product} \\
 000\ 0 \quad \longleftarrow 2^{\text{nd}} \text{ partial product} \\
 + 3253 \quad \longleftarrow 3^{\text{rd}} \text{ partial product} \\
 \hline
 33.1806 \quad \longleftarrow \text{final product}
 \end{array}$$

Now that you are already familiar with the steps on how to multiply mixed decimals with factors up to 2 decimal places, you can move on studying the word problem below.

Akisha sells fruit shakes. One morning, she went to a fruit stand to buy fruits for her business. She decided to buy papayas which are sold at ₱18.25 per kilogram. How much will she pay for 2.4 kilograms of papayas?

To solve the problem above, follow these steps:

Understand:

1. What is asked?

Answer: Cost of 2.4 kilograms of papayas

2. What are the given facts?

Answer:

₱18.75 – cost of a kilo of papaya

2.4 – kilograms of papaya to be paid by Akisha

Plan:

1. What operation will you use to solve the problem?

Answer: Multiplication

2. How will you transform the problem into a number sentence?

Answer: ₱18.25 x 2.4 = N

Solve:

$$\begin{array}{r} 111 \\ 11 \\ 312 \\ 18.25 \\ \times 2.4 \\ \hline 7300 \\ + 3650 \\ \hline 43.800 \longrightarrow \text{final product} \end{array}$$

Check:

$$\begin{array}{rcl} 1 \text{ kilogram of papaya} & = & \text{₱}18.25 \\ + 1 \text{ kilogram of papaya} & = & + \text{₱}18.25 \\ \hline 0.4 \text{ kilogram of papaya} & = & \text{₱}7.30 \\ 2.4 & & \text{₱}43.80 \end{array}$$

So, Akisha will pay ₱43.80 for 2.4 kilograms of papayas.

Here is another problem that will help tickle your mind.

Mara sells candy bars and chocolate bars. The cost of each candy bar is ₱3.25. Each chocolate bar costs ₱5.00 more than twice each candy bar. If Harold bought equal number of candy bars and chocolate bars and paid ₱59.00, how many chocolate bars did he buy?

In order to be guided, follow the steps below.

Understand:

1. What is asked?

Answer: How many chocolate bars did he buy?

2. What facts are given?

Answer:

The cost of each candy bar is ₱3.25.

Each chocolate bar costs ₱5.00 more than twice each candy bar.

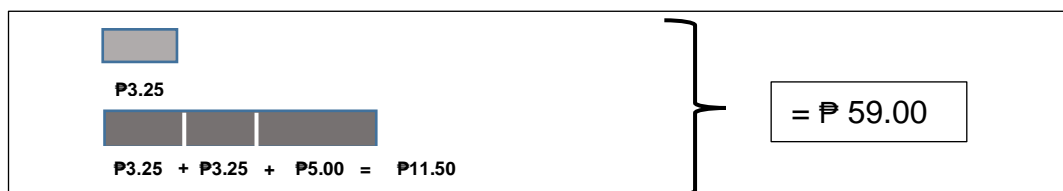
The total amount paid for the equal number of candy bars and chocolate bars bought is ₱59.00

Plan: What operations will you use to solve the problem? Decide for a strategy.

Strategy: The repeated addition using Block Model Strategy will help you solve this problem.

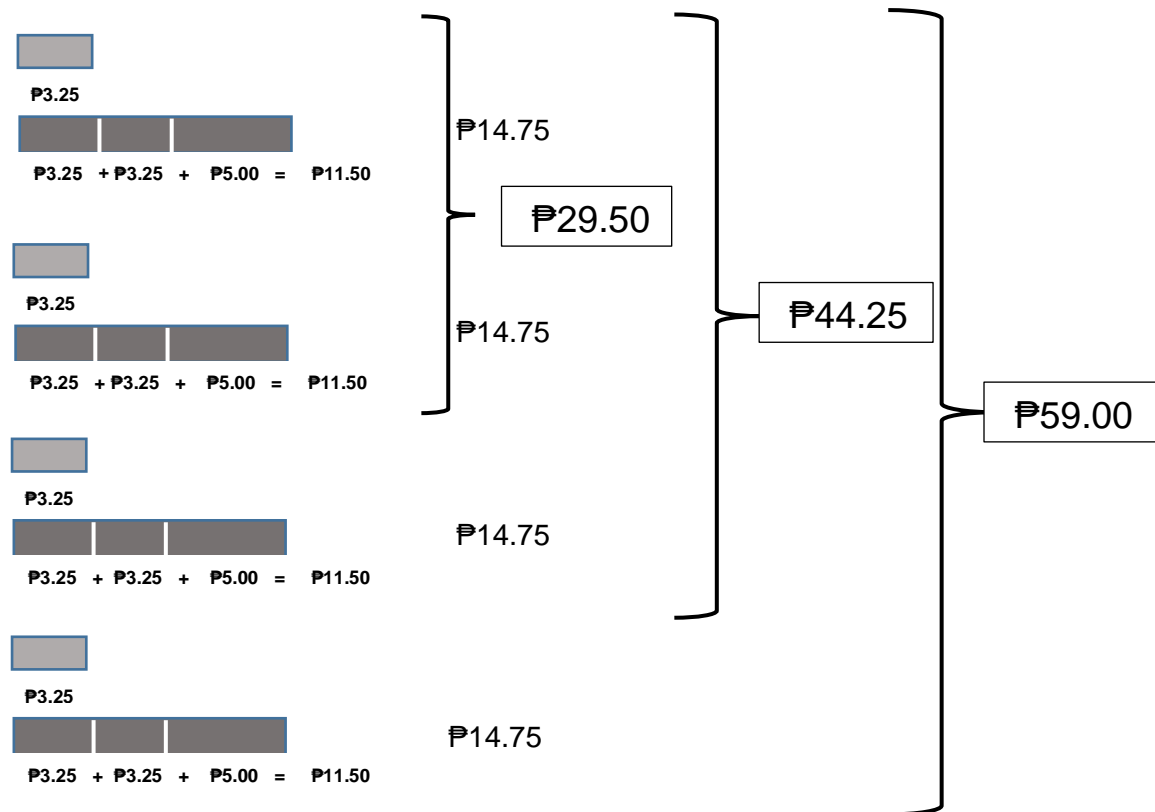
Solve: Show your solution.

Applying the strategy:



Knowing that a candy bar which costs ₱3.25 and a chocolate bar which costs ₱11.50 altogether cost ₱14.75, how many of them will be equal to ₱59?

Study the illustration below.

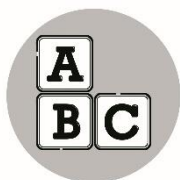


Answer: Harold bought 4 chocolate bars which is also equal to the number of candy bars.

Check: To check your answer, you can apply repeated addition.

$\text{P}3.25$	→	cost of a candy bar
$\text{P}3.25 + \text{P}3.25 + \text{P}5.00 = \text{P}11.50$	→	cost of a chocolate bar
$\text{P}14.75$	→	total cost of the candy bar and chocolate bar

So, $\text{P}14.75 + \text{P}14.75 + \text{P}14.75 + \text{P}14.75 = \text{P}59.00$.

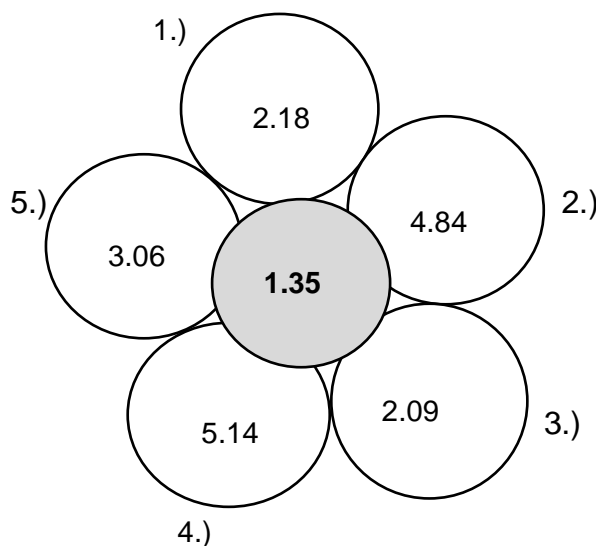


What's More

A. Multiply the decimal at the center with the decimals around it. Write your solutions on your answer sheet.

Example: $4.07 \times 1.35 = ?$

$$\begin{array}{r}
 4.07 \\
 \times 1.35 \\
 \hline
 2035 \\
 1221 \\
 + 407 \\
 \hline
 5.4945
 \end{array}$$



B. Read and solve using the appropriate strategy. Write your solution on your answer sheet.

A drugstore sells a piece of face mask at ₱17.90. The price of a bottle of 100-ml alcohol is ₱12.25 more than the price of a piece of face mask. If Carla paid ₱480.50 for the equal number of face masks to the number of bottles of 100-ml alcohol, how many of these items did she buy?



What I Have Learned

- **To multiply a mixed decimal by a mixed decimal with factors up to 2 decimal places do the following:**
1. Write the decimals in column aligning the digits at the right.
 2. Multiply from the rightmost digit of the multiplier to the digits of the multiplicand to get the first, second and third partial products.
 3. Sum up the partial products.
 4. Count the number of decimal places in the factors. This will be the number of decimal places in the final product. Start counting from right to left.



What I Can Do

A. Multiply the following and place the decimal point in the product correctly. Write your solutions on your paper.

$$1.) \quad \begin{array}{r} 4.42 \\ \times 2.16 \\ \hline \end{array}$$

$$2.) \quad \begin{array}{r} 2.48 \\ \times 1.63 \\ \hline \end{array}$$

$$3.) \quad \begin{array}{r} 15.47 \\ \times 5.32 \\ \hline \end{array}$$

$$4.) \quad \begin{array}{r} 3.97 \\ \times 1.02 \\ \hline \end{array}$$

$$5.) \quad \begin{array}{r} 7.40 \\ \times 5.24 \\ \hline \end{array}$$

B. Read, analyze and solve. Write your solutions with label on your answer sheet.

- 6.) If one meter of cloth costs ₱65.60, how much will 1.75 meter cost?
- 7.) In a vegetable stand, a kilogram of okra is sold at ₱40.50. A kilogram of squash is sold ₱5.00 less than the price of a kilogram of okra. If Aling Doray paid the vegetable vendor ₱228.00 for the equal kilograms of okra to the kilograms of squash she bought, how many kilograms of each kind of vegetable did she buy?



Assessment

A. Find the product. Write first the given in column and write your solutions on your answer sheet.

$$1.) \quad 2.34 \times 1.23 = \boxed{}$$

$$4.) \quad 6.02 \times 5.21 = \boxed{}$$

$$2.) \quad 3.52 \times 2.31 = \boxed{}$$

$$5.) \quad 7.42 \times 3.12 = \boxed{}$$

$$3.) \quad 4.25 \times 1.54 = \boxed{}$$

B. Multiply the following. Place the decimal point in the product correctly and write your solutions on your answer sheet.

$$\begin{array}{r} 6.) \quad 9.08 \\ \times 1.74 \\ \hline \end{array}$$

$$\begin{array}{r} 7.) \quad 7.15 \\ \times 3.96 \\ \hline \end{array}$$

$$\begin{array}{r} 8.) \quad 2.67 \\ \times 7.03 \\ \hline \end{array}$$

$$\begin{array}{r} 9.) \quad 31.05 \\ \times 5.82 \\ \hline \end{array}$$

$$\begin{array}{r} 10.) \quad 6.13 \\ \times 10.12 \\ \hline \end{array}$$

C. Read, analyze and solve. Write your solution with label on your answer sheet.

Mang Ambo is a meat vendor. He sells a kilogram of pork at ₱180.00 and a kilogram of beef which is ₱15.25 more than the price of a kilogram of pork. If Dindo gave Mang Ambo ₱1 125.75 for the equal kilograms of pork to the kilograms of beef, how many kilograms of each kind of meat did he buy?



Additional Activities

A. Find the product. Write first the given in column and write your solutions on your answer sheet.

1.) $8.16 \times 2.34 =$

4.) $10.17 \times 2.08 =$

2.) $5.19 \times 1.92 =$

5.) $9.05 \times 15.14 =$

3.) $7.51 \times 5.73 =$

B. Read and solve the following problems on your answer sheet.

6.) Merly works 6.25 hours a day. If her hourly rate is ₱70.60, how much is she paid a day?

7.) Mr. Galvez needs to enclose his poultry having sides of 10.35 meters by 4.15 m with cyclone wires. How many meters of cyclone wires does he need?

8.) What is the area of a rectangular vegetable plot with a length of 3.52 meters and a width of 1.85 m?

9.) Lyka spends ₱155.80 for food each day. How much does she spend in 5.50 days?

10.) At Lily's Store, a can of evaporated milk costs ₱38.75 while a can of condensed milk is ₱20.00 more than the cost of the evaporated milk. If Hazel paid ₱487.50 for the equal number of cans of evaporated and condensed milk she bought, how many cans of each kind of milk did she buy?



Answer Key

<p>Assessment</p> <p>A.</p> <ol style="list-style-type: none"> 2.8782 8.1312 6.545 31.3642 23.1504 <p>B.</p> <ol style="list-style-type: none"> 15.7992 28.314 18.7701 180.711 62.0356 <p>C.</p> <p>3 kilograms of each kind of meat</p> <p>Additional Activities</p> <p>A.</p> <ol style="list-style-type: none"> 19.0944 9.9648 43.0323 21.1536 137.017 <p>B.</p> <ol style="list-style-type: none"> ₱441.25 – amount Merly receives each day 42.9525 m – cyclone wires needed by Mr. Galvez 6.512 m² – area of the vegetable plot ₱856.90 – amount spent by Lyka for food in 5.50 days 5 cans of each kind of milk 	<p>What's More</p> <p>A.</p> <ol style="list-style-type: none"> 2.943 6.534 2.8215 6.939 4.131 <p>B.</p> <ol style="list-style-type: none"> 10 pieces of face masks and 10 bottles of 100-ml alcohol <p>What I Can Do</p> <p>A.</p> <ol style="list-style-type: none"> 9.5472 4.0424 82.3004 4.0494 38.776 <p>B.</p> <ol style="list-style-type: none"> ₱114.80 – cost of 1.75 m cloth 3 kilograms of okra and 3 kilograms of squash 	<p>What I Know</p> <ol style="list-style-type: none"> 2.7852 2.9766 17.4592 4.4928 10.9392 4.1303 18.963 5.5212 23.7586 8.0192 <p>What's In</p> <ol style="list-style-type: none"> 0.161 0.0697 0.0392 0.0504 0.345
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What I Know

A. Multiply the following. Write your answers on your answer sheet.

1.) $0.21 \times 2.12 =$

2.) $1.3 \times 0.09 =$

3.) $3.13 \times 0.24 =$

4.) $0.57 \times 3.13 =$

5.) $2.72 \times 0.53 =$

B. Find the product. Write the solutions on your answer sheet.

1.)

$$\begin{array}{r} 3.45 \\ \times 0.19 \\ \hline \end{array}$$

2.)

$$\begin{array}{r} 0.48 \\ \times 1.72 \\ \hline \end{array}$$

3.)

$$\begin{array}{r} 9.15 \\ \times 0.08 \\ \hline \end{array}$$

4.)

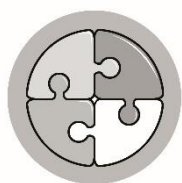
$$\begin{array}{r} 7.70 \\ \times 0.55 \\ \hline \end{array}$$

5.)

$$\begin{array}{r} 6.23 \\ \times 0.81 \\ \hline \end{array}$$

Lesson**3****Multiplying Decimals and Mixed Decimals with Factors Up to 2 Decimal Places**

It's always nice to move forward. Your skill on the steps involved in multiplying mixed decimals with factors up to 2 decimal places will be useful in this lesson for you will now multiply decimals and mixed decimals with factors up to 2 decimal places.

***What's In***

Match the equations in column A with their appropriate products in Column B. Write the letter of your answer on your answer sheet.

A.

- _____ 1. $0.45 \times 0.10 =$
_____ 2. $2.08 \times 1.61 =$
_____ 3. $9.2 \times 0.23 =$
_____ 4. $3.11 \times 0.3 =$
_____ 5. $0.36 \times 0.7 =$
_____ 6. $4.20 \times 1.8 =$
_____ 7. $8.02 \times 9 =$
_____ 8. $1.09 \times 4.3 =$
_____ 9. $0.46 \times 6.9 =$
_____ 10. $0.73 \times 0.48 =$

B.

- a. 0.933
b. 7.56
c. 72.18
d. 0.045
e. 3.3488
f. 2.116
g. 3.174
h. 0.3504
i. 0.252
j. 4.687
k. 2.031
l. 10.02



What's New

Study the following:

Andy is a pupil who loves to explore in solving equations. On the bulletin board in Mathematics 6, he saw a card with the equation: $3.52 \times 0.41 = N$

Can you help Andy solve it?



What is It

In helping Andy solve the problem, simply do the following steps:

Step 1: Write the given equation in column.

$$\begin{array}{r} 3.52 \\ \times 0.41 \\ \hline \end{array}$$

← multiplicand
← multiplier

Step 2: Multiply 1 to all the digits in the multiplicand from right to left to get the first partial product.

$$\begin{array}{r} 3.52 \\ \times 0.41 \\ \hline 3\ 52 \end{array}$$

← 1st partial product

Step 3: Multiply 4 to all the digits in the multiplicand to get the second partial product.

$$\begin{array}{r} 3.52 \\ \times 0.41 \\ \hline 3\ 52 \\ 140\ 8 \end{array}$$

← 2nd partial product

Step 4: Add the two partial products to get the final product. Then, place the decimal point correctly by counting the decimal places in the factors (multiplicand and multiplier). The counting will be from right to left.

$$\begin{array}{r} 3.52 \text{ (2 decimal places)} \\ \times 0.41 \text{ (2 decimal places)} \\ \hline 3\ 52 \\ +140\ 8 \\ \hline 1.44\ 32 \end{array}$$

← final product (4 decimal places)

This time, be motivated in studying the table and problem below.

Item	Unit Cost
Notebook	₱13.25
Ballpen	₱9.75
Crayon	₱25.35
Pencil	₱6.95
Clear book	₱45.50
Roll of Pad paper	₱23.25

Blessie bought 4 notebooks, 3 ballpens, a roll of pad paper and a clear book.
If she handed a 500-peso bill to the cashier, how much change will she receive?

To solve the problem, do the following steps:

Understand:

1. What is asked?

Answer: The amount of change Blessie will receive from her 500-peso bill

2. What are the given facts?

Answer: 4 notebooks at ₱13.25 each, 3 ballpens at ₱9.75 each, 1 roll of pad paper at ₱23.25, 1 clear book at ₱45.50 and 500-peso bill

Plan:

1. What is/are the hidden questions?

Answer: What is the total cost of 4 notebooks?

What is the total cost of 3 ballpens?

How much is the total cost of all the items that Blessie bought?

2. The processes to be used are _____.

Answer: multiplication, addition, and subtraction

3. The number sentence for the problem is_____.

Answer: { $₱500 - [(4 \times ₱13.25) + (3 \times ₱9.75) + ₱23.25 + ₱45.50] \} = N$

Solve:

$$N = \{ \text{P}500.00 - [(4 \times \text{P}13.25) + (3 \times \text{P}9.75) + \text{P}23.25 + \text{P}45.50] \}$$

$$= \{ \text{P}500.00 - [\text{P}53.00 + \text{P}29.25 + \text{P}23.25 + \text{P}45.50] \}$$

Total cost of
4 notebooks

Total cost of
3 ballpens

$$= \text{P}500.00 - \text{P}151.00$$

Total cost of
all items

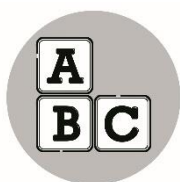
$$= \text{P}349.00 \longrightarrow \text{amount of change Blessie received}$$

Therefore, Blessie will receive a change of ₱349.00 from her 500-peso bill.

Check:

To check whether the answer is correct, add the total cost of all the items bought and the change received. The sum should be equal to the amount given to the cashier.

$$\begin{array}{r} \text{P}151.00 \\ + \\ \hline \text{P}349.00 \\ \text{P}500.00 \end{array}$$



What's More

A. Multiply each decimal in the **input column** with **0.75**. Write the product in the **output column**. Copy first the table on your paper.

I'll do number 1 for you.

Given $\implies 5.16 \times 0.75 = ?$

$$\begin{array}{r}
 5.16 \\
 \times 0.75 \\
 \hline
 2580 \\
 + 3612 \\
 \hline
 3.8700 \longleftarrow \text{product}
 \end{array}$$

Now, do numbers 2 to 6.

No.	INPUT	OUTPUT
1.	5.16	3.8700
2.	6.12	
3.	7.63	
4.	1.86	
5.	3.69	
6.	4.26	

B. Read and solve. Write your solution with label in the final answer on your answer sheet.

Jen saves ₱5.25 every Monday, ₱8.35 every Tuesday, ₱6.15 every Wednesday, ₱4.65 every Thursday, and ₱10.30 every Friday from her daily school

allowance for two weeks. From these savings, she plans to buy a sling bag that costs ₱215.00. How much more must she save after two weeks?



What I Have Learned

➤ **To multiply decimals and mixed decimals with factors up to 2 decimal places do the following:**

1. Write the decimals in column aligning the digits at the right.
2. Multiply from the rightmost digit of the multiplier to the digits of the multiplicand to get the first and second partial products.
3. Sum up the partial products.
4. Count the number of decimal places in the factors. This will be the number of decimal places in the final product. Start counting from right to left.



What I Can Do

A. Multiply the following. Write your solutions on your answer sheet and place the decimal point in the products correctly.

$$1.) \begin{array}{r} 6.34 \\ \times 0.28 \\ \hline \end{array}$$

$$2.) \begin{array}{r} 7.91 \\ \times 0.57 \\ \hline \end{array}$$

$$3.) \begin{array}{r} 21.64 \\ \times 0.23 \\ \hline \end{array}$$

$$4.) \begin{array}{r} 8.49 \\ \times 0.07 \\ \hline \end{array}$$

$$5.) \begin{array}{r} 2.96 \\ \times 0.38 \\ \hline \end{array}$$

B. Read and solve the following problems on your answer sheet. Label your final answers.

6.) Mrs. Nicolas has 2.54 meters of lace. If 0.78 of the lace was used for edging the sides of a table cloth, find the length of the lace used.

7.) Trina bought 4 kg of sugar at ₱36.50 per kilogram and 3 kg of flour at ₱17.55 per kilogram. How much change will she receive from her ₱200 bill?



Assessment

A. Find the product. Write first the given in column and write your solutions on your answer sheet.

$$1.) 0.56 \times 4.15 = \boxed{}$$

$$4.) 4.38 \times 0.19 = \boxed{}$$

$$2.) 3.45 \times 0.26 = \boxed{}$$

$$5.) 0.66 \times 3.93 = \boxed{}$$

$$3.) 9.22 \times 0.54 = \boxed{}$$

B. Multiply. Place the decimal point in the product correctly.

$$\begin{array}{r} 6.) \quad 7.96 \\ \times 0.27 \\ \hline \end{array}$$

$$\begin{array}{r} 7.) \quad 8.15 \\ \times 0.52 \\ \hline \end{array}$$

$$\begin{array}{r} 8.) \quad 12.67 \\ \times 0.04 \\ \hline \end{array}$$

$$\begin{array}{r} 9.) \quad 5.08 \\ \times 0.29 \\ \hline \end{array}$$

$$\begin{array}{r} 10.) \quad 8.74 \\ \times 0.53 \\ \hline \end{array}$$

C. Read, analyze, and solve. Write your solution on your answer sheet with label in the final answer.

Kaye's allowance is ₱800 a week. She spent ₱95.00 for transportation, ₱475.50 for meals and snacks, and ₱50.25 for the photocopy of handouts. How much money can she save in 2 weeks?



Additional Activities

A. Find the value of N. Write first the given in column and write your solutions in your answer sheet.

1.) $4.54 \times 0.16 = N$

4.) $0.38 \times 7.11 = N$

2.) $0.28 \times 3.44 = N$

5.) $0.52 \times 4.18 = N$

3.) $2.13 \times 0.25 = N$

B. Read and solve. Write your solutions in a sheet of paper.

6.) Rica has 2.15 meters of red ribbon. Her yellow ribbon is 0.17 times longer than the red one. How long is the yellow ribbon?

7.) A kilo of ripe bananas costs ₱25.80. How much will you pay for ripe bananas weighing 0.75 kilo?

8.) Nails are sold at ₱45.60 per kilo. How much will 0.75 kilo of nails cost?

9.) Dondi weighs 60.19 kilograms. His brother weighs 0.23 times heavier than him. How heavy is his brother?

10.) The Berden family went to a circus. They bought three tickets for adults at ₱95.25 each and four tickets for children at ₱70.50 each. How much change will they receive from a ₱1 000-bill given to the ticket seller?



Answer Key

<p>Assessment</p> <p>A.</p> <p>1. 2.3240 2. 0.8970 3. 4.9788 4. 0.8322 5. 2.5938</p> <p>B.</p> <p>6. 2.1492 7. 4.2380 8. 0.5068 9. 1.4732 10. 4.6322</p> <p>C.</p> <p>₱358.50 - money Kaye can save in two weeks</p> <p>Additional Activities</p> <p>A.</p> <p>1. 0.7264 2. 0.9632 3. 0.5325 4. 2.7018 5. 2.1736</p> <p>B.</p> <p>6. 2.5155 m – length of the yellow ribbon 7. ₱19.35 – cost of 0.75 kilo ripe bananas 8. ₱34.20 – cost of 0.75 kilo nails 9. 74.0337 kg – weight of Dondi's brother 10. ₱432.25 – change received from a ₱1 000-bill</p>	<p>What's More</p> <p>A.</p> <p>1. 3.8700 2. 4.5900 3. 5.7225 4. 1.3950 5. 2.7675 6. 3.1950</p> <p>B.</p> <p>₱145.60 – Jen needs to save more after two weeks</p> <p>What Can I Do</p> <p>A.</p> <p>1. 1.7752 2. 4.5087 3. 4.9772 4. 0.5943 5. 1.1248</p> <p>B.</p> <p>6. 1.9812 m – part of the lace used 7. ₱1.35 – change she will receive</p>	<p>What I Know</p> <p>A.</p> <p>1. 0.4452 2. 0.1170 3. 0.7512 4. 1.7841 5. 1.4416</p> <p>B.</p> <p>1. 0.6555 2. 0.8256 3. 0.7320 4. 4.2350 5. 5.0463</p> <p>What's in</p> <p>1. d 2. e 3. f 4. a 5. i 6. b 7. c 8. j 9. g 10. h</p>
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Reference:

- *Most Essential Learning Competencies (MELC) in Mathematics 6*

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