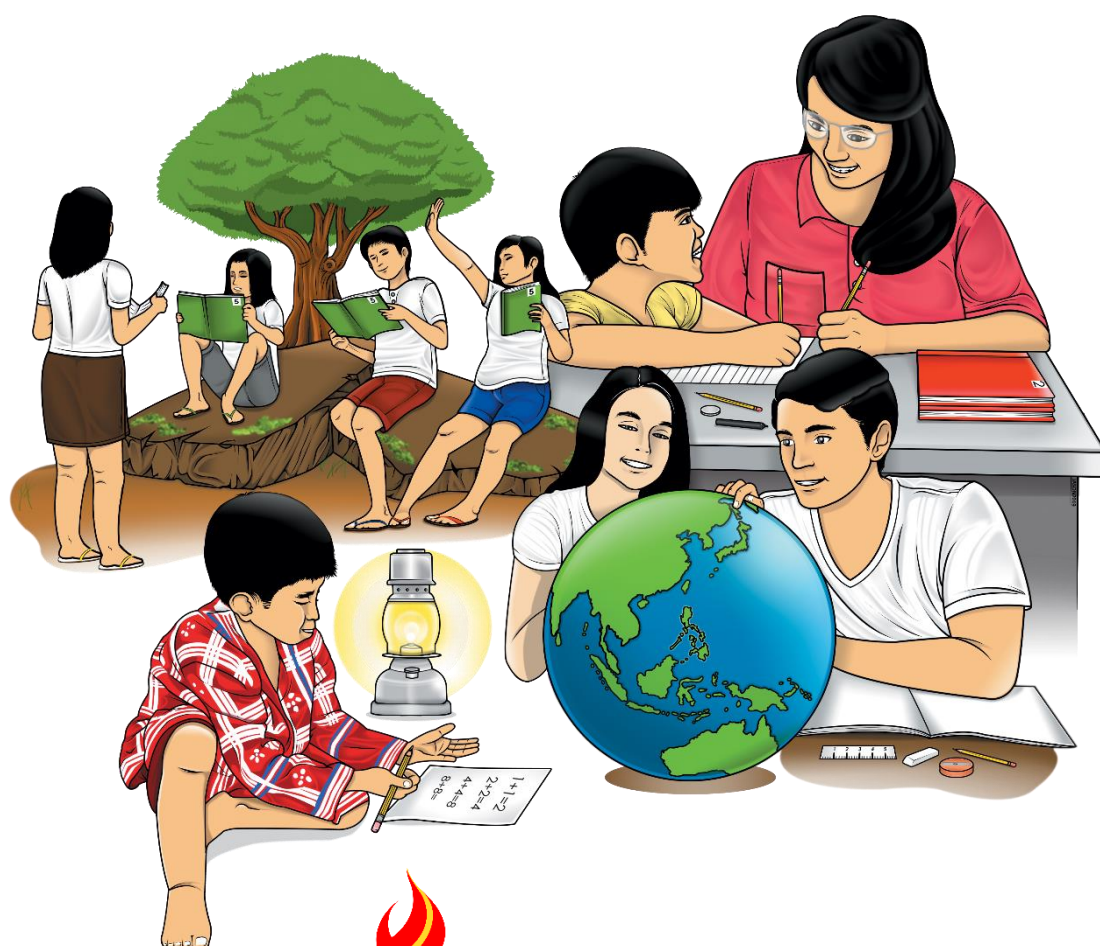**6**

Mathematics
Quarter 1 – Module 5:
Adding Decimals and Mixed Decimals Through Ten Thousandths

ALTERNATIVE DELIVERY MODE

ADM

Mathematics – Grade 6
Alternative Delivery Mode
Quarter 1 – Module 5: Adding Decimals and Mixed Decimals Through Ten Thousandths
First Edition, 2020

6

Mathematics
Quarter 1 – Module 5:
Adding Decimals and Mixed Decimals Through Ten Thousandths

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 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.

Thank you.

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 adding decimals and mixed decimals through ten thousandths. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

The module is divided into two lessons, namely:
- Lesson 1 – Adding Decimals and Mixed Decimals through Ten Thousandths Without Regrouping
- Lesson 2 – Adding Decimals and Mixed Decimals through Ten Thousandths With Regrouping

After going through this module, you are expected to:
1. add decimals and mixed decimals through ten thousandths without regrouping; **(M6NS-Id-106.2)**
2. add decimals and mixed decimals through ten thousandths with regrouping; **(M6NS-Id-106.2)** and
3. solve one or more steps routine and non-routine problems involving addition of decimals and mixed decimals using appropriate problem solving strategies and tools. **(M6NS-Id-108.2)**

2

![pencil icon] **What I Know**

Find the value of **N**. Write in column and add. Write your answers on your answer sheet.

Example: 23.4580 + 64.5219 = N

Solution:

$$\begin{array}{r} 23.4580 \\ + \ 64.5219 \\ \hline 87.9799 \end{array}$$

1.) 56.7208 + 3.2110 = **N**

2.) 96.6503 + 10.345 = **N**

3.) 220.5629 + 32.437 = **N**

4.) 45.943 + 63.052 = **N**

5.) 93.8901 + 2.0096 = **N**

6.) 48.3920 + 31.5069 = **N**

7.) 43.8906 + 46.0093 = **N**

8.) 52.7306 + 23.1692 = **N**

9.) 639.7901 + 60.2098 = **N**

10.) 56.9270 + 43.0609 = **N**

Lesson 1

Adding Decimals and Mixed Decimals through Ten Thousandths Without Regrouping

What is the answer when 1.2428 is added to 15.6251? In this lesson you will learn how to add decimals through ten thousandths without regrouping.
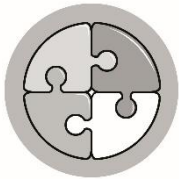
What's In

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

1.) 0.45 + 0.3 = **n**

2.) 0.234 + 5.5 = **n**

3.) 0.0823 + 0.036 = **n**

4.) 0.73 + 0.026 = **n**

5.) 2.009 + 0.241 = **n**

What's New

Read and understand the problem.

> John decided to go to San Miguel Church in the nearby town by riding on a motorcycle. For the first 1 minute, he recorded that he had traveled 0.0437 kilometers and 3.6112 kilometers for the next 10 minutes. What is the total distance traveled by John for 11 minutes?

4

? *What is It*

How will you know the total distance that John has traveled? Can you solve the problem? What process will you use to find the answer?

Here are the steps to solve it.

- Write and arrange the numbers vertically. Align the decimal points.

$$
\begin{array}{r}
0.0437 \\
+ \quad 3.6112 \\
\hline
\end{array}
$$

- Add the ten thousandths place.

$$
\begin{array}{r}
0.0437 \\
+ \quad 3.6112 \\
\hline
9
\end{array}
$$
$7+2=9$

- Add the thousandths place.

$$
\begin{array}{r}
0.0437 \\
+ \quad 3.6112 \\
\hline
49
\end{array}
$$
$3+1=4$

- Add the hundredths place.

$$
\begin{array}{r}
0.0437 \\
+ \quad 3.6112 \\
\hline
549
\end{array}
$$
$4+1=5$

5

- Add the tenths place.

$$0 + 6 = 6$$

$$
\begin{array}{r}
0.0437 \\
+\ 3.6112 \\
\hline
\mathbf{6549}
\end{array}
$$

- Place the <u>decimal point</u>.

$$
\begin{array}{r}
0.0437 \\
+\ 3.6112 \\
\hline
\mathbf{.6549}
\end{array}
$$

- Add the whole numbers. Add the ones.

$$0 + 3 = 3$$

$$
\begin{array}{r}
0.0437 \\
+\ 3.6112 \\
\hline
\mathbf{3.6549}
\end{array}
$$

So, 0.0437 + 3.6112 = 3.6549.

Therefore, John traveled a total distance of 3.6549 kilometers.
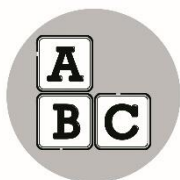
What's More

Find the value of **N**. Arrange the decimals vertically and perform the indicated operation. Write your answers on your answer sheet.

Example: 357.7891 + 242.2108 = N

Solution:

$$
\begin{array}{r}
357.7891 \\
+\ 242.2108 \\
\hline
599.\,9999
\end{array}
$$

1.) 12.058 + 7.8302 = **N**

2.) 3.620 + 2.3195 = **N**

3.) 520.12 + 8.6219 = **N**

4.) 16.6039 + 8.3460 = **N**

5.) 12.4312 + 5.3673 = **N**

6

What I Have Learned

When two decimals are added,

- align the decimal points in a straight column.
- use 0 as placeholder if needed.
- add just like adding whole numbers.
- place a decimal point in the sum.
- align the decimal point in the sum with the decimal points in the addends.

What I Can Do

A. Perform the indicated operation. Write your answers on your answer sheet.

1)   8.2397
    + 3.7601

2)   17.843
    + 21.036

3)   26.3921
    + 61.6058

4.) What is the sum if 4.4160 is added to 6.5135?

5.) If 13.9813 is added to 3.0186, what is the sum?

B. Read and solve. Show your answers on your answer sheet.

6.) If Andrea saved ₱21.50 on Monday and ₱56.45 on Tuesday, how much did she save for two days?

7.) Aling Pasing harvested 206.59 kilograms of guava and 128.40 kilograms of star apple from their farm. How many kilograms of guava and star apple was harvested in all?

7

Assessment

Find the value of **N**. Write in column, then add. Write your answers on your answer sheet.

1.) 435.8220 + 62.0539 = **N**

2.) 56.3440 + 23.623 = **N**

3.) 2 347.6209 + 16.36 = **N**

4.) 90.239 + 12.5609 = **N**

5.) 147.8206 + 2.1702 = **N**

6.) 349.12 + 10.3590 = **N**

7.) 207.9231 + 131.0637 = **N**

8.) 61.0900 + 28.1009 = **N**

9.) 0.9821 + 3.0167 = **N**

10.) 534.0981 + 261.9002 = **N**

Additional Activities

A. Find the value of **N**. Perform the indicated operation. Write your answers on your answer sheet.

1.) 42.8986 + 46.0013 = **N**

2.) 67.9012 + 22.0042 = **N**

3.) 9 245.8905 + 354.1043 = **N**

4.) 72.1274 + 23.7725 = **N**

5.) 890.3471 + 102.5208 = **N**

B. Read and solve. Show your answers on your answer sheet.

6.) Mang Juan bought three pieces of watermelon. If the weights of the three watermelons are 2.2103 kilograms, 3.0214 kilograms, and 2.6682 kilograms, how many kilograms of watermelons did Mang Juan buy?

8

7.) There are two baskets of mangoes. One basket weighs 10.7602 kilograms and the other one weighs 12.0087 kilograms. How many kilograms of mangoes are there in all?

8.) Raphel went to Ulysses Construction Supply Store and bought a bag of cement for ₱265.75 and ₱1 630.00 for a cubic of sand and gravel. How much was his total purchase?

9.) Helen spends ₱504.25 for snacks and ₱192.50 for fare to school every week. How much does she spend weekly for her snacks and fare?

10.) Rose has a stock of 64.83 kilograms of chicken and Arthur has 35.16 kilograms of pork. How many kilograms of pork and chicken do they have in all?

Answer Key

What I Know	What's More	Assessment
What's In		
1) 0.75	**What I Can Do**	**Additional Activities**
2) 5.734		
3) 0.1183	1) 19.8882	1) 497.8759
4) 0.756	2) 5.9395	2) 79.9670
5) 2.25	3) 528.7419	3) 2 363.9809
	4) 24.9499	4) 102.7999
	5) 17.7985	5) 149.9908
What I Know		6) 359.479
1) 59.9318	**A.**	7) 338.9868
2) 106.9953	1) 11.9998	8) 89.1909
3) 252.9999	2) 38.879	9) 3.9988
4) 108.995	3) 87.9979	10) 795.9983
5) 95.8997	4) 10.9295	
6) 79.8989	5) 16.9999	**A.**
7) 89.8999		1) 88.8999
8) 75.8998	**B.**	2) 89.9054
9) 699.9999	6) ₱77.95	3) 9 599.9948
10) 99.9879	7) 334.99 kilograms	4) 95.8999
		5) 992.8679
		B.
		6) 7.8999 kilograms
		7) 22.7689 kilograms
		8) ₱1 895.75
		9) ₱696.75
		10) 99.99 kilograms

10

What I Know

Find the value of **N**. Write in column and add. Regroup if necessary. Write your answers on your answer sheet.

Example: 56.6721 + 23.3159 = N

Solution:

$$
\begin{array}{r}
1 \\
56.6721 \\
+\ 23.3159 \\
\hline
79.9880
\end{array}
$$

1.) 23.6735 + 13.5386 = **N**

2.) 96.6503 + 10.345 = **N**

3.) 229.5629 + 32.437 = **N**

4.) 45.943 + 63.052 = **N**

5.) 93.8901 + 2.0096 = **N**

6.) 68.3960 + 32.5059 = **N**

7.) 34.8609 + 66.4593 = **N**

8.) 92.6346 + 23.2386 = **N**

9.) 438.7961 + 70.2299 = **N**

10.)46.9278 + 43.0699 = **N**

Lesson 2

Adding Decimals and Mixed Decimals through Ten Thousandths With Regrouping

This lesson will help you understand the skills in adding decimals and mixed decimals through ten thousandths with regrouping.

What's In

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

1.) 2.7019 + 0.2410 = **n**

2.) 84.2354 + 5.5635 = **n**

3.) 90.4705 + 0.3293 = **n**

4.) 2.823 + 1.036 = **n**

5.) 26.7113 + 0.026 = **n**

What's New

Read and understand the problem.

> Sharon's mother told her to sell banana chips to her classmates. She travelled a distance of 3.2547 kilometers from her home to school. In the afternoon, she went to the next barangay to sell the remaining banana chips and she travelled another 1.5569 kilometers. What is the total distance did Sharon travel?

What information is given in the problem? What should be done first so that you will have an idea on what to do? How are you going to solve for the total distance that she travels?

Here are the steps:

- Write and arrange the numbers vertically. Align the decimal points.

    Solve: 3.2547 + 1.5569 = N

$$
\begin{array}{r}
3.2547 \\
+\ 1.5569 \\
\hline
\end{array}
$$

- Add the ten thousandths place. Regroup if necessary.

$$
\begin{array}{r}
^{1} \\
3.254\boxed{7} \\
+\ 1.556\boxed{9} \\
\hline
6
\end{array}
\qquad 7+9=16
$$

- Add the thousandths place, and then regroup if necessary.

$$
\begin{array}{r}
^{1\,1} \\
3.25\boxed{4}7 \\
+\ 1.55\boxed{6}9 \\
\hline
16
\end{array}
\qquad 1+4+6=11
$$

13

• Add the hundredths place, and then regroup if necessary.

$$
\begin{array}{r}
1\,1\,1 \\
3.2547 \\
+\;\;1.5569 \\
\hline
116 \\
\end{array}
$$

$$1+5+5=11$$

• Add the tenths place, and then regroup if necessary.

$$
\begin{array}{r}
1\,1\,1 \\
3.2547 \\
+\;\;1.5569 \\
\hline
8116 \\
\end{array}
$$

$$1+2+5=8$$

• Place the <u>decimal point</u>.

$$
\begin{array}{r}
1\,1\,1 \\
3.2547 \\
+\;\;1.5569 \\
\hline
.8116 \\
\end{array}
$$

• Add the whole numbers. Add the ones.

$$
\begin{array}{r}
1\,1\,1 \\
3.2547 \\
+\;\;1.5569 \\
\hline
4.8116 \\
\end{array}
$$

$$3+1=4$$

14

So, 3.2547 + 1.5569 = 4.81116.

Therefore, Sharon has travelled 4.8116 kilometers in all.

Now that you are already familiar with the steps on how to add decimals and mixed decimals without and with regrouping, you can proceed on studying the word problem below.

Example 1:

> Charlyn wants to sew pretty pillow cases. She has 1.28 meters of pink cloth, 1.56 meters of green cloth, and 0.459 meter of yellow cloth. Taken together, how many meters of cloth does Charlyn have?

To solve the problem above, follow these steps:

Understand:

    a. What is asked?

    Answer: The total length of cloth that Charlyn have.

    b. What are the given facts?

    Answer: 1.28 meters of pink cloth

              1 .56 meters of green cloth

              0.459 meter of yellow cloth

Plan:

    a. What is the word clue?

    Answer: together

    b. What is the operation to be used?

    Answer: addition

    c. What is the number sentence?

    Answer: 1.28 meters + 1.56 meters + 0.459 meter = N

Solve:

    Show your computation:

    Add 1.28 meters, 1.56 meters, and 0.459 meter to find N.

15

1. Line up the decimal points

$$\begin{array}{r} \mathbf{1.28} \quad \text{meters} \\ + \quad \mathbf{1.56} \quad \text{meters} \\ \underline{\mathbf{0.459}} \quad \text{meter} \end{array}$$

2. Add the numbers. Regroup if needed.

$$\begin{array}{r} 1 \quad 1 \qquad \\ \mathbf{1.28} \quad \text{meters} \\ + \quad \mathbf{1.56} \quad \text{meters} \\ \underline{\mathbf{0.459}} \quad \text{meter} \\ \mathbf{3.299} \quad \text{meters} \end{array}$$

Answer: The total length of the three cloths is 3.299 meters.

Check:

Check your answer. Mentally compute the total length of cloth using estimation. Is the answer reasonable?

Example 2:

> If Leena saved ₱35.50 on Monday, ₱38.75 on Tuesday, ₱42.00 on Wednesday, ₱45.25 on Thursday and so on, how much will she save from her daily allowance for seven days?

To solve the problem above, follow these steps:

Understand:

a. What is asked?

Answer: The amount she saves from her daily allowance for seven days.

b. What are the given facts?

Answer: ₱35.50 - savings on Monday

₱38.75 - savings on Tuesday

₱42.00 - savings on Wednesday

₱45.25 - savings on Thursday

Plan:

   a. What is the word/phrase clue?

      Answer: savings for seven days

   c. What operation to be used?

      Answer: addition

   d. How do you solve it?

      Answer: Finding pattern strategy

Solve:

To determine the savings of Leena for seven days, we construct a table this way.

Days	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Savings	₱35.50	₱38.75	₱42.00	₱45.25	?	?	?
Pattern	₱3.25	₱3.25	₱3.25				

Observe the savings of Leena from Monday to Thursday. The difference of Monday and Tuesday savings is ₱3.25. The same is true with Tuesday and Wednesday, and Wednesday and Thursday. With this, you can see a difference of ₱3.25 per day. Thus, you can say that there is a pattern of adding ₱3.25 in each succeeding day.

To project her savings on Friday, we add ₱3.25 to the Thursday savings which is ₱45.25 to get ₱48.50. To get the savings on Saturday, add ₱3.25 to ₱48.50 to make it ₱51.75. To get the savings for Sunday, add ₱3.25 to ₱51.75 to make it ₱55.00. Then, add all the amount she saved from Monday to Sunday to get the total amount of savings for seven days.

17

| Days		Savings
Monday		₱35.50
Tuesday	₱35.50 + ₱3.25 = ₱38.75	₱38.75
Wednesday	₱38.75 + ₱3.25 = ₱42.00	₱42.00
Thursday	₱42.00 + ₱3.25 = ₱45.25	₱45.25
Friday	₱45.25 + ₱3.25 = ₱48.50	₱48.50
Saturday	₱48.50 + ₱3.25 = ₱51.75	₱51.75
Sunday	₱51.75 + ₱3.25 = ₱55.00	₱55.00
Total		₱316.75

Answer: Leena saves ₱316.75 from her daily allowance for seven days.

Check:

To check your answer. Try to solve by working backward the given savings of Leena.

$-$ ₱316.75   Total savings for seven days $-$ ₱261.75   Total savings for six days

₱ 55.00   Savings on Sunday   ➔   ₱ 51.75   Savings on Saturday

₱261.75   ₱210.00

$-$ ₱210.00   Total savings for five days   ₱161.50   Total savings for four days

₱ 48.50   Savings on Friday   ➔ $-$ ₱ 45.25   Savings on Thursday

₱161.50   ₱116.25

₱116.25   Total savings for three days   ₱74.25   Total savings for two days

$-$ ₱ 42.00   Savings on Wednesday   ➔ $-$ ₱38.75   Savings on Tuesday

₱ 74.25   ₱35.50   Savings on Monday

Therefore, the answer to the given problem is correct. The total savings of Leena is ₱316.75 for seven days.
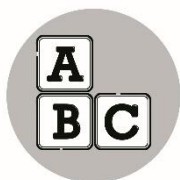
What's More

Find the value of **N**. Arrange the decimals vertically and add the following mixed decimals. Write your answers on your answer sheet.

Example: 347.6891 + 242.2208 = N

Solution:

$$
\begin{array}{r}
\overset{1}{347.6891} \\
+\ 242.2208 \\
\hline
589.909
\end{array}
$$

1.) 27.456 + 19.238 = **N**

2.) 92.2670 + 1.2789 = **N**

3.) 76.8919 + 21.9812 = **N**

4.) 16.6039 + 8.469 = **N**

5.) CAS Cooperative starts with fifty members. The members agreed that each of them has to pay ₱320.50 as their starting capital share. Furthermore, they are required to pay ₱36.50 for additional capital build-up yearly. After how many years will each individual member should share of not less than ₱500.00?

What I Have Learned

When two decimals are added,

- align the decimal points in a straight column.
- use 0 as placeholder if needed.
- add just like adding whole numbers. Regroup if necessary.
- place a decimal point in the sum.
- align the decimal point in the sum with the decimal points in the addends.

What I Can Do

A. Add the following mixed decimal numbers. Write your answers on your answer sheet.

1.) 98.2996 + 43.7691 = N

2.) 19.9403 + 71.0036 = N

3.) 96.6729 + 91.6358 = N

4.) What is the sum if 102.4793 is added to 523.68?

5.) If 23.76 increased by 90.3594, what is the sum?

B. Read and solve. Show your solution on your answer sheet.

6.) Josie paid ₱526.60 for a notebook, a roll pad of paper, and a pen. On the next store, she bought a bag which cost her ₱298.75. Find the total cost of the said four items.

7.) Joecel is having gain-weight program in RM Gym. At the start of her training on January, she weighs 56.7 kilograms. On February, she weighs 59.5 kilograms. And on March, she weighs 62.3 kilograms. Her training was very successful and so she decides to terminate it after fifth month for she will reach her target weight. What was Joecel's target weight?

Assessment

Write in column and add. Regroup if necessary. Write your answers on your answer sheet.

1.) 82.3590 + 26.1229 = N

2.) 46.6970 + 32.4238 = N

3.) 47.5953 + 416.3626 = N

4.) 53.8912 + 21.9027 = N

5.) 31.6202 + 23.905 = N

6.) 217.9 + 3.4909 = N

7.) 2.7819 + 0.3295 = N

8.) 62.0930 + 28.1809 = N

9.) 56.2319 + 21.8174 = N

10.) Faith manages a mango fruit stand. On the first day, she was able to sell 5.65 kilograms of mango. Every succeeding day, she made to sell 2.5 kilograms more than the previous day. How many kilograms of mangoes did Faith made in all after five days?

20

Additional Activities

A. Find the value of **N**. Add the following mixed decimal numbers. Write your solution on your answer sheet.

1.) 57.9028 + 5.8913 = N

2.) 73.9018 + 45.8907 = N

3.) 6 710.8901 + 3.8017 = N

4.) 8.9018 + 78.6390 = N

5.) 926.3791 + 468.8216 = N

B. Solve the following problems. Show your solution on your answer sheet.

6.) Elleda withdrew some money from her savings account to buy a gift for her mother's birthday. She went to a department store that was having a big sale and bought a beautiful dress at ₱850.95 and a purse for ₱475.50. What is the total cost of the items she bought?

7.) A, B, C are three one-digit decimals. A and B gives the sum of 6.4. B and C gives the sum of 6.8. While, A and C gives the sum of 8. What is the value of A, B, and C?

8.) Jade bought 4.679 kilograms of meat. If her sister bought 2.396 kilograms more than what Jade bought, how many kilograms of meat did they have in all?

9.) Joy-joy were able to bake 150 cookies in five days. Each day she made 8 more cookies than that of the previous day. How many cookies did she start with?

10.) Kaleb had a coil of copper wire from which he cuts 3 pieces. The first piece was 2.0897 meters long, the second was 1.9688 meters long, and the third was 1.8759 meters long. What was the original length of the coil of copper wire?

Answer Key

What I Know	What's More	Assessment
What's In	**What I Can Do**	1) 108.4819
1) 2.9429	1) 46.694	2) 79.1208
2) 89.7989	2) 93.5459	3) 463.9579
3) 90.7998	3) 98.8731	4) 75.7939
4) 3.859	4) 25.0729	5) 55.5252
5) 26.7373	5) Fifth year	6) 221.3909
		7) 3.1114
What I Know	**A.**	8) 90.2739
1) 37.2121	1) 142.0687	9) 78.0493
2) 106.9653	2) 90.9439	10) 53.25 kilograms
3) 261.9999	3) 188.3087	
4) 108.995	4) 626.1593	**Additional Activities**
5) 95.8997	5) 114.1194	**A.**
6) 100.9019		1) 63.7941
7) 101.3202	**B.**	2) 119.7925
8) 115.8732	6) ₱825.35	3) 9 714.6918
9) 509.0260	7) 67.9 kilograms	4) 87.5408
10) 89.9977		5) 1 395.2007
		B.
		6) ₱1 326.45
		7) A=3.8
		B=2.6
		C=4.2
		8) 11.754 kilograms
		9) 14 cookies
		10) 5.9344 meters

Reference:

- Most Essential Learning Competencies (MELC) in Mathematics 6