



PIVOT^{4A}

LEARNER'S MATERIAL

QUARTER 2

Mathematics

G4



DepEd CALABARZON
Curriculum and Learning Management Division

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PIVOT 4A Learner's Material
Quarter 2
First Edition, 2020

Mathematics

Grade 4

Job S. Zape, Jr.
PIVOT 4A Instructional Design & Development Lead

Romyr L. Lazo
Content Creator & Writer

Jhonathan S. Cadavido & Romyr L. Lazo
Internal Reviewer & Editor

Ephraim L. Gibas & Sonny Bhoy Flores
Layout Artist & Illustrator

John Albert A. Rico & Melanie Mae N. Moreno
Graphic Artist & Cover Designer

Ephraim L. Gibas
IT & Logistics

Published by: Department of Education Region IV-A CALABARZON
Regional Director: Wilfredo E. Cabral
Assistant Regional Director: Ruth L. Fuentes

PIVOT 4A CALABARZON Math G4

Guide in Using PIVOT 4A Learner's Material

For the Parents/Guardians

This module aims to assist you, dear parents, guardians, or siblings of the learners, to understand how materials and activities are used in the new normal. It is designed to provide information, activities, and new learning that learners need to work on.

Activities presented in this module are based on the Most Essential Learning Competencies (MELCs) in Mathematics as prescribed by the Department of Education.

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

You are expected to assist the children in the tasks and ensure the learner's mastery of the subject matter. Be reminded that learners have to answer all the activities in their own notebook.

For the Learners

The module is designed to suit your needs and interests using the IDEA instructional process. This will help you attain the prescribed grade-level knowledge, skills, attitude, and values at your own pace outside the normal classroom setting.

The module is composed of different types of activities that are arranged according to graduated levels of difficulty—from simple to complex. You are expected to :

- a. answer all activities on separate sheets of paper;
- b. accomplish the **PIVOT Assessment Card for Learners on page 37** by providing the appropriate symbols that correspond to your personal assessment of your performance; and
- c. submit the outputs to your respective teachers on the time and date agreed upon.

Parts of PIVOT 4A Learner's Material

	K to 12 Delivery Process	Descriptions
Introduction	What I need to know	This part presents the MELC/s and the desired learning outcomes for the day or week, purpose of the lesson, core content and relevant samples.
	What is new	This maximizes awareness of his/her own knowledge as regards content and skills required for the lesson.
Development	What I know	This part presents activities, tasks and contents of value and interest to learner. This exposes him/her on what he/she knew, what he/she does not know and what he/she wants to know and learn. Most of the activities and tasks simply and directly revolve around the concepts of developing mastery of the target skills or MELC/s.
	What is in	
	What is it	
Engagement	What is more	In this part, the learner engages in various tasks and opportunities in building his/her knowledge, skills and attitude/values (KSAVs) to meaningfully connect his/her concepts after doing the tasks in the D part. This also exposes him/her to real life situations/tasks that shall: ignite his/ her interests to meet the expectation; make his/her performance satisfactory; and/or produce a product or performance which will help him/her fully understand the target skills and concepts .
	What I can do	
	What else I can do	
Assimilation	What I have learned	This part brings the learner to a process where he/she shall demonstrate ideas, interpretation, mindset or values and create pieces of information that will form part of his/her knowledge in reflecting, relating or using them effectively in any situation or context. Also, this part encourages him/her in creating conceptual structures giving him/her the avenue to integrate new and old learnings.
	What I can achieve	

This module is a guide and a resource of information in understanding the Most Essential Learning Competencies (MELCs). Understanding the target contents and skills can be further enriched thru the K to 12 Learning Materials and other supplementary materials such as Worktexts and Textbooks provided by schools and/or Schools Division Offices, and thru other learning delivery modalities, including radio-based instruction (RBI) and TV-based instruction (TVI).

Identifying the Multiples and Factors of a Given Number up to 100

Lesson

I

Getting a multiples of a number is look like skip counting with the same number. Multiples of a number, are the same numbers that are added repeatedly. Example, the multiples of 2 are 2,4,6,8,10. As you can see, its look like skip counting by 2s or repeating in adding by 2s. You can also easily get the multiples of a certain number by multiplying the number by another whole number. For example, you can get the multiples of 3 by multiplying 3 by 1,2,3,4,5 and so on, therefore the multiples of 3 are 3,6,9,12, 15 and so on.

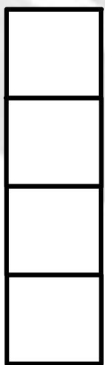
Factors are the numbers that when you multiply can give a larger number or a product. In every number, it has at least two factors, the number itself and one. However, some numbers have more than two factors, like 12. The factors of 12 are 1 and 12, 2 and 6, and 3 and 4. Therefore, if you ask to list the factors of 12, you would write; 1, 2, 3, 4, and 6.

Both multiples and factors are significant and prerequisite lesson before expanding and reducing fractions in lowest term and finding the patterns in a number. Therefore this lesson will help you for your future lesson. This time, focus your attention on how to identify the factors and multiples of a given number up to 100.

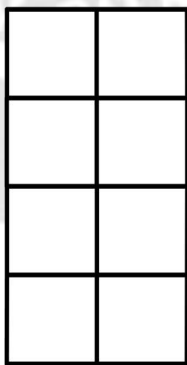
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A. Multiples

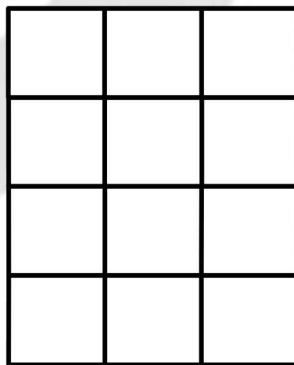
Look at the model blocks below. Try to analyze how you can get the multiples of 4. When you multiply 4 by 1, 2, 3, and 4, you can get multiples of this number.



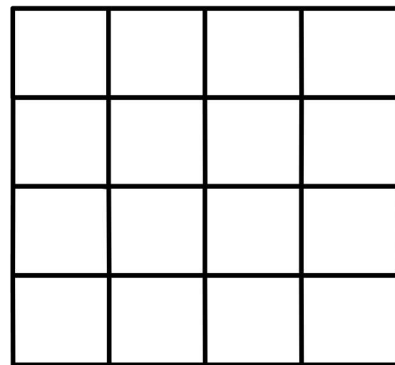
$$1 \times 4 = 4$$



$$2 \times 4 = 8$$



$$3 \times 4 = 12$$



$$4 \times 4 = 16$$

Therefore the multiples of **4** are 4, 8, 12, 16 and so on.

How about 5, can you tell at least 10 multiples of these number?

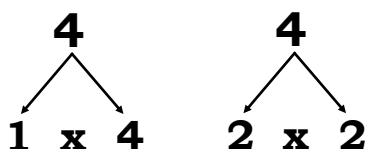
The multiples of **5** are 5, 10, 15, 20, 25, 30, 35, 40, 45, 50.

You will notice, that this lesson is not new to you, since you have already learned how to skip counting from your previous grades.

Now, you may proceed with your next topic.

B. Factors

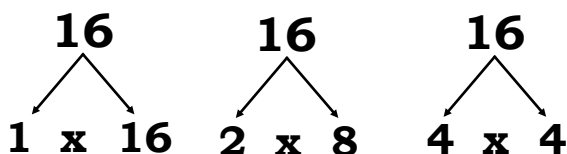
How about identifying the factors of a number 4? Look at this example.



When you express number 4 as a product of two or more numbers, each of this counting number; 1, 2, and 4 are factors of 4.

You will notice, that the number itself can be one of its factors.

How about identifying the factors of a number like 16?



In this example, you will noticed that number 16 has two or more factors. These are 1, 2, 4, 8 and 16 or the number it self.

Now that you already know how to identify the multiples and factors of a given number, try to do the following learning tasks below.

Learning Task 1: Identify the multiples of the following number inside the box. Write your answer on your notebook.

1) 7	1, 2, 3, 4, 5, 6, 7, 9, 10
2) 9	1, 2, 3, 4, 6, 8, 9, 12, 14
	1, 2, 3, 5, 6, 9, 10, 15, 16
3) 10	1, 2, 4, 6, 8, 10, 12, 15, 25
	1, 2, 4, 6, 8, 12, 15, 24, 48

Learning Task 2: Select the factors of the following number. Write your answer

1) 9	1, 3, 4, 9, 15, 18, 20, 27	6) 18	1, 2, 4, 9, 15, 18, 20, 27
2) 20	1, 2, 4, 5, 10, 20, 40, 60	7) 56	1, 2, 7, 8, 28, 20, 56, 60
3) 30	1, 2, 3, 5, 6, 10, 15, 30	8) 42	1, 2, 3, 6, 7, 14, 21, 42
4) 45	1, 3, 5, 9, 15, 20, 35, 45	9) 72	1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72
5) 64	1, 2, 5, 8, 10, 15, 32, 64	10) 90	1, 2, 3, 5, 6, 10, 15, 18, 30, 45

E

Learning Task 3: Write the first six multiples of each number in your notebook.

1) 7	_____	4) 10	_____
2) 6	_____	5) 12	_____
3) 9	_____	6) 15	_____

Learning Task 4: Write the factors of each number in your notebook.

1) 20	_____	4) 32	_____
2) 24	_____	5) 45	_____
3) 36	_____	6) 50	_____

Learning Task 5: Identify what is asked in each item below. Write your answer in your notebook.

- 1) What number I am if I'm between 21 and 31, a multiple of 4 and 7.
- 2) What number I am if I am a factor of 70 and I'm between 30 to 40.
- 3) What number I am if I am a factor of 90 but not a multiple of 6 and 9? I am greater than 10 but smaller than 20.
- 4) I am an even number smaller than 48 but not greater than 30. I am multiples of 6 and a factor of 72. What number I am?
- 5) I am odd number smaller than 56 but not greater than 28. I am multiples of 7 and has a factor of 7.

A

We can find multiple of a given number by multiplying the number by another whole number other than 0.

When you express a number as a product of two or more counting numbers, then each of these counting numbers is a factor of the given number.

Learning Task 6: Write the letter of the correct answer. Write your answer in your notebook.

- 1) Which of the following is a factor of 96?
A) 24 and 4 b) 12 and 8 c) 2 and 48 d) all of the above
- 2) Which of the following is NOT a multiple of 12?
A) 24 b) 48 c) 73 d) 96
- 3) Which of the following is the factor of 35?
A) 1,5,7,35 b) 1,2,5,7 c) 1,3,5, 12 d) 1,5,9,12
- 4) Which of the following is the multiple of 5?
A) 10,15,25,30 b) 6,9,11,13 c) 5,9,14,19 d) 5,12,24,35
- 5) 18 is a factor of 54 because it _____.
A) "is greater than" c) "divides evenly"
B) "is less than" d) multiples
- 6) 60 could not be a factor of 30 because it _____.
A) "is greater than" c) "divides evenly"
B) "is less than" d) multiples

Differentiating Prime from Composite

Numbers

Lesson

I

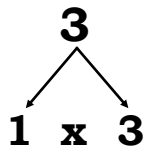
In the previous lesson, you have learned that there are numbers that can be expressed in two or more factors like 6. When numbers has two more factors and can be divided by exactly it is a composite numbers. For example, 6 is composite because it is a product of 2×3 in which both numbers are smaller than 6.

However, those numbers with only two factors, 1 and the number itself is called prime numbers. These numbers cannot be divided exactly. For example, 7 is prime number because the only way to express it as a product of two numbers is 7×1 .

Both prime and composite numbers are important lesson for you to understand the prime factorization which will be the next lesson. After going through this lesson, you are expected to differentiate prime from composite numbers.

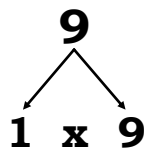
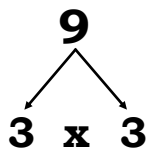
Study the example below. Each number is expressed as a product of 2 or more factors. Find out which of the numbers is prime and composite numbers.

A) Prime Numbers



You will notice that 3 has only two factors, 1 and 3 only. Three can be divided exactly by itself and 1. Therefore 3 is an example of **prime numbers**.

B) Composite Numbers



In this example, you will noticed that 9 have more than two factors. The factors of 9 are 1,3 and 9 . Nine can be divided by exactly. Therefore 9 is an example of **composite numbers**.

D

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Observe the numbers in the table. Look directly to the numbers with colors.

These numbers are examples of **prime numbers**. They are counting numbers that are greater than 1 with **only two factors**, 1 and itself.

Those numbers without colors are examples of **composite numbers**. These are the numbers greater than 1 with **more than two factors**.

4 is divisible by 4,1, and 2

6 is divisible by 6,1,2, and 3

8 is divisible by 1,2, and 4

Learning Task 1: Identify whether the following is a prime or a composite number. Write your answer on your notebook.

- | | | |
|-------------|--------------|--------------|
| 1) 23 _____ | 6) 47 _____ | 11) 65 _____ |
| 2) 25 _____ | 7) 53 _____ | 12) 79 _____ |
| 3) 15 _____ | 8) 58 _____ | 13) 92 _____ |
| 4) 34 _____ | 9) 67 _____ | 14) 83 _____ |
| 5) 43 _____ | 10) 71 _____ | 15) 74 _____ |

E

Learning Task 2: Select the prime numbers inside the box. Write your answers on your notebook.

41	34	90	76	87	99	19	60	59	43	70	55	78
45	65	75	85	96	22	21	33	44	55	88	44	57

Learning Task 3: Read the following questions. Write your answer in your notebook.

- 1) What is the largest 2-digit composite number divisible by 46?
- 2) What is the prime number immediately after 50?
- 3) What is the sum of all prime numbers between 30 to 60?
- 4) What is the sum of all prime numbers between 70 to 80?
- 5) What is the product of prime numbers immediately before and after 50?
- 6) How many prime numbers can be found between 60 to 100?

Learning Task 4: Solve the following. Write your answer in your notebook.

- 1) Sum of all prime numbers which is less than 20.
- 2) Sum of all the prime numbers between 50 to 70.
- 3) Sum of all the prime numbers that is greater than 70 but less than 80.
- 4) Product of prime numbers from 80 to 90.
- 5) What is the sum of $x + y + z$, if 13, x , 19, y , 29, z is ascending order of prime numbers.

A

Number 1 is neither a prime nor a composite number. 1 is a special number. Prime numbers are numbers that cannot be divided exactly and has 2 factors only, while composite numbers can be divided exactly. It has more than 2 factors.

Writing a Given Number as Product of its

Prime Factors

Lesson

I

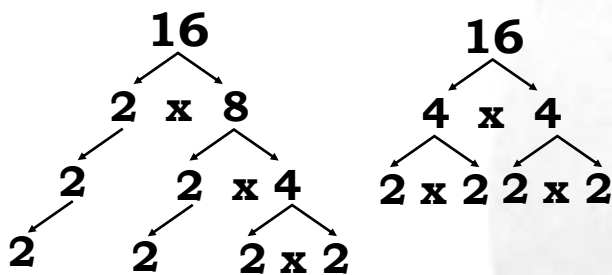
In the previous lesson you have learned the difference between composite and prime numbers. This time, you will learn the prime factorization which can help for your future lesson about GCF and LCM.

Prime Factorization is a method use to “break down” a given number into a product of prime numbers. This is also known as prime decomposition. If the number is expressed as a product of factors that are all prime numbers, the expression is called the prime factorization of the number.

In the previous lesson, we have learned that the factors of 16 are 1, 2, 4, 8, 16. Among of these factors, 2 which is a prime numbers and 2 is called prime factor of 16. After going through this lesson, you are expected to write a given number as a product of its prime factors.

The example below shows how a given number can be expressed as a product of prime factors. Observe how it was done.

Express 16 as a product of prime factors.



You will noticed that they used different factors at the beginning but they got the same answer at the end since the task is to express 16 as a prime factors. This means that you will not stop factoring until you got the prime factors.

Therefore, the prime factorization of 16 is **$2 \times 2 \times 2 \times 2$ or 2^4**

If a factors or prime factor appears many times in the factorization, you need to express using exponent or exponential form. The exponent of each prime tells how many times the prime number used as factors.

D

How to Perform Prime Factorization

Step 1: List down the first few prime numbers. Example:

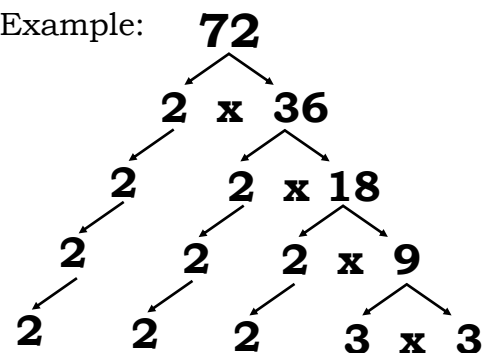
These are usually the prime numbers use in the prime factorization

2, 3, 5, 7, 11, 13, 17, 19

Step 2: Test the given number if it can be divided by 2 or divisible by the smallest prime number which is 2. If not, test it with the other prime numbers like 3, 5 and so on.

If the given number divides by the prime number 2, divides it evenly, then express it as factors:

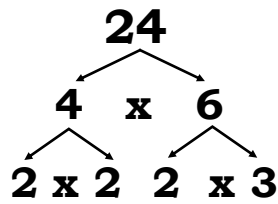
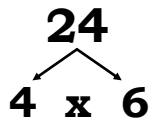
Example:



Therefore the prime factorization of **72** is **$2 \times 2 \times 2 \times 3 \times 3$ or $2^3 \times 3^2$**

There are two common methods in performing prime factorization. These are Factor Tree, and Continuous Division. Look at the example below and see the difference between the 2 methods.

Method 1: **Factor Tree**



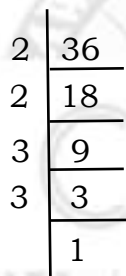
24 is factored into 4 x 6. You will noticed that neither 4 or 6 are not prime numbers.

So you need to continue factoring until you got all prime factors. 2 and 3 are both prime factors of 24, therefore you don't need to factor anymore.

The prime factorization of 24 is $2 \times 2 \times 2 \times 3$ or $2^3 \times 3$

Method 2: **Continuous Division**

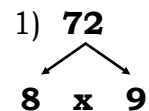
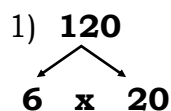
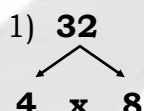
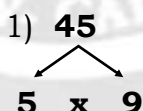
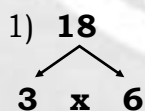
Example: Find the prime factorization of 36.



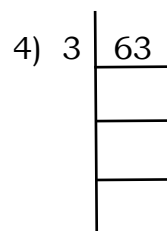
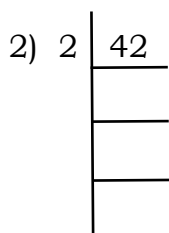
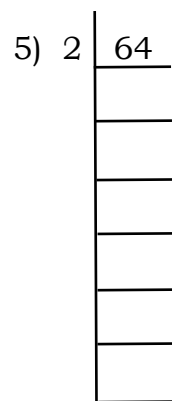
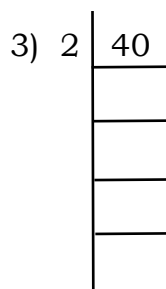
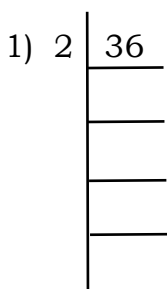
Divide by the smallest prime factor. Then continue dividing by the next prime factor. Repeat the procedure until you get 1.

Therefore the prime factorization of 36 is $2 \times 2 \times 3 \times 3$ or $2^2 \times 3^2$

Learning Task 1: Write the prime factorization of the following numbers using the factor tree. Write your answer in your notebook.



Learning Task 2: Write the prime factorization of the following numbers using continues division. Write your answer in your notebook.



E

Learning Task 3: Write the prime factorization of each number. Write your answer in your notebook.

- | | |
|---------------|----------------|
| 1) 38 = _____ | 6) 93 = _____ |
| 2) 56 = _____ | 7) 58 = _____ |
| 3) 66 = _____ | 8) 81 = _____ |
| 4) 93 = _____ | 9) 78 = _____ |
| 5) 44 = _____ | 10) 85 = _____ |

Learning Task 4: Find the composite number named in each prime factorization below. Write your answer in your notebook.

- | | | | |
|--|---------|---|---------|
| 1) $2 \times 2 \times 2 \times 3 \times 3$ | = _____ | 6) $2 \times 2 \times 3 \times 7$ | = _____ |
| 2) $2 \times 3 \times 3 \times 3$ | = _____ | 7) $2 \times 2 \times 11$ | = _____ |
| 3) $2 \times 2 \times 3 \times 5$ | = _____ | 8) $2 \times 5 \times 7$ | = _____ |
| 4) $2 \times 3 \times 3 \times 5$ | = _____ | 9) $2 \times 2 \times 5 \times 7$ | = _____ |
| 5) $2 \times 2 \times 3 \times 3 \times 5$ | = _____ | 10) $2 \times 2 \times 3 \times 3 \times 3$ | = _____ |

Learning Task 5: Find the composite number named in each exponential form. Write your answer in your notebook.

- | | | | |
|------------------------------|---------|----------------------|---------|
| 1) $2^3 \times 5$ | = _____ | 6) 2×5^3 | = _____ |
| 2) $2^2 \times 3^3$ | = _____ | 7) $2^4 \times 7$ | = _____ |
| 3) $2^3 \times 3^2 \times 5$ | = _____ | 8) $2^5 \times 3$ | = _____ |
| 4) $2^4 \times 3^2$ | = _____ | 9) $2^5 \times 3^2$ | = _____ |
| 5) $2^2 \times 23$ | = _____ | 10) $2^3 \times 3^3$ | = _____ |

A

In writing a prime factorization of a composite number, use factor tree or continues division. Divide the composite number by the possible smallest prime number. If the factors are still composite, repeat or continue the process until it becomes equal to 1. Always write the final prime factors in exponential form.

Finding the Common Factors and Multiples, GCF and LCM

I

Lesson

In your previous lesson, you have learned how to find the factors and multiples of the given number as well as how to find the prime factorization using factor tree and continuous division. In this lesson, you will use those methods to find common factor, greatest common factor (GCF), least common multiples (LCM) and common multiples in the given numbers.

The common factors are those factors that are all common in the two or more numbers. The largest factor among those common factors will be the greatest common factor or GCF. The common multiples are those multiples that are common or the same in the given numbers. The smallest multiples among those common multiples will be the least common multiples or LCM.

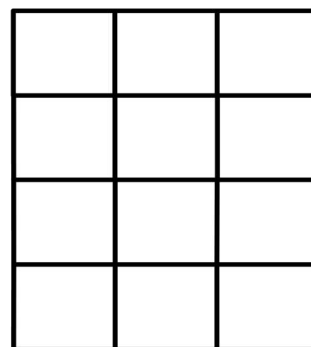
After going through this lesson, you are expected to find the common factors, greatest common factor, common multiples, and least common multiples.

To understand this lesson well, read and analyze first the short problem below and observe how the idea of common factor and greatest common factor help solve the problem.

Leo wants to cover a 30 cm by 40 cm cardboard of identical square paper. Can you help him to find the largest possible square to cover his cardboard?

Using the block model in the right side, you can now consider that the initial step is to divide each side into group of the same or equal lengths.

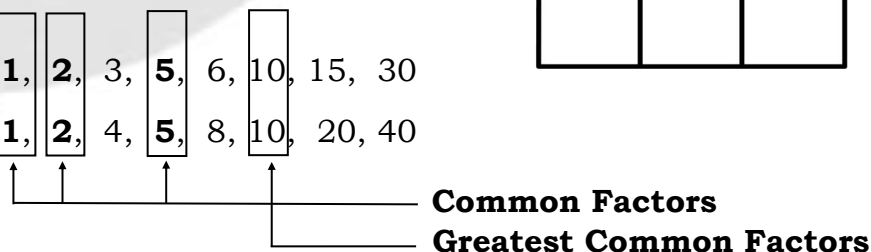
The idea of this step, is also the same in finding the common factors of 30 and 40. Observe how the concept of GCF applied in this problem.



Method 1: Listing method

The factors of **30** are **1**, **2**, 3, **5**, 6, **10**, 15, 30

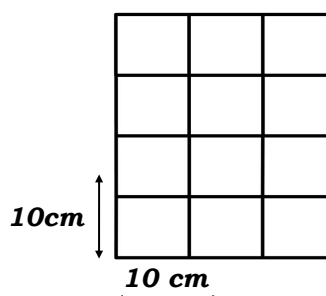
The factors of **40** are **1**, **2**, 4, **5**, 8, **10**, 20, 40



1, 2, and 5 are common factors of both 30 and 40. The largest among the these factors is 5. Therefore the **greatest common factor (GCF)** of 30 and 40 is **10**.

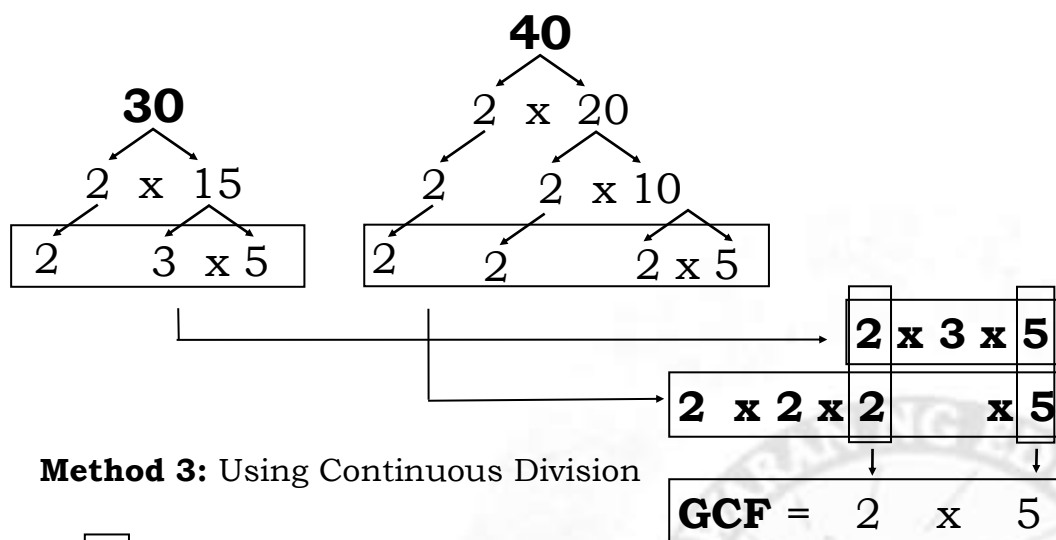
Going back to the problem above, you now know that the **side** of the **largest possible square** is **10 cm**.

The model block, shows that the 30 by 40 cm cardboard of Leo can be covered of 12

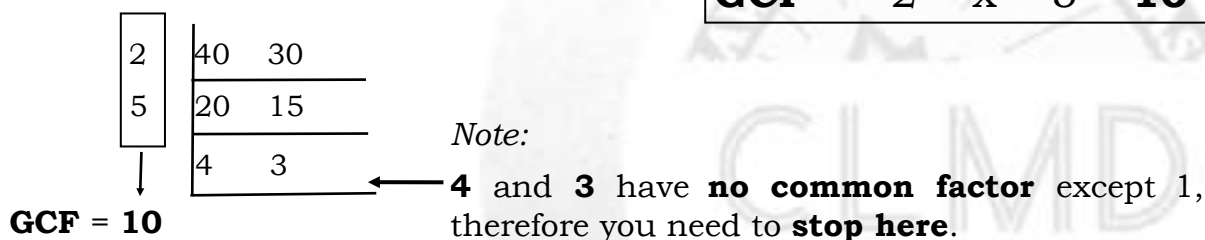


D

Method 2: Using Factor Tree



Method 3: Using Continuous Division



Find the LCM of 18, 24, 36 using the different methods.

Method 1: Using Listing Method

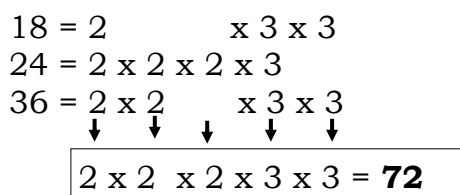
The multiples of 18 are 18, 36, 54, **72**, 90, 108, 126, **144**, 162

The multiples of 24 are 24, 48, **72**, 96, 120, **144**, 168, 192, **216**

The multiples of 36 are 36, **72**, 108, **144**, 180, **216**, 252, 288, 324

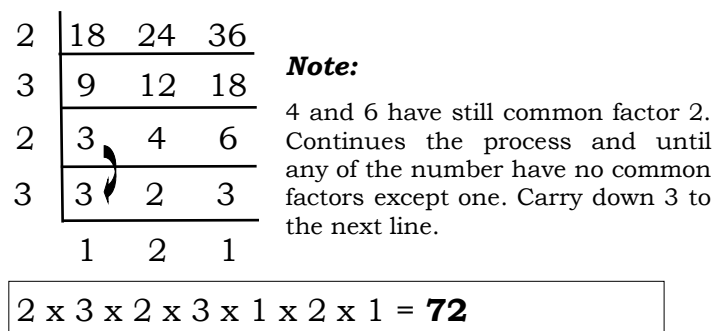
The **common multiples** for 18, 24, and 36 are 72 and 144. The smallest among all of these common multiples is 72. Therefore 72 is **Least Common Multiples (LCM)**.

Method 2: Using Factor Tree



The LCM of 18, 24, 36 is equal to **72**

Method 3: Continues Division



The LCM of 18, 24, 36 is equal to **72**

Learning Task 1: Find the **common factors** and at least first 3 possible **multiples** of each number using any of the methods. Write your answer in your notebook.

1) 25 and 75

3) 21 and 56

5) 27 and 36

2) 35 and 45

4) 54 and 72

6) 12 and 16

Learning Task 2: Find the **GCF** and **LCM** of each number using any of the methods. Write your answer in your notebook.

1) 25 and 75

4) 21 and 56

2) 35 and 45

5) 54 and 72

3) 27 and 36

6) 12 and 16

E

Learning Task 3: Solve the following problem using the concept of LCM and GCF. Write your answer in your notebook.

1) Juluis has 72 cups and 64 glasses. If he will put it in the tray with same number of cups and glass, what is the biggest possible number of cups and glasses that the tray will contain?

2) Miss Mae has three ribbons to be cut into same lengths. The lengths of the ribbons are 24, 40, and 48 inches. What is the greatest possible length of each pieces of ribbon to avoid leftover ribbons.

3. Leo visits the regional office once every 2 days. Ethan visits once every 4 days while Jaypee visits once every 6 days. They all meet one day in the office. After how many days will they meet together again at the Regional Office?

Learning Task 4: Find **LCM** of each number using factor tree. Write your answer in your notebook.

1) 2×4 , 2×7 , 2×5

4) 2×9 , 3×9 , 4×9

2) 3×8 , 2×6 , 3×5

5) 4×6 , 4×5 , 4×8

3) 2×3 , 2×12 , 3×10

6) 2×3^2 , $2^2 \times 2^2$, $2^3 \times 5$

Learning Task 5: Find **GCF** of each number using continuous division. Write your answer on your notebook.

1) 4^2 , 2^2 , 3^2

4) 4^3 , 2^5 , 8×5

2) 8^2 , 2^4 , 6^2

5) 5^2 , 20, 5×11

3) 3^3 , 72, 6^2

6) 3^3 , 45, 6×9

A

To find the common factor, and multiples as well as GCF and LCM, you may use listing method, factor tree and continuous division. GCF is the product of all the prime divisors. LCM is the product of all divisors and the numbers in the final row.

Solving Real-life Problems Involving GCF and LCM of 2 Given Numbers

WEEK

3

I

Lesson

In your previous lesson, you have experienced solving a word problem using the 4-step plan. You have learned how to find what is ask in the problem, given, how to use appropriate operation as well as making a model to help you visualizing the problem. You also learned the importance of checking or looking back to see if your final answer is justifiable and your solution is correct.

This time, you will continue solving a word problem to develop your critical thinking skills. After going through this lesson, you are expected to apply your learnings in finding the GCF and LCM through solving a real-life world problems involving GCF and LCM of the given numbers.

Read and analyze the word problem below. Observe how it is solve using the 4-step plan.

There are two bells in the school. The bell 1 is for the Grade 1 to 3 while the bell 2 is for the Grade 4 to 6. The bell 1 and 2 are rung, once every 30 minutes and the other or bell B at every 50 minutes. If they are rung together at 7:00 A.M., at what time they will be next rung together for their recess?

1) Understand:

What is asked in the problem? Time that the bell rung together.

Givens: Bell A are rung after 30 minutes

Bell B are rung after 50 minutes.

2) Plan:

How will I solve the problem? By finding the LCM

3) Solve:

How is the solution done?

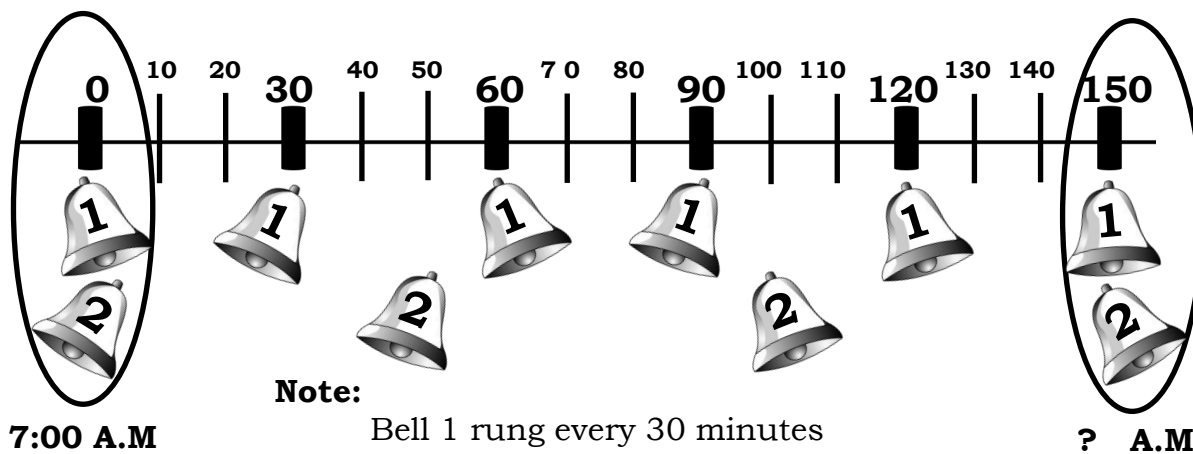
It can be thru listing method: 30, 60, 90, 120, 150, 180
50, 100, 150

It can be thru prime factorization: $30 = 2 \times 3 \times 5$

$50 = 2 \times 5 \times 5$

$= 2 \times 3 \times 5 \times 5 = 150$

It can be through a model or illustration.



Since the bell A rung at every 30 minutes and bell B is rung at 50 minutes, then the least number of minutes required for the two bells to be rung together is the LCM of 30 and 50.

The LCM of 30 and 50 is 150, therefore the 2 bells will be rung together after 150 minutes or 2 hours and 30 minutes since 1 hour is equal to 60 minutes .

Both bells will be next rung at

7:00 am, plus 2 hours & 30 mins
equals 9:30 am

D

Learning Task 1: Solve the following problem using the 4-step plan. Use the concept of GCF in each problem. Write your answer in your notebook.

1) Ellaine has a rectangular gift wrapper that measure 30 cm by 25 cm. She wants to cut it into square sheets of same size to be used in her album. What is the possible measure of a square sheet side which will not have a leftover?

2) The rich man would like to donate 96 notebooks , 84 pencils, and 120 pad papers among Grade IV Students of Danao Elementary School. If he wants to distribute it equally to selected students, how many students will receive those items? How many of each kind can each student gets?

3. Reina has 40 pieces of bananas, 48 pieces of atis and 36 pieces of chicos. She wants to put them equally in the plastic bag. How many possible number of each fruit will be placed in the plastic bag?

Learning Task 2: Solve the following problems using the 4-step plan. Use the concept of LCM in each problem. Write your answer in your notebook.

1. A lighthouse 1 flashes its light every 15 minutes. A lighthouse 2 flashes every 18 minutes. If the two lighthouses flash together at 1:00 A.M, what time they will next flash together?
2. The length and width of rectangular lot are 108 m and 144 m. Trees are planted at equal distance along the sides of the lot. What is the total number of trees planted?
3. Leo visits the regional office once every 2 days. Ethan visits once every 4 days while Jaypee visits once every 6 days. They all meet one day in the office. After how many days will they meet together again at the Regional Office?
4. The box of candies is shared equally among 9, 12, or 18 children, there are always 6 candies left. Find the smallest number of candies in the box?
5. Three bells toll at intervals of 12 min, 20 min, and 24 min, respectively. If they start by ringing together, after how long will they all ring again?

E

Learning Task 3: Solve the following problem using the 4-step plan. Use the concept of GCF or LCM in each problem. Write your answer in your notebook.

1) There are always 4 bars of chocolates left when box of chocolate shared equally among 8, 10 or 12 children. Find the smallest number of chocolates in the box.

2) There are 117 boys and 135 girls joined in the field trip. The teacher in-Charge decided to group them. If each group will have equal number of members, how many groups can be formed from all students joined in the field trip?

3. If a certain number of Grade IV students share 28 or 39 skill books in Mathematics, there are remainders of 4 and 3 books. What is the largest possible number of students?

A

Learning Task 4: Solve the following problem. Write the letter of the correct answer in your notebook.

1) A number is divisible by 24, 42, and 60. Find its smallest possible value?

- A. 480 B. 840 C. 460 D. 860

2) There are the same remainder 3 when 135, 111, and 87 is divided by a certain number. Find the largest possible value of this number.

- A. 11 b. 12 c. 13 d. 15

2) Mr. Ethan has a land that measures 42m by 60m into equal squares. What should be the size of largest square?

- A. 30 sq. meter b. 32 sq. meter c. 34 sq. meter d. 36 sq. meter

3. Mr. Lazo would like to divide his class for their Math project. There are 32 boys and 24 girls in the class. How many possible group can he make if he wants to group them with the same number of boys and girls and no remainder?

- A. He can form 2, 4 or 8 groups c. He can form 5, 6 or 7 groups
B. He can form 3, 6, or 9 groups d. He can form 2, 3 or 5 groups

4. If Mr. Lazo choose the highest possible group that he can make, how many girls and boys will be in each group?

- A. 8 girls and 6 boys c. 4 girls and 3 boys
B. 8 boys and 6 girls d. 4 boys and 3 girls

5. Security A rounds every 2 minutes and 20 seconds in the gate 1. Security B rounds every 1 minute and 40 seconds in the gate 2. If they conduct rounds at the same time. After how many minutes they will rounds together again?

- A. after 15 minutes c. after 17 minutes
B. after 16 minutes d. after 18 minutes

Changing Improper Fraction to Mixed Numbers and Vice Versa

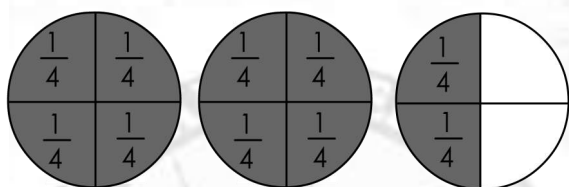
I

Lesson

Improper fraction are fractions that the numerators are greater than the denominators while mixed fraction is a number always expressed in a whole number and a fraction. These two types of fractions show two or more things to be divided. In this lesson, you will observe that improper and mixed fractions are related and can be changed to each other.

After going through this lesson, you are expected to change improper fraction to mixed fraction or number and vice versa.

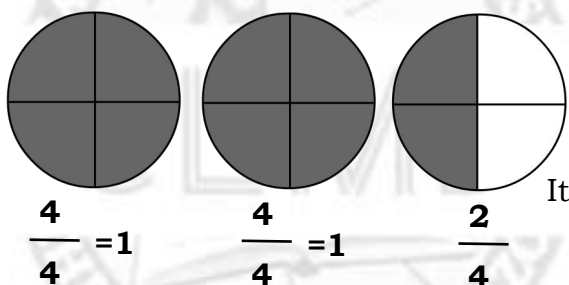
Look and observe the example below. Study the illustration about improper fraction and mixed fraction.



Each whole is divided into 4 parts.

There are 10 shaded parts. It is read $\frac{10}{4}$

It is an improper fraction.



One whole is $\frac{4}{4}$ and another $\frac{4}{4}$ and $\frac{2}{4}$ parts are shaded.

It is read $2\frac{2}{4}$ or $2\frac{1}{2}$. It is a mixed number.

D

From the illustration, it can be said that $\frac{10}{4} = 2\frac{1}{2}$.

Here are the steps on how to change improper fraction to mixed number.

1) Divide the numerator by the denominator.

2) Express the remainder as a fraction.

3) Write the whole number and the fraction together.

$$\frac{10}{4} = 10 \div 4 = 2\frac{2}{4}$$

Here are the steps on how to change mixed number to improper fraction.

1) Multiply the denominator by whole number.

2) Add the numerator.

3) Affix or copy the denominator.

$$2\frac{1}{2} \rightarrow 2 \times 2 = 4 \rightarrow 4 + 1 = 5 \rightarrow \frac{5}{2}$$

Learning Task 1: Change the following to improper fraction or mixed number. Write your answer in your notebook. Always reduce your answer to the lowest term if possible.

1) $\frac{13}{4}$

2) $\frac{25}{3}$

3) $\frac{15}{6}$

4) $\frac{35}{8}$

5) $\frac{25}{4}$

6) $2\frac{5}{6}$

7) $5\frac{3}{5}$

8) $4\frac{1}{7}$

9) $10\frac{3}{4}$

10) $8\frac{3}{5}$

E

Learning Task 2: Fill in with the correct numerator or denominator. Write your answer in your notebook.

1) $\frac{13}{4} = 3\frac{\quad}{4}$

2) $\frac{\quad}{7} = 3\frac{4}{7}$

3) $5\frac{2}{6} = \frac{\quad}{6}$

4) $5\frac{2}{5} = \frac{\quad}{5}$

5) $\frac{23}{2} = 11\frac{\quad}{2}$

6) $\frac{27}{8} = 3\frac{3}{8}$

7) $9\frac{1}{5} = \frac{\quad}{5}$

8) $9\frac{1}{3} = \frac{\quad}{3}$

Learning Task 3: Give the mixed number of each improper fraction. Write your answer in your notebook.

1) $\frac{21}{7}$

2) $\frac{45}{4}$

3) $\frac{93}{5}$

4) $\frac{60}{5}$

5) $\frac{54}{5}$

6) $\frac{90}{5}$

7) $\frac{83}{8}$

8) $\frac{95}{8}$

9) $\frac{33}{3}$

10) $\frac{75}{5}$

11) $\frac{133}{13}$

12) $\frac{195}{15}$

A

Learning Task 4: Solve the following. Write your answer in your notebook.

1) Change $3\frac{2}{7}$ to improper fraction. 4) How many fifths are there in $6\frac{3}{5}$?

2) Change $\frac{56}{7}$ to mixed fraction. 5) How many sixths are there in $\frac{42}{6}$?

3) Change $\frac{75}{7}$ to mixed fraction. 6) How many eights are there in $3\frac{2}{8}$?

To change improper fraction to mixed number or fraction, divide the numerator by the denominator, express the remainder as fraction and write the whole number and fraction together.

To change mixed fraction to improper fraction, multiply the denominator and the whole number, add the product to the numerator and express the sum as fraction, using the original denominator.

Changing Fraction to Lowest Term

I

Lesson

In the previous lesson, you have learned how to get the greatest common factor (GCF) of two numbers using the prime factorization. In this new lesson you will use the GCF to get the lowest form or terms of the fractions.

After going through this lesson, you are expected to change fraction to lowest forms.

Look at the example below. Study the illustration of two fractions. Observe if the two fractions are equal or equivalent fractions.



This shows $\frac{4}{8}$ of the figure.



This shows $\frac{1}{2}$ of the figure.

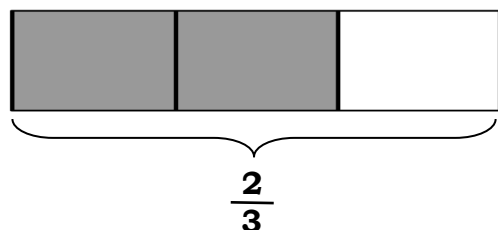
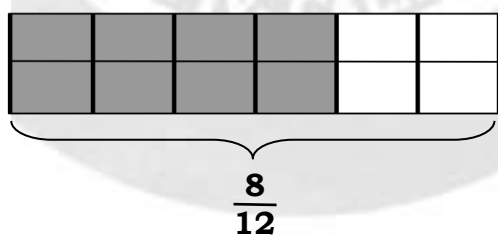
The above illustrations of fractions are equal. You will also noticed that

is $\frac{1}{2}$ the lowest form or term of $\frac{4}{8}$.

D

To find the lowest term or to change the fraction into its lowest form, you will need to find first the greatest common factor of both numerator and denominator. Study the example below.

Example:
Change $\frac{8}{12}$ to lowest term.



Step 1

First, Find the prime factors of 8 and 12 or both numerator and denominator to get the GCF.

$$\begin{array}{l} 8 = 2 \times 2 \times 2 \\ 12 = 2 \times 2 \times 3 \end{array} \quad \begin{array}{l} 2 \times 2 = 4 \\ \text{GCF} = 4 \end{array}$$

Step 2

Second, divide both 8 and 12 or both numerator and denominator with the same number or GCF.

$$\begin{array}{l} 8 \div 4 = 2 \\ 12 \div 4 = 3 \end{array}$$

Therefore the lowest form of $\frac{8}{12}$ is $\frac{2}{3}$

Example: Change $\frac{12}{15}$ to lowest term.

Step 1: $12 = 2 \times 2 \times \boxed{3}$
 $15 = \quad \quad \boxed{3} \times 5$
 GCF = 3

Step 2: $\frac{12 \div 3 = 4}{15 \div 3 = 5}$

Answer:

The lowest form is $\frac{4}{5}$

Learning Task 1: Change the following fractions into its lowest term. Write your answer in your notebook.

- 1) $\frac{9}{12}$ 2) $\frac{10}{18}$ 3) $\frac{18}{36}$ 4) $\frac{12}{26}$ 5) $\frac{24}{40}$ 6) $\frac{28}{36}$

Learning Task 2: Put a check if the fraction is already in its simplest form and put an x if not. Do this in your notebook.

- 1) $\frac{18}{60}$ 2) $\frac{5}{12}$ 3) $\frac{20}{32}$ 4) $\frac{7}{9}$ 5) $\frac{12}{25}$ 6) $\frac{34}{85}$
 7) $\frac{25}{60}$ 8) $\frac{35}{43}$ 9) $\frac{35}{78}$ 10) $\frac{14}{15}$ 11) $\frac{13}{19}$ 12) $\frac{16}{48}$

E

Learning Task 3: Express the given fractions in its simplest form or lowest term. Write your answer on your notebook.

- 1) $\frac{27}{49}$ 2) $\frac{25}{45}$ 3) $\frac{15}{18}$ 4) $\frac{14}{42}$ 5) $\frac{16}{48}$ 6) $\frac{9}{54}$

Learning Task 4: Select the fractions that are already in its simplest form. Do this in your notebook.

- $\frac{6}{30}$ $\frac{5}{8}$ $\frac{9}{36}$ $\frac{14}{35}$ $\frac{7}{11}$ $\frac{18}{63}$ $\frac{16}{40}$ $\frac{25}{30}$ $\frac{40}{42}$ $\frac{17}{19}$ $\frac{54}{81}$ $\frac{13}{26}$
 $\frac{10}{10}$ $\frac{7}{21}$ $\frac{5}{35}$ $\frac{11}{20}$ $\frac{13}{19}$ $\frac{19}{27}$ $\frac{20}{60}$ $\frac{18}{56}$ $\frac{15}{63}$ $\frac{11}{21}$ $\frac{13}{19}$ $\frac{63}{72}$

A

Learning Task 5: Express the following fractions in lowest term. Do this in your notebook.

- 1) $\frac{15}{50}$ 2) $\frac{8}{24}$ 3) $\frac{14}{49}$ 4) $\frac{6}{63}$ 5) $\frac{18}{81}$ 6) $\frac{9}{44}$

To simplify fractions or change fractions into lowest form, divide both numerator and denominator by their greatest common factor or GCF.

When the GCF of both numerator and denominator is 1, the fraction is in lowest term.

Visualizing Addition and Subtraction of Similar and Dissimilar Fraction and Subtraction from Whole Number

I

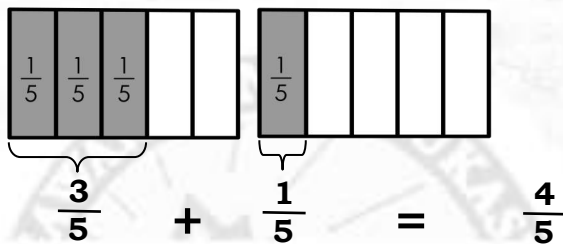
Lesson

You already know how to add similar fractions in your previous grade. When the fractions to be added have common denominators, you just add the numerators and copy the original denominator. This time you will learn more about addition and subtraction of dissimilar fraction through visualization.

After going through this lesson, you are expected to visualize the addition and subtraction of similar and dissimilar fractions, subtract fraction from a whole number and perform addition and subtraction of fraction.

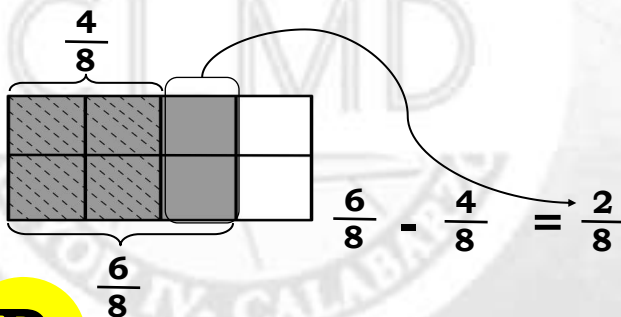
Look and observe the example below. Study the illustration and try to analyze how to visualize the subtraction and addition of fraction.

Example 1: Addition of Similar Fraction



Noticed that $\frac{3}{5}$ and $\frac{1}{5}$ are similar fractions so you will just add both numerators and copy the denominator over the sum.

Example 2: Subtraction of Similar Fraction



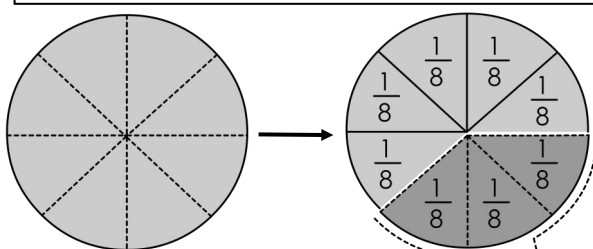
Noticed that $\frac{6}{8}$ and $\frac{4}{8}$ are similar fractions so you will just subtract $\frac{4}{8}$ from $\frac{6}{8}$ and copy the original denominator over the difference.

D

This time, learn more about visualization of addition and subtraction of dissimilar fraction. Try to analyze the visualization and solution of each example.

Example 3: Subtraction of Fraction from Whole Number

May divided the whole pizza into eight equal parts. She ate $\frac{3}{8}$ of pizza.



$$1 = \frac{8}{8} \longrightarrow \frac{8}{8} - \frac{3}{8} = \frac{5}{8}$$

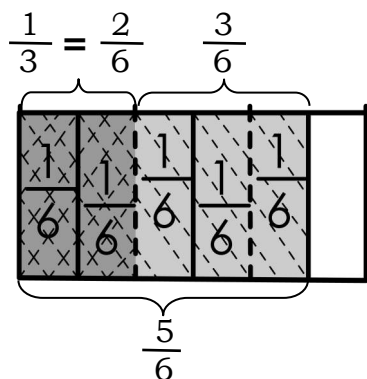
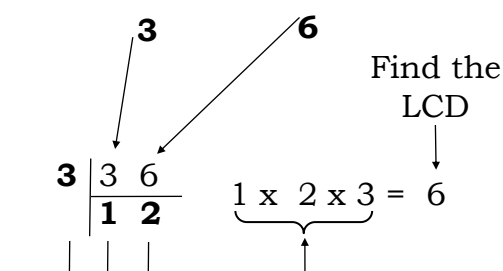
When subtracting fraction from a whole number, rename first the whole number into fraction then proceed to subtraction.

Always reduce your final answer into lowest term if necessary.

Answer: $\frac{5}{8}$

Example 4: Subtraction of Dissimilar Fraction

Subtract $\frac{1}{3}$ from $\frac{5}{6}$.



Rename the fraction to equivalent fraction using the LCD

$$\frac{5}{6} = \frac{5 \times 1}{6 \times 1} = \frac{5}{6}$$

$$\frac{1}{3} = \frac{1 \times 2}{3 \times 2} = \frac{2}{6}$$

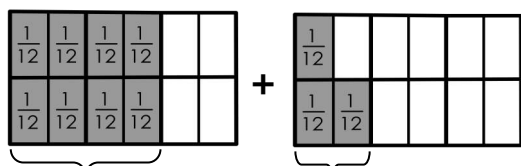
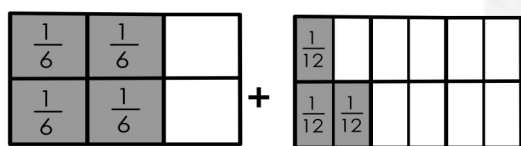
Subtract the renamed fractions.

$$\begin{array}{r} \frac{5}{6} = \frac{5}{6} \\ - \frac{1}{3} = \frac{2}{6} \\ \hline = \frac{3}{6} \end{array}$$

Since they have different denominators or dissimilar fractions, you need to change first or rename the fractions using the least common denominator (LCD) before subtracting them.

To get the LCD, get the prime factors of the denominators using the listing method or continuous division.

Example 5: Addition of Dissimilar Fraction

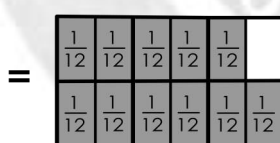


$$\frac{4}{6} = \frac{8}{12}$$

$$\frac{3}{12}$$

=

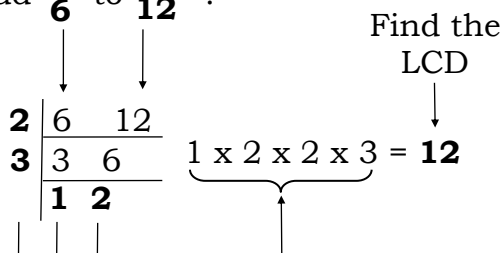
$$\frac{4}{6} + \frac{3}{12}$$



$$= \frac{8}{12} + \frac{3}{12} = \frac{11}{12}$$

Add the renamed fractions to get the sum.

Add $\frac{4}{6}$ to $\frac{3}{12}$.



Rename the fraction to equivalent fraction using the LCD.

$$\frac{4}{6} = \frac{4 \times 2}{6 \times 2} = \frac{8}{12}$$

$$\frac{3}{12} = \frac{3 \times 1}{12 \times 1} = \frac{3}{12}$$

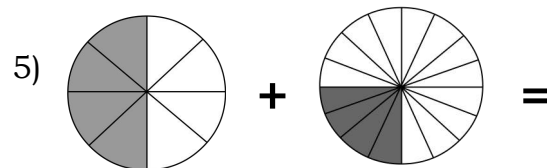
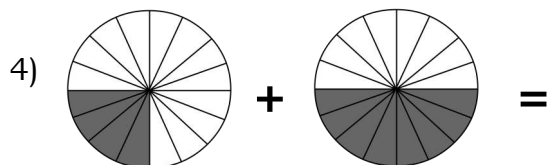
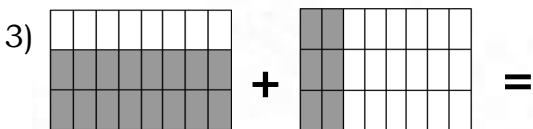
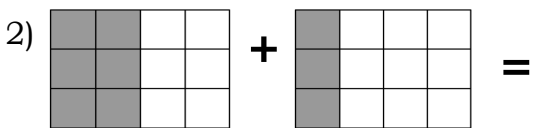
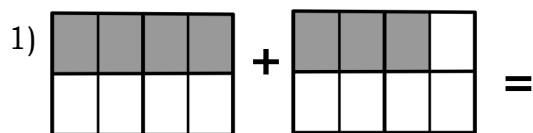
$$\frac{4}{6} = \frac{8}{12}$$

$$\begin{array}{r} \frac{8}{12} \\ + \frac{3}{12} \\ \hline = \frac{11}{12} \end{array}$$

To add dissimilar fractions, you first express them as similar fractions by finding their least common denominator.

To get the LCD, get the prime factors of the denominators using the listing method or continuous division.

Learning Task 1: Write the fraction of each shaded figure. Find the sum. Write your answer in your notebook.



E

Learning Task 2: Find the sum and difference. Express the answer in lowest term. Write your answer in your notebook.

1) $\frac{8}{8} - \frac{5}{8} =$ 4) $\frac{10}{18} - \frac{3}{9} =$ 7) $5\frac{3}{4} - 3\frac{5}{6} =$

2) $\frac{6}{12} + \frac{4}{6} =$ 5) $\frac{4}{20} + \frac{7}{15} =$ 8) $6\frac{5}{9} - 3\frac{2}{3} =$

3) $\frac{8}{15} + \frac{3}{15} =$ 6) $\frac{4}{5} - \frac{15}{25} =$ 9) $7\frac{3}{10} + 9\frac{12}{15} =$

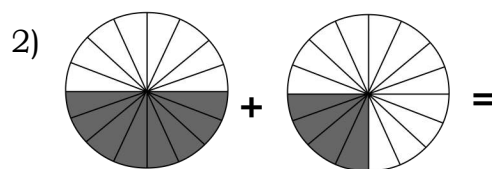
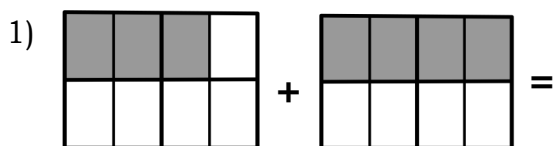
Learning Task 3: Find the sum and difference. Express the answer in lowest term. Write your answer in your notebook.

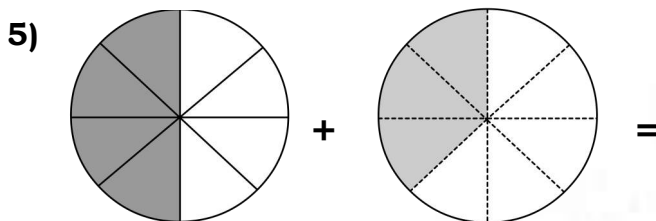
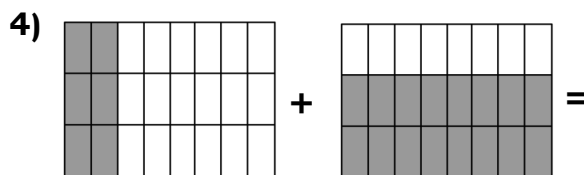
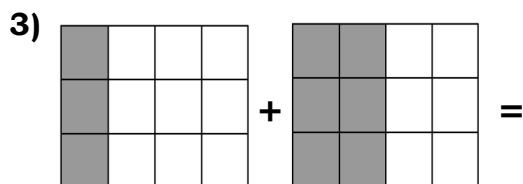
1) $\frac{10}{12} - \frac{2}{3} =$ 4) $\frac{1}{6} + \frac{3}{5} =$ 7) $\frac{2}{4} - \frac{9}{20} =$

2) $\frac{11}{12} - \frac{1}{3} =$ 5) $\frac{5}{8} + \frac{1}{2} =$ 8) $\frac{12}{28} + \frac{11}{35} =$

3) $\frac{1}{2} - \frac{2}{5} =$ 6) $\frac{5}{16} + \frac{3}{4} =$ 9) $\frac{9}{11} + \frac{1}{4} =$

Learning Task 4: Find the sum and difference. Express the answer in lowest term. Write your answer in your notebook.





A

Learning Task 4: Find the sum and difference. Write your answer in your notebook. Express the answer in its lowest term.

1) $\frac{9}{9} - \frac{6}{9} =$

2) $\frac{3}{6} - \frac{4}{18} =$

3) $\frac{5}{16} + \frac{3}{4} =$

4) $\frac{20}{20} - \frac{9}{20} =$

5) $\frac{2}{3} - \frac{5}{9} =$

6) $\frac{4}{6} - \frac{15}{24} =$

7) $5\frac{3}{4} + 3\frac{5}{6} =$

8) $5\frac{1}{3} + 5\frac{5}{6} =$

9) $7\frac{3}{15} + 9\frac{12}{15} =$

Perform Addition and Subtraction of Similar and Dissimilar Fraction and Solving Routine and Non-Routine Word Problems

I

Lesson

In the previous lesson, you have learned how to add and subtract similar fractions. This time, you are going to apply what you have learned from this lesson.

After going through this lesson, you are expected to solve routine and non-routine problems involving addition and subtraction of fractions using appropriate problem solving strategies and tools.

Read and analyze the problem below. Look how the problem below solve using the following steps.

Mario painted his dog house using $\frac{5}{8}$ liter of yellow paint and $\frac{2}{3}$ liter of red paint. What color of paint was used more than the other? By how much more?

Understand

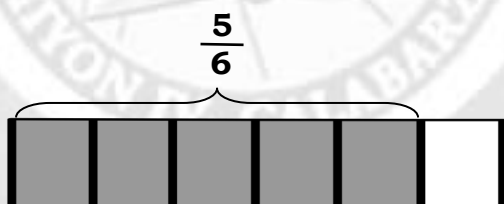
- | | |
|--------------------------|--|
| 1) Know what is asked. | The paint color that was used is more than the other. |
| 2) Know the given facts. | $\frac{5}{6}$ liter of yellow paint; $\frac{2}{3}$ liter of red paint. |

Plan

Draw a picture:

Identify the operation to be used.

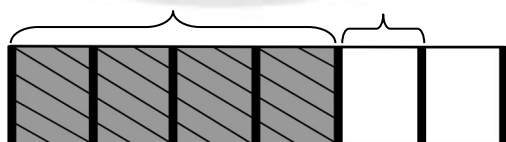
Subtraction



Write the number sentence:

$$\frac{2}{3} = \frac{4}{6} \quad \frac{1}{6}$$

$$\frac{5}{6} - \frac{2}{3} = N$$



Solve $\frac{5}{6} - \frac{2}{3} = \frac{5}{6} - \frac{4}{6} = \frac{1}{6}$ Yellow paint

Solution:

Check and look back: By $\frac{1}{6}$

D

Learning Task 1: Read each problem and then solve. Write your answer in your notebook.

- 1) Mrs. Susan bought $\frac{3}{5}$ m of curtain cloth. She used $\frac{1}{8}$ m to make a curtain for the living room window. How many meters of cloth were not used?
- 2) Faye had a piece of ribbon. After using $\frac{3}{8}$ meter for her headband, she had $\frac{1}{4}$ meter left. How many meters of ribbon did she have at first?
- 3) Rita has $\frac{3}{4}$ m of Ifugao cloth. She used $\frac{2}{3}$ m for placement. What part of Ifugao cloth was left.

E

Learning Task 2: Read and solve the following problems. Write your answer in your notebook.

- 1) A seller sliced some pizzas into eighths. After selling 57 slices, 7 slices were left. How many whole pizzas did the vendor slice?
- 2) The Boy Scouts spent $\frac{10}{12}$ hour doing their daily exercises. They only used $\frac{1}{4}$ hour in hiking. How much time did they use for other body exercises?
- 3) Leo hiked $\frac{6}{7}$ of a kilometer. Jericho hiked $\frac{2}{3}$ kilometer. Who covered a longer distance? How much longer?
- 4) Rica has 3 pieces of lace each measuring $\frac{1}{7}$ meter, $\frac{5}{14}$ meter, $\frac{3}{7}$. How long are the pieces of lace together?
- 5) May has $\frac{4}{15}$ meter of lace while Lovie has $\frac{2}{7}$ meter longer than May's lace. How many meters of lace do girls have altogether?

A

Learning Task 3; Read and solve each problem. Write your answer in your notebook.

- 1) Mrs. Lazo bought $9\frac{1}{8}$ m of curtain cloth. She used $3\frac{5}{6}$ m to make a curtain for their bed room. How many meters of cloth were not used?
- 2) Mother bought a cake at bakery shop. She divided the cake into 10 equal parts. They ate $\frac{3}{10}$ and left the rest on the refrigerator. What part of the cake were left?

Visualizing Decimals Numbers using Models and Renaming Decimals Numbers to Fraction

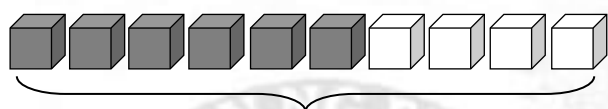
I

Lesson

The numbers that has a dot after the ones digit is called decimal numbers. These digits after the ones denoted tenths, hundredths and so on. Decimal number can be changed or renamed into fraction form and vice versa.

After going through this lesson, you are expected to visualize decimal numbers using models like blocks, grids, number lines and money to show the relationship to fractions. You are also expected to rename decimal numbers to fractions whose denominators are factors of 10 and 100 to decimals.

Look at the blocks and cubes model below. Observe how the 10 cubes represent the decimal numbers and fractions.



$$\frac{6}{10} = 0.6$$

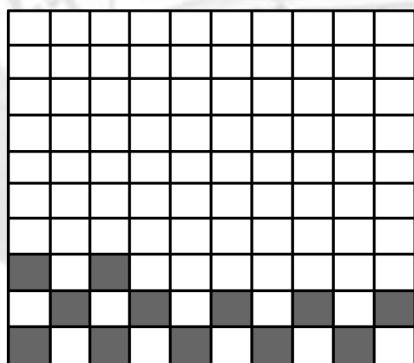
↑
1 digit after the decimal point

The 10 cubes represent the whole.
6 out of 10 cubes are shaded cubes.

This can be written as $\frac{6}{10}$ in fraction form or 0.6 in decimal form. The denominator has 1 zero. It tells you that there is 1 digit after the decimal point in the decimal number.

D

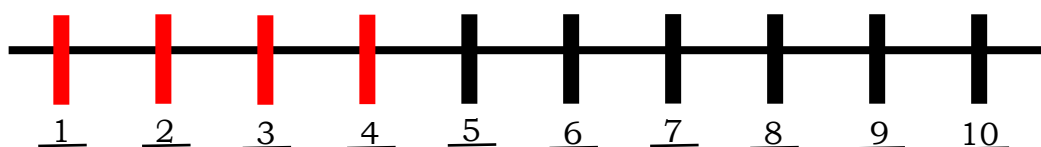
Grid is another way to visualize decimal number. You can observe that there are 100 squares. This means the whole is equally divided into 100 squares. There are 12 shaded out of 100 squares.



The 100 cubes represent the whole.
12 out of 100 cubes are shaded cubes.

$\frac{12}{100}$ can be written as 0.12 in decimal form. You will noticed that 0.12 has two decimal places.
↑↑

Decimal number can be also visualized through number line. There are 10 posts which represent a whole. Out of 10 posts there are 3 painted posts.



$$\frac{3}{10} = 0.3$$

This can be written in decimal form as 0.3 and $\frac{3}{10}$ in fraction form.

Look at 25 centavo coin. This can be written as **0.25** in decimal form or $\frac{25}{100}$ in fraction form .



Here are other examples of decimal number to fractions form. Observe how decimal numbers rename to fraction form and vice versa.

One decimal place

$$0.5 = \frac{5}{10} = \frac{1}{2}$$

$$0.4 = \frac{4}{10} = \frac{2}{5}$$

$$0.8 = \frac{8}{10} = \frac{4}{5}$$

$$0.9 = \frac{9}{10}$$

Two decimal place

$$0.25 = \frac{25}{100} = \frac{1}{4}$$

$$0.50 = \frac{50}{100} = \frac{1}{2}$$

$$0.40 = \frac{40}{100} = \frac{2}{5}$$

$$0.35 = \frac{35}{100}$$

E

Learning Task 1: Show the following decimals using **grids**. Write your answer in your notebook.

- 1) 0.9 2) 0.1 3) 0.24 4) 0.21 5) 0.1 6) 0.15

Learning Task 2: Show the following decimals using number lines. Write your answer in your notebook.

- 1) 0.2 2) 0.8 3) 0.1 4) 0.5 5) 0.8 6) 0.9

Learning Task 3: Show the following decimals using cubes. Write your answer in your notebook.

- 1) 0.7 2) 0.9 3) 0.1 4) 0.2 5) 0.8 6) 0.5

A

Learning Task 4: Rename the following decimal form into fraction form. Write your answer in your notebook.

- 1) 0.75 3) 0.90 5) 0.9 7) 0.15 9) 0.36 11) 0.50
2) 0.35 4) 0.80 6) 0.60 8) 0.95 10) 0.16 12) 0.49

Learning Task 5: Rename the following fraction form into decimal form. Write your answer in your notebook.

- 1) $\frac{5}{10}$ 3) $\frac{20}{100}$ 5) $\frac{5}{100}$ 7) $\frac{60}{100}$ 9) $\frac{75}{100}$
2) $\frac{8}{10}$ 4) $\frac{43}{100}$ 6) $\frac{65}{100}$ 8) $\frac{18}{100}$ 10) $\frac{80}{100}$

Giving the Place Value and Value and Reading and Writing Decimal Numbers through Hundreths

I

Lesson

In your previous grade, you learned how to find the place value and value of a number using the place value chart. This time, the place value chart of whole number can be extended to help you to read and write decimal numbers.

In this lesson, you are expected to give the place value and value of a digit of a given decimal number through hundredths as well as to read and write decimal numbers through hundredths.

Look at the place value chart of a whole number with decimal number below and try to analyze the place value and value of the digit in the decimal number.

Example 1:

Ones	Decimal	Tenths	Hundredths	Thousandths
1	.	2	3	

1 is in the **ones place** and the value is 1

2 is in the **tenths place** and the value is **2 tenths** or can be written as **0.2**

3 is in the **hundredths place** and the value is **3 hundredths** or can be written as **0.03**

The decimal word is **one and twenty-three hundredths**

D

Example 2:

Ones	Decimal	Tenths	Hundredths	Thousandths
0	.	4		

0 is in the **ones place**. This means that there is no whole number.

4 is in the **tenths place** and the value is **4 tenths** or can be written as **0.4**

0.4 is read as **four tenths**.

They can be both written as **0.4** or **.4**

Example 3:

Ones	Decimal	Tenths	Hundredths	Thousandths
2	.	0	7	

2 is in the **ones place**. This value of 2 is **2** since it is in the ones place.

0 is in the **tenths place** and the value is **0**.

7 is in the **hundredths place** and the value is **0.07**

This means **0 tenth, 7 hundredths**

The decimal word is **seven hundredths**

To read the decimal number, read the digits after the decimal point. Read the place value of the last digit. If there are digits starting from 1 and up in whole number part, read the decimal point as “and” and read the number starting from the highest whole number followed by the decimal numbers.

Example: **2.45**, this can be read or written as **two and forty-five hundredths**

Zero is placed to any empty column between the decimal point and the digits. Example: **0.86** or **.86** are both correct.

Learning Task 1: Give the place value of the underlined digit. Write your answer on your notebook.

- | | | |
|------------------------|------------------------|--------------------------|
| 1) 0.4 <u>5</u> _____ | 6) 9. <u>7</u> _____ | 11) 0. <u>1</u> 9 _____ |
| 2) 1. <u>1</u> 5 _____ | 7) 8.0 <u>2</u> _____ | 12) 0. <u>8</u> 9 _____ |
| 3) 3. <u>0</u> 6 _____ | 8) 0. <u>3</u> 4 _____ | 13) 0. <u>7</u> 5 _____ |
| 4) 6. <u>9</u> _____ | 9) 0. <u>2</u> 5 _____ | 14) 17. <u>0</u> 2 _____ |
| 5) 0.0 <u>8</u> _____ | 10) 0. <u>8</u> _____ | 15) 25.0 <u>6</u> _____ |

Learning Task 2: Give the value of the underlined digit. Write your answer on your notebook.

- | | | |
|------------------------|------------------------|--------------------------|
| 1) 0. <u>8</u> 5 _____ | 6) 9. <u>7</u> 1 _____ | 11) 0. <u>6</u> 7 _____ |
| 2) 1. <u>2</u> 8 _____ | 7) 8.0 <u>8</u> _____ | 12) 0. <u>5</u> 9 _____ |
| 3) 3. <u>6</u> 6 _____ | 8) 0. <u>3</u> 9 _____ | 13) 1. <u>7</u> 8 _____ |
| 4) 6. <u>9</u> 0 _____ | 9) 0. <u>8</u> 6 _____ | 14) 27. <u>2</u> 1 _____ |
| 5) 0.1 <u>5</u> _____ | 10) 0. <u>7</u> _____ | 15) 35. <u>6</u> 3 _____ |

Learning Task 3: Write the numbers in the blank. Write your answer on your notebook.

- 1) 8 in the hundredths place
3 in the tenths place _____
- 2) 9 in the one place
0 in the tenths place
6 in the hundredths place _____
- 3) 5 in the hundredths place
0 in the tenths place _____
- 4) 1 in the tens place
7 in the hundreds place
0 in the tenths place
9 in the hundredths place _____
- 5) 9 in the tens place
7 in the tenths place
6 in the ones place
3 in the hundredths place _____

E

Learning Task 4: Write the following in decimal form. Write your answer in your notebook.

- | | |
|---|-------|
| 1) Two and three hundredths | _____ |
| 2) Sixty-five and sixty-five hundredths | _____ |
| 3) Fifty-nine hundredths | _____ |
| 4) Seven tenths | _____ |
| 5) Eighty-four hundredths | _____ |
| 6) Forty-nine and four tenths | _____ |
| 7) Five and two hundredths | _____ |
| 8) Ten and fifteen hundredths | _____ |
| 9) Two hundredths | _____ |
| 10) nineteen hundredths | _____ |

Learning Task 5: Match each phrase found in Column A with the correct decimal form in Column B. Write your answer in your notebook.

- | | |
|------------------------------------|----------|
| 1) Four and nine tenths | a) 0.02 |
| 2) Forty-nine hundredths | b) 0.19 |
| 3) Fifty-nine and forty hundredths | c) 0.15 |
| 4) Seven tenths | d) 4.9 |
| 5) Eighty-six hundredths | e) 0.49 |
| 6) Four tenths | f) 59.40 |
| 7) Three hundredths | g) 0.03 |
| 8) Fifteen hundredths | h) 0.4 |
| 9) Two hundredths | i) 0.86 |
| 10) nineteen hundredths | j) 0.7 |

A

Learning Task 6: Choose the letter of the correct answer. Write your answer on your notebook.

- In 213.49, the digit _____ is in the hundredths place.
a. 2 b. 1 c. 3 d. 9
- In 43.09, the digit _____ is in the tenths place.
a) 4 b) 3 c) 0 d) 9
- In 23.45, the digit 5 has a value of _____.
a) 5.00 b) 50.00 c) 0.5 d) 0.05
- What is the value of 6 in 5.46? _____.
a) 0.6 b) 0.06 c) 0.006 d) 6.00
- Two and five hundredths written in decimal symbol as _____.
a) 2.50 b) 250 c. 2.005 d) 2.05
- 9 in the tenths place and 5 in the hundredths place is same as _____.
a) 0.95 b) 0.59 c. 0.095 d. 0.905
- Is 0.63 and .63 the same ?
a) yes b) no c) may be d) sometimes
- Three and fifty-five hundredths is written in decimal symbol as _____.
a) 3.55 b) 0.355 c) 3.055 d) 35.55

Comparing, Arranging and Rounding Decimal Numbers to the Nearest Whole Number and Tenths

WEEK

8

I

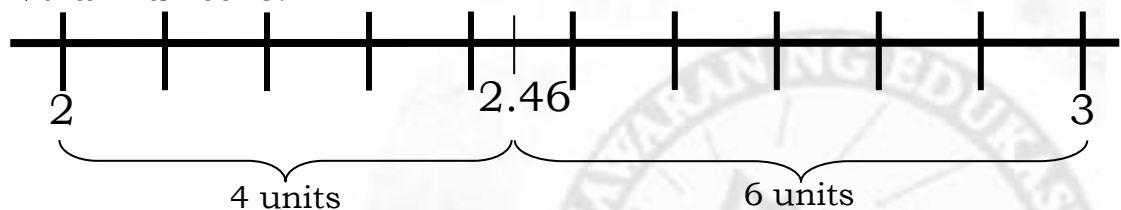
Lesson

In your previous lesson, you learned how to round off whole numbers as well as to compare which number is greater or lesser. This time, learn to compare decimal number as well as to round off decimal number to the nearest tenths or nearest whole number.

In this lesson, you are expected to round off decimal numbers to the nearest whole number and tenths as well as to compare and arrange decimal numbers.

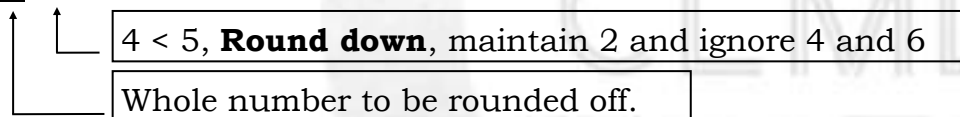
Using the number line, observe how the decimal number rounded off to the nearest tenths and nearest whole number.

By looking at the number line you will noticed that 2.46 is still nearest to number 2 than number 3.



Example 1: Round off **2.46** to nearest **whole number**

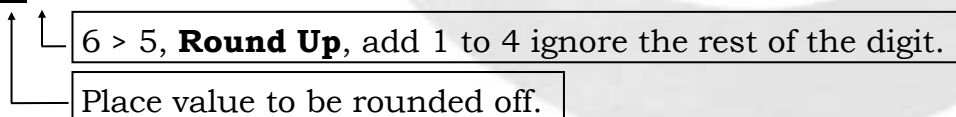
Solution: **2.46**



Thus, 2.46 rounded off to the nearest whole number is **2**.

Example 2: Round off **2.46** to the **nearest tenths**

Solution: **2.46**



Thus, **2.46** rounded off to the nearest tenths is **2.5**

How do you compare decimal numbers? A place value chart can help you compare two decimal numbers. Look at the examples below.

Place Value	Ones	Decimal Point	Tenths	Hundredths
Digits	2	.	4	6
Digits	2	.	4	9

The ones digits are the same. They are both **2 and equal**.

The tenths digit are also the same. They are both 0.4 and equal.

The hundredths digits are not the same. The value of 6 is 0.06 and the value of 9 is 0.09. Nine is more than six. So 2.46 is less than 2.49.

In symbol $2.46 < 2.49$.

You can also arrange decimal numbers from least to greatest or greatest to least. Study the examples below and observe the arrangement.

Example:

D

Least to greatest — 0.9, 0.6, 0.7, 0.5

0.5, 0.6, 0.7, 0.9

Greatest to Least — 0.25, 0.28, 0.23, 0.24

0.28, 0.25, 0.24, 23

Learning Task 1: Round off the following decimal numbers to the **nearest tenths**. Write your answer on your notebook.

- | | | | | |
|---------|---------|---------|----------|-----------|
| 1) 0.15 | 4) 3.89 | 7) 0.24 | 10) 0.08 | 13) 23.06 |
| 2) 0.18 | 5) 6.35 | 8) 0.62 | 11) 0.09 | 14) 15.56 |
| 3) 1.82 | 6) 2.72 | 9) 6.25 | 12) 1.07 | 15) 18.74 |

Learning Task 2: Round off the following decimal numbers to the **nearest whole number**. Write your answer in your notebook.

- | | | | | |
|---------|---------|---------|----------|-----------|
| 1) 8.15 | 4) 1.9 | 7) 0.74 | 10) 0.58 | 13) 43.76 |
| 2) 0.98 | 5) 5.35 | 8) 4.62 | 11) 7.19 | 14) 95.56 |
| 3) 2.42 | 6) 1.72 | 9) 5.25 | 12) 9.67 | 15) 56.71 |

Learning Task 3: Fill in the blanks with the correct symbol $<$, $>$, and $=$. Write your answer in your notebook.

- | | | |
|-------------------|-------------------|---------------------|
| 1) 8.15 ____ 8.19 | 4) 0.74 ____ 0.87 | 7) 43.70 ____ 43.07 |
| 2) 0.98 ____ 0.89 | 5) 0.62 ____ 0.69 | 8) 95.66 ____ 95.65 |
| 3) 2.42 ____ 2.72 | 6) 9.25 ____ 9.27 | 9) 56.71 ____ 56.75 |

E

Learning Task 4: Arrange the following decimal numbers from **least to greatest**. Write your answer in your notebook.

- | | |
|---------------------------|---------------------------|
| 1) 8.15, 8.19, 8.51, 8.91 | 4) 0.09, 0.05, 0.8, 0.6 |
| 2) 0.98, 0.89, 0.78, 0.87 | 5) 0.10, 0.2, 0.03, 0.24 |
| 3) 2.42, 2.72, 2.24, 2.42 | 6) 0.03, 0.20, 0.09, 0.40 |

Learning Task 5: Arrange the following decimal numbers from **greatest to least**. Write your answer in your notebook.

- | | |
|---------------------------|---------------------------|
| 1) 3.15, 3.19, 3.51, 3.91 | 4) 0.09, 0.05, 0.8, 0.6 |
| 2) 0.92, 0.29, 0.8, 0.7 | 5) 0.14, 0.2, 0.03, 0.24 |
| 3) 6.42, 6.72, 6.24, 6.45 | 6) 0.08, 0.21, 0.09, 0.42 |

A

Learning Task 6: Fill in the blanks with the correct answer. Write your answer in your notebook.

- Round off 41.69 to the nearest tenths is ____
a) 41.68 b) 41.70 c) 41.7 d) 0.7
- 2.82 rounded to the nearest whole number is ____
a) 2.8 b) 2.9 c) 3 d) 2
- 7.08 rounded to the nearest whole number is ____
a) 0.9 b) 7 c) 7.1 d) 7.18
- If you compare 6.08 to 6.8, what will be correct symbol?
a) $>$ b) $<$ c) $=$ d) none of the above
- Which is larger 0.9 to 0.90?
a) 0.9 b) 0.90 c) none d) $>$

PIVOT Assessment Card for Learners

Personal Assessment on Learner's Level of Performance

Using the symbols below, choose one which best describes your experience in working on each given task. Draw it in the column for Level of Performance (LP). Be guided by the descriptions below.



- ☆ - I was able to do/perform the task without any difficulty. The task helped me in understanding the target content/lesson.
- ✓ - I was able to do/perform the task. It was quite challenging but it still helped me in understanding the target content/lesson.
- ? - I was not able to do/perform the task. It was extremely difficult. I need additional enrichment activities to be able to do/perform this task.

Distribution of Learning Tasks Per Week for Quarter 2

Week 1	LP	Week 2	LP	Week 3	LP	Week 4	LP
Learning Task 1		Learning Task 1		Learning Task 1		Learning Task 1	
Learning Task 2		Learning Task 2		Learning Task 2		Learning Task 2	
Learning Task 3		Learning Task 3		Learning Task 3		Learning Task 3	
Learning Task 4		Learning Task 4		Learning Task 4		Learning Task 4	
Learning Task 5		Learning Task 5		Learning Task 5		Learning Task 5	
Learning Task 6		Learning Task 6		Learning Task 6		Learning Task 6	
Learning Task 7		Learning Task 7		Learning Task 7		Learning Task 7	
Learning Task 8		Learning Task 8		Learning Task 8		Learning Task 8	

Week 5	LP	Week 6	LP	Week 7	LP	Week 8	LP
Learning Task 1		Learning Task 1		Learning Task 1		Learning Task 1	
Learning Task 2		Learning Task 2		Learning Task 2		Learning Task 2	
Learning Task 3		Learning Task 3		Learning Task 3		Learning Task 3	
Learning Task 4		Learning Task 4		Learning Task 4		Learning Task 4	
Learning Task 5		Learning Task 5		Learning Task 5		Learning Task 5	
Learning Task 6		Learning Task 6		Learning Task 6		Learning Task 6	
Learning Task 7		Learning Task 7		Learning Task 7		Learning Task 7	
Learning Task 8		Learning Task 8		Learning Task 8		Learning Task 8	

Note: If the lesson is designed for two or more weeks as shown in the eartag, just copy your personal evaluation indicated in the first Level of Performance found in the second column up to the succeeding columns, ie. if the lesson is designed for weeks 4-6, just copy your personal evaluation indicated in the LP column for week 4, week 5 and week 6. Thank you.



Week 1(Lesson 1)											
Learning Task 4	1. 1.2,4.5,10,20	6) 15,30,45,60,75,90	Learning Task 3	4) 10,20,30,40,50,60	6) 1,2,3,4,6,8,9,12,18,24,36,72	Learning Task 2	6) 1, 2,9,18	7) 1,2,7,8,28,56	8) 1,2,3,6,7,14,21,42	9) 1,2,3,4,6,8,9,12,18,24,36,72	
	2. 1,2,3,4,6,8,12,24										
	3. 1,2,3,4,6,9,12,18,36										
	4. 1,2,4,8,16,32										
	5. 1,3,5,9,15,45										
	6. 1,2,5,10,2,50										
	Learning Task 5	1. 28 2. 35		3. 15 4. 24	5. 21		Learning Task 6	1) A 2) C 3) A	4) A 5) C 6) C	Learning Task 7	1) 1, 3, 9 2) 1,2,4,5,10,20 3) 1, 2, 3, 5, 6, 10, 15, 30 4) 1,3,5,9,15,49 5) 1,2,8,32,64
	Learning Task 8	1. 28 2. 35		3. 15 4. 24	5. 21		Learning Task 9	1) A 2) C 3) A	4) A 5) C 6) C	Learning Task 10	1) 1, 3, 9 2) 1,2,4,5,10,20 3) 1, 2, 3, 5, 6, 10, 15, 30 4) 1,3,5,9,15,49 5) 1,2,8,32,64
	Learning Task 11	1) 7 2) 9 3) 10		4) 25	5) 48		Learning Task 12	1) 7 2) 9 3) 10	4) 25	5) 48	

[illegible]

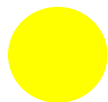
Week 2									
Learning Task 6		1. 6/18	2. 6/528	3. 6/180					
		4. 8/240	5. 6/432	6. 6/252					
		7. 6/756	8. 45/1350						
		9. 1/2520	10. 4/120						
Learning Task 5		1. 1	2. 4	3. 9	4. 8	5. 5	6. 9		
		1. 8	2. 8						
Learning Task 3		3. 12 days							
		1. 5,25/75	2. 150,225						
Learning Task 1									
		1. 5,25/75	2. 150,225						
		3. 7/168	336,504						
		4. 2,18/216	432,648						
		5. 3,9/108	216,324						
		6. 2,4/48	96,144						
		5. 18/216	6. 4/48						
Learning Task 4		1. 280	2. 120	3. 120	4. 108	5. 480	6. 720		

Week 3					
Learning Task 3 and 4	1) 124 2) 9 3) 1096	1) B 2) D 3) A 4) D 5) D	Learning Task 2	1) 2:30 AM 2) 432	3) 12 days 4) 42 5) 120 min
Learning Task 1				1. 5 cm	2. 12 / by 7 and 10 3. 4

Week 4 (Lesson 1)											
Learning Task 1			Learning Task 2			Learning Task 3			Learning Task 4		
1. 3 1/4	2. 8 1/3	3. 2 1/2	1) 1	2) 25	3) 32	1) 3	2) 11 1/4	3) 18 3/5			
4. 4 3/8	5. 6 1/4	6. 17/6				4) 12	5) 10 4/5	6) 18	1) 23/7	2) 8	3) 10 5/7
7. 28/5	8. 29/7	9. 43/4	4) 27	5) 1	6) 8	7) 10 3/8	8) 11 7/8	9) 11			
10. 43/5			7) 46	8) 28		10) 15	11) 10 3/13	12) 13	4) 33	5) 7	6) 13

Week 4 (Lesson 2)														
Learning Task 1					Learning Task 3					Learning Task 5				
1. 3/4	2. 5/9	3. 1/2			1. 27/49	2. 5/9	3. 5/6			1. 3/10	2. 1/3	3. 2/7		
4. 6/13	4. 3/5	6. 7/9			4. 1/3	5. 1/3	6. 1/6			4. 2/21	5. 2/9	6. 9/44		
Learning Task 2					Learning Task 4									
1) x	2) /	3)x	4) /	5) x	5/8 , 7/11 , 17/19 , 11/20 13/26									
6) /	7) x	8) /	9) /	10) /										
11) / 12)x					13/19 19/27 11/21 13/19									

Week 4 (Lesson 3)		
Learning Task 1	Learning Task 2	Learning Task 3
Learning Task 4	Learning Task 5	Learning Task 6
Week 5		
Learning Task 1	Learning Task 2	Learning Task 3
Week 6		
Learning Task 1	Learning Task 2	Learning Task 3
Learning Task 4	Learning Task 5	Learning Task 6
Week 7		
Learning Task 1	Learning Task 2	Learning Task 3
Learning Task 4	Learning Task 5	Learning Task 6
Week 8		
Learning Task 1	Learning Task 2	Learning Task 3
Learning Task 4	Learning Task 5	Learning Task 6



References

Grade 4, Learner's Material

Teacher's Material

For inquiries or feedback, please write or call:

Department of Education Region 4A CALABARZON

Office Address: Gate 2, Karangalan Village, Cainta, Rizal

Landline: 02-8682-5773, locals 420/421

Email Address: lrmd.calabarzon@deped.gov.ph

