5 Mathematics
Quarter 1

This module is a resource of information and guide in under-standing 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 worksheets/activity sheets provided by schools and/or Schools Division Offices and thru other learning delivery modalities including radio-based and TV-based instruction (RB/TVI).

MATHEMATICS
Grade 5

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Guide in Using PIVOT Learner's Material

For the Parents/Guardian

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 the 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) for English 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 and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

For the Learners

The module is designed to suit your needs and interests us-ing the IDEA instructional process. This will help you attain the pre-scribed 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 **answer all activities on separate sheets of paper** and submit the outputs to your respective teachers on the time and date agreed upon.

Mga Bahagi ng Pivot Modyul

	Bahagi ng LM	Nilalaman
Pah mula	Alamin	Ang bahaging ito ay naglalahad ng MELC at ninanais na *outcome* ng pagkatuto para sa araw o linggo, layunin ng aralin, pangunahing nilalaman, at mga kaugnay na halimbawa. Makikita ng mga mag-aaral ang sariling kaalaman tungkol sa nilalaman at kasanayang kailangan para sa aralin.
	Suriin	
Pagpapaunlad	Subukin	Ang bahaging ito ay naglalahad ng mga kawili-wiling aktibidad at mahalagang nilalaman para sa mga mag-aaral. Karamihan sa mga gawain ay umiinog lamang sa mga konseptong magpapaunlad at magpapahusay ng mga kasanayan sa MELC. Ito ay nagbibigay ng oras para makita ng mag-aaral ang alam niya, hindi pa niya alam, at ano pa ang gusto niyang malaman o matutunan.
	Tuklasin	
	Pagyamanin	
Pakikipagpalihan	Isagawa	Ang bahaging ito ay may iba't ibang gawain at oportunidad sa pagbuo ng kailangang KSA. Pinahihintulutan ng guro ang mga mag-aaral na makisali sa iba't ibang gawain at oportunidad sa pagbuo ng kaniláng mga KSA upang makahulugang mapag–ugnay-ugnay ang kanyang mga natutuhan sa pagtatapos ng mga gawain. Inilalantad ng bahaging ito sa mga mag-aaral ang totoong sitwasyon/gawain ng búhay na makapagsisidhi ng kaniyang interes upang matugunan ang inaasahan, gawing kasiyá-siyá ang kaniláng pagganap o lumikha ng isang produkto o gawain upang ganap niyang maunawaan ang mga kasanayan at konsepto.
	Linangin	
	Iangkop	
Paglalapat	Isaisip	Ang bahaging ito ay nagtuturo sa mag-aaral ng proseso kung paano maipakikita ang mga ideya, interpretasyon, pananaw o kahalagahan, at makalikha ng mga piraso ng impormasyong magiging bahagi ng kaniláng kaalaman sa pagbibigay ng repleksiyon, pag-uugnay o paggamit nang epektibo mula sa alinmang sitwasyon o konteksto. Hinihikayat ang mga mag-aaral sa bahaging ito na lumikha ng mga estrukturang konseptuwal na nagbibigay sa kanilá ng pagkakataong pagsamahin ang mga bago at lumang natutuhan.
	Tayahin	

Divisibility Rules for 2, 5 and 10 to Find the Common Factors of Numbers

I

Lesson

We can find the factors of large numbers mentally by using some divisibility rules for whole numbers. After going through this lesson, you are expected to use divisibility rules for 2, 5 and 10 to find the common factors of numbers.

Learning Task 1. Give the first three multiples of the given numbers below. Write your answer in your notebook.

1.) 2, ___, ___, ___   4.) 6, ___, ___, ___

2.) 3, ___, ___, ___   5.) 8, ___, ___, ___

3.) 5, ___, ___, ___

Learning Task 2: Answer the following questions with Yes or No. Write your answer in your notebook.

1. Is 238 divisible by 2?

2. Is 660 divisible by 5?
3. Is 530 divisible by 10?

4. Is 250 divisible by 5?

5. Is 100 divisible by 10?

D

Can you tell a number when divided by another number has an exact quotient and no remainder? There is a rule that help to find out whether a number is divisible or not.

Divisibility rules tells whether a number is exactly divisible by other numbers. This rule is a shortcut way to decide whether is exactly divisible without doing division computation.

Divisible by 2

Ex. 456 If the number ends with 0, 2, 4, 6 and 8 it is divisible by 2. (178, 26, 78, 206)

Divisible by 5

Ex. 425 If the number ends with 5 and 0 it is divisible by 5. (750, 350, 555, 865)

Divisible by 10

Ex. 880 If the number ends with 0 and 10 it is divisible by 5. (780, 210, 150, 300)

E

Learning Task 3. Copy the given table in your notebook. Put a check under each column to identify whether each number is divisibility by 2, 5 or 10. Write your answer on your notebook.

	2	5	10
1. 548			
2. 912			
3. 270			
4. 565			
5. 168			

A

Divisibility rules tells whether a number is exactly divisible by other numbers.   Divisible by 2 if the number ends with 0, 2, 4, 6, and 8
Divisible by 5 if the number ends with 0 and 5
Divisible by 10 if the number ends with 0 and 10

Learning Task 4. Select appropriate numbers divisible by 2, 5 and 10. Write your answer on your notebook.

Divisible by 2			Divisible by 5			Divisible by 10		
360	105	260	360	105	260	390	260	360
270	238	450	745	85	450	400	450	270
390	400	110	270	390	400	110	210	
210	906		110	210	775			
			565					

105	54	450	270	210	766
183	553	365	390	775	906
34	260	745	400	438	321
238	85	360	110	565	347

Divisibility Rules for 3, 6 and 9 to Find the Common Factors of Numbers

I

Lesson

From the previous lesson, you have learned the divisibility rules for 2, 5, and 10 in finding the factors of large numbers. This time you will learn the rules to determine if the numbers is divisible by 3, 6, 9. After going through this lesson, you are expected to use divisibility rules for 3, 6 and 9, to find the common factors of numbers.

Learning Task 1. Observe the following divisibility rules in the example below.

1.) Is 27 divisible by 3?	Yes, because the sum of its digit is divisible by 3 2+7= **9** ➡ **9** is divisible by 3
2.) Is 144 divisible by 6?	Yes, because 144 is divisible by 2 and 3. So, it is also divisible by 6
3.) 87651 divisible by 9?	Yes, because of its digit is divisible by 9. (8 + 7 + 6 + 5 + 1 = 27 ➡ is divisible by 9

D **Learning Task 2.** Copy the given table in your notebook. Put a check "✓" under the correct column by which the numbers are divisible.

	2	5	10
1) 245			
2) 330			
3) 400			
4) 412			
5) 875			

> Hanna's garden has 126 sunflower plants. She wants to arrange them by group of 3, 6, and 9.

Can she arrange the sunflower by **3**? <u>YES</u>
126 is divisible by 3 because the sum of its digit is divisible by 3.
(1+2+6) = ⬅ **9** which is divisible by **3**.
Can she arrange the sunflower by **6?** <u>YES</u>
126 is divisible by 6 because the sum of its digit is divisible by 6.
(1+2+6) = ⬅ **9** which is divisible by **6**.
Can she arrange the sunflower by **9?** <u>YES</u>
126 is divisible by 6 because the sum of its digit is divisible by 6.
(1+2+6) = ⬅ **9** which is divisible by **9**.

Look at the divisibility chart for **3**, **6**, and **9** below.

Divisible by 3	Divisible by 6	Divisible by 9
126 ÷ 3 = 42	126 ÷6 = 21	126 ÷ 9 =14

E

Learning Task 3. Copy the table below in your notebook. Classify the given numbers to the appropriate column.

1 128	2 101	2 235	3 122	4 445	2 088
5 228	5 004	6 625	7 134	9 120	9 457
1 124	1 750	4 002	5 661	7 886	9 999

Divisible by 3	Divisible by 6	Divisible by 9

A

A number is divisible by 3 if **the sum of all the digits of the number is divisible by 3**

If a number is **divisible by both 2 and 3**, then it is divisible by 6.

A number is divisible by 9 if the sum of all the digits of the number is **divisible by 9 or a multiple of 9**.

Learning Task 4. Which of numbers in the boxes are divisible by the number on the left? Write your answer on your notebook.

1.) 3	270	352	411	702	526
2.) 6	979	528	612	782	832
3.) 9	621	973	852	693	477
4.) 3	432	214	630	334	381

Divisibility Rules for 4, 8, 11 and 12 to Find the Common Factors of Numbers

I

Lesson

From the previous lesson, you have learned the divisibility rules for 3, 6, and 9 in finding the factors of large numbers. This time you will learn the rules to determine if the numbers is divisible by 4, 8, 11, and 12. After going through this lesson, you are expected to use divisibility rules for 4, 8, 12 and 11 to find the common factors of numbers.

The following table provides the divisibility rules for some whole numbers.

Divisible by	Method of testing numbers	Examples
4	The last two digits is divisible by 4 and number in two zero's.	3<u>48</u> 48 ÷ 4 = 12
8	The last 3 digits is divisible by 8 and number ending in three zero's	9<u>216</u> 48 ÷ 4 = 12
11	The difference between the sum of the digits in odd places and the sum of the digits in even places in either 0 or number divisible by 11.	28413 (2 + 4 + 3) (2+4+3) - (8+1) = 0
12	Any number that is divisible by both 3 and 4	7980 is divisible by 3 and 4 7980 ÷ 3 = 22660 7980 ÷4 + 1995

D

Learning Task 1. The following numbers are divisible by 4, 8, 11, and 12. try to finish the table by writing the numbers that are divisible by 4, 8, 11, and 12.

Divisible by 4

4	8	11	12
200	104	121	36

PIVOT 4A CALABARZON

E

Learning Task 2. Copy the given table in your notebook. Put a check "✓" under the correct column by which the numbers are divisible.

	4	8	12	11
88				
800				
368				
1440				
1224				

A

A **number is divisible by 4** if the last two digits form a number that is divisible by 4. Also, numbers ending in two zeros are divisible by 4.

A **number is divisible by 8** if the number formed by the last 3 digits is divisible by 8.   Also, a number ending in three zeros are also divisible by 8.

A **number is divisible by 12** if the sum of the digits of the number is divisible by 2 and 3.

A **number is divisible by 11** if the sum of the digits in the odd places and the sum of the   digits in the even places are equal or their difference is a multiple of 11.

Learning Task 3. Fill in the largest unit digit to make them divisible by the numbers on the left.

1.) Divisible by 4 (125) _____

2.) Divisible by 8 (3673) _____

3.) Divisible by 11 (1496) _____

4.) Divisible by 12 (108) _____

5.) Divisible by 11 (1562) _____

Solving Problems Involving Divisibility rules for 2, 3,4, 5, 6, 8, 9, 10, 11, and 12

I Lesson

In this lesson you will apply what you have learned from the previous lesson about divisibility rules in solving word problem. After going through this lesson, you are expected to solve routine and non- routine problems involving factors, multiples, and divisibility rules for 2, 3, 4, 5, 6, 8, 9, 10, 11, and 12.

Learning Task 1. Choose the correct answer Write it in your notebook.

| 2 | 5 | 10 |

1. Maxinne made 15 cupcake desserts. He arranged the desserts on platters, with the same number of dessert on each platter. How many desserts could Maxinne have put on each platter?

| 3 | 4 | 5 |

2. Mrs. Dalisay has 16 desks in her classroom. She wants to put the same number of desks in each row with no desks left over. How many rows could Mrs. Da lisay

| 3 | 6 | 9 |

3. Mrs. Randolph wants to hang 39 certificates on her classroom wall. She wants to put the same number of certificates in each row. How many rows could Mrs. Randolph make?

| 5 | 6 | 9 |

D

4. Ruth has 84 rose bushes to plant in rows. She wants to put the same number of bushes in each row with no bushes left over. How many rows of bushes could Ruth make?

Study the problem and apply what you have learned in the previous lesson about multiples, common factors and divisibility rules.

The length and with of a rectangle garden are 108 m by 144m. Trees are planted at equal distance along the sides of the garden.

1.) What is the distance between the two neighboring trees?

To answer the question, use continuous division in getting GCF.

Solution:

2	108	144
2	54	72
3	27	36
3	9	12

GCF of 108 and 144 is

2 x 2 x 3 x 3 = 36

2.) What is the total number of trees planted

To answer the question use continuous division of getting LCM.

2	108	144
2	54	72
3	27	36
3	9	12
3	3	4
2	1	4
	1	2

LCM OF 108 AND 144 is

2 x 2 x 3 x 3 x 3 x 2 x 2 =

432

E

Learning Task 2. Solve the following by applying the steps in solving routine and non-routine problems.

1. Josephine planted 600 onions equally in 20 rows. How many onions were planted in each row?
2. How many 500 are there in 5,000?
3. Cathy earns Php 1,000 a week. How much does she earn in 1 month?

4. Wendy cooked mini siopao for her 2 sons and 3 daughters. If she only cooked 15 mini siopao, how many mini siopao did her 2 sons have and 3 daughters have?

5. Christian bought 2 boxes of *pizza* with 8 slices each inside and he is going to have 8 visitors. How many slices can his visitors have?

A

Learning Task 3. Solve the given problems. List down the factors , multiples and divisibility rules in your notebook.

1. A day care center has 52 children. Each teacher has the same number of children. How many children could each teacher at the center have?
2. A chain of car dealerships got a shipment of 9,240 new cars. There are the same number of cars in every color. How many different colors could there be?
3. Divided by 9, I leave a remainder of 6. Divided by 4, I leave a remainder of 1. Divided by 10, I leave a remainder of 3. Who am I?
4. I am a multiple of 3, 4, 5, and 6. I am a factor of 120. Divided by 7, I leave a remainder of 4. Who am I?

Parenthesis , Multiplication, Division, Addition, Subtraction (PMDAS) or Grouping, Multiplication, Division, Addition, Subtraction (GMDAS)

Lesson

I

After going through this lesson, you are expected to perform a series of more than two operations on whole numbers applying Parenthesis, Multiplication, Division, Addition, subtraction (PMDAS) or Grouping, Multiplication, Division, Addition, Subtraction (GMDAS) correctly.

Observe the answer of 2 boys in the same mathematical expression. They answered different answer but the same expression. Who do you think got the correct answer? Why do you think they got different answer but same expression.

Pepe   20 + 4 x (8 - 12) ÷ 3 = 28

Luis   20 + 4 x (8 - 12) ÷ 3 = 28

D

To find which answer is correct, let us study the PMDAS and GMDAS Rules.

20 + 4 x (18 — 12) ÷ 3   Perform the operation inside the grouping
                            symbol first or parenthesis.

20 + 4 X 6 ÷ 3   Multiply or divide from left to right.

20 + 8   Add or subtract
Therefore, 20 + 4 x (18 - 12) ÷ 3 = 28

To perform a series of operations on whole numbers involving more than two operations using PMDAS or GMDAS rules.

Rule 1: Perform the operations within each pair of grouping symbols (parenthesis, brackets, and braces) beginning with the innermost pair.

Rule 2: Perform multiplication and division as they occur from left to right.

Rule 3: Perform addition and subtraction as they occur from left to right.

Learning Task 1: Perform the indicated operations. Write your answer in your notebook.

1.) $(12 + 3) - 7 = N$ 4.) $(18 - 4) + (5 + 3) = N$

2.) $4 (6 + 8) = N$ 5.) $(6 \div 3) + (10 \times 3) = N$

3.) $25 \div 5 + 9 = N$

E

Learning Task 2: Perform the indicated operations to solve the following. Write your answer in your notebook.

1. $20 - 3 + 12 \div 6 \times 2$ = _____

2. $5 \times 9 - 5 + 10$ = _____

3. $20 - 12 \div 6 + 8$ = _____

4. $9 \times 9 \div 3 - 9 + 6$ = _____

5. $16 \div 4 \times 5 - 7 + 8$ = _____

A

Learning Task 3: Perform the indicated operations to solve the following by following the PMDAS and GMDAS rules. Write your answer in your notebook.

1.) $(9 - 2) + (3 \times 21)$ 6.) $4 \times (15 - 13) + 16$

2.) $(18 + 14) \div (6 + 2)$ 7.) $(93 + 7) \times 6 + 10$

3.) $6 + 7 \times 8$ 8.) $12 \times 3 + (100 \div 10)$

4.) $(25 + 11) \times 2$ 9.) $[(14 \div 2) \times 9] \div 3 \times 3$

5.) $3 + 6 \times (5 + 4) \div 3$ 10.) $(16 + 8) \div (4 + 2)$

The Common Factors, GCF, Common Multipiles and LCM of 2 to 4 Numbers Using Continuous Division

I

Lesson

After going through with this lesson, you are expected to find the common factors, Greatest Common Factor (GCF), common multiples and Least Common Multiple (LCM) of 2-4 numbers using continuous division.

Factors are numbers we multiply together to get another number. When we find the factors of two or more numbers and found some factors that are the same, they are called common factors among the common factors of the set of numbers, it is called **Greatest Common Factors (GCF).**

Example: 12 = 2 x 6 , 3 x 4

16 = 2 x 8 , 4 x 4   **GCF**

The common factors of 12 and 16 are 2 and 4. While the Greatest Common Factors (GCF) IS 4.

We can get a multiple of a number when we multiply it by another number. The list of multiples of a set of numbers are called *common multiples.*

While the Least Common Multiple is simply the smallest common multiple of a number.

Example: The LCM of 4 and 5 is 20

Multiples of 4 are 4, 8, 12, 16, 20, 24, 28, 32, 36, 40

D

In finding the GCF, we will use continuous division through prime numbers. The GCF is the product of all the prime divisors.

Example: Find the GCF of 24 and 32   Steps

Solution:
```
2 | 24  32
2 | 12  16
2 |  6   8
  |  3   4
```
↓

2 x 2 x 2 = **8**

Therefore, the GCF of 24 and 32 is **8**

1. Write the numbers horizontally and find a prime number that will divide all the numbers, if possible.

2. Divide by the prime numbers and write the quotient below the dividends.

3. Continuous the process, until all the numbers have a common prime divisors.

In finding the LCM, we use again the continuos division.

Example: Find the LCM of 24 and 32.

Solution:

```
2 | 24  32
2 | 12  16
2 |  6   8
2 |  3   4
     3   2
```

2 x 2 x 2 x 2 x 3 x 2 = 96

Therefore, the LCM of 24 and 32 is 96

Steps

1. write the numbers in a horizontal line and then divide them by a prime number.

2. Repeat Step. 1 until no two numbers in a new row has a common factor.

3. The product of all the divisors and numbers in the final row is the LCM.

E

Learning Task 1: Find the GCF using continuous division. Write your answer in your notebook.

1. | 12 16 24
2. | 18 24 36
3. | 8 30 42
4. | 9 27 81

A

- The common factors of two or more numbers are factors of all the given number.

- The Geatest Common Factor (GCF) of two or more numbers is the largest number that is a factor or divisor of each number.

- The Least Common Multiple (LCM) of two or more numbers is the smallest number that is divisible by each of the given numer or set of numbers.

Learning Task 2. Find the GCF of the following numbers using continuous division. Write your answer on your notebook.

1.) 24 and 72   3.) 24, 32, and 48

2.) 18, 27, and 45   4.) 24 and 36

Learning Task 3. Find the LCM of the following numbers using continuous division. Write your answer on your notebook.

1.) 30 and 36   3.) 20, 45, 75

2.) 27 and 45   4.) 54 and 72

Solves Real-Life Problems Involving GCF and LCM of 2 to 3 Given Numbers.

I

Lesson

After going through with this lesson, you are expected to solve real life problems involving GCF, common multiple and LCM of 2-3 given numbers.

Learning Task 1: Determine the number if it is a multiple of another number. Write the your answer in your notebook.

1.) 72 - 2 3 4 5 6 7 8 9 10 11 12

2.) 472 - 2 3 4 5 6 7 8 9 10 11 12

3.) 960 - 2 3 4 5 6 7 8 9 10 11 12

4.) 220 - 2 3 4 5 6 7 8 9 10 11 12

5.) 828 - 2 3 4 5 6 7 8 9 10 11 12

D

In this lesson try to apply what you have learned in divisibility rules, GCF and LCM.

Read and analyze the problem.

A lighthouse flashes its light every 12 minutes. Another lighthouse flashes every 18 minutes. If the two lighthouses flashes together at 10:00 noon, at what time will they next flash together.

To answer the problem use the rules in getting the LCM

```
2 | 12  18
3 | 6   9
    2   3
```

LCM = 2 X 3 X 2 X 3 = 36

Therefore, the time of the next flash together at 10:36 p.m.

There are 48 girls and 80 boys which grouped separately. Each group have same number of children. What is the largest possible number of children in each group?

To answer the problem use the rules in getting the GCF.

```
2 | 48  80
  ---------
2 | 24  40
  ---------
2 | 12  20
  ---------
2 |  6  10
  ---------
  |  3   5
```

Therefore, the largest possible number of girls in group is 16.

CGF = 2 X 2 X 2 X 2 = 16

Learning Task 2: Solve each problem using the application of LCM and GCF.

1.) In Art class, Mrs. Lucia had 36 sheets of green paper and 42 sheets of blue paper. If Mrs. Lucia wanted to give an equal number of each type of paper, how many sheets of paper should each pupil get?

E

Learning Task 3: Solve each problem using the application of LCM and GCF.

Luis picked 40 tomatoes in the morning and 48 eggplants in the afternoon. She wants to put them equal in the plastic bags. What is the largest number of vegetables that he can put in plastic bags?

A

In solving problems, we take into considerations the following. (1) What do I know? (2) What do I need to find out? (3) What is my plan? This will help you to answer the different problems that you will encounter.

Learning Task 4: Apply the LCM and GCF in solving the word problems below. Write your answer in your notebook.

1. Mary has two pieces of cloth. One piece is 72 inches wide and the other piece is 90 inches wide. She wants to cut both pieces into strips of equal width that are as wide as possible. How wide should she cut the strips?
2. Jerwin exercises every 12 days and Nikki every 8 days. Jerwin and Nikki both exercised today. How many days will be until they exercise together again?
3. Cean has 8-inch pieces of toy train track and Ruth has 18-inch pieces of train track. How many of each piece would each child need to build tracks that are equal in length?

Add and Subtract Fractions and Mixed Fractions with and without Regrouping

I

Lesson

You already know how to add similar fraction in lower grade. When fraction have common denominator, you just add the numerator and write the sum over the common denominator and write the lowest term.

This time, learn more about addition and subtraction of fraction. In this lesson, you are expected to add and subtract fractions and mixed fraction with and without regrouping.

There is an activity below which will give you a review of this new lesson.

Learning Task 1: Add or subtract the following fractions. Write you answer on your notebook.

a) $2\dfrac{4}{18} + \dfrac{6}{18} =$

b) $8\dfrac{6}{9} - \dfrac{3}{9} =$

c) $\dfrac{7}{8} - \dfrac{3}{8} =$

d) $9 - 3\dfrac{5}{6} =$

e) $10\dfrac{4}{10} - 5\dfrac{5}{10} =$

D

Let us look at the problem situation below.

Ruel jogged $\dfrac{3}{5}$ of a kilometer on Saturday and $\dfrac{4}{7}$ of a kilometer on Sunday. How far did jog together in 2 days?

Solution:

The fraction $\dfrac{3}{5}$ and $\dfrac{4}{7}$ are dissimilar.

To find the total distance he jogged, we add $\dfrac{3}{5}$ and $\dfrac{4}{7}$.

Find the LCD.	Rename the fraction LCD	Add. Write the sum in the lowest term.
$\dfrac{3}{5}$ $+\ \dfrac{4}{7}$ LCD=35	$\dfrac{3}{5} = \dfrac{3}{5} \times \dfrac{7}{7} = \dfrac{21}{35}$ $+\ \dfrac{4}{7} = \dfrac{4}{7} \times \dfrac{5}{5} = \dfrac{20}{35}$	$\dfrac{3}{5} = \dfrac{21}{35}$ $+\ \dfrac{4}{7} = \dfrac{20}{35}$ $\dfrac{41}{35} = 1\dfrac{6}{35}$

Therefore, Ruel jogged $1\dfrac{6}{35}$ kilometers in all.

Example: Find the difference of $9\frac{1}{8}$ and $3\frac{5}{6}$.

Find the LCD	Rename the fraction	Regrouped the minuend if necessary	Subtract, then lowest term.

$$9\frac{1}{8}$$
$$-3\frac{5}{6}$$

$$9\frac{1}{8} = 9\frac{3}{24}$$
$$-3\frac{5}{6} = 3\frac{20}{24}$$

$$8 + 1 + \frac{3}{24}$$
$$= 8 + \frac{24}{24} + \frac{3}{24}$$
$$= 8\frac{27}{24}$$

$$9\frac{1}{8} = 8\frac{27}{24}$$
$$-3\frac{5}{6} = 3\frac{20}{24}$$
$$5\frac{7}{24}$$

E

Example: Therefore: $9\frac{1}{8} - 3\frac{5}{6} = 5\frac{7}{24}$

Learning Task 2: Add or subtract the following fractions. Write you answer on your notebook.

1) $3\frac{4}{6} + \frac{9}{18} =$

2) $10 - 6\frac{5}{6} =$

3) $8\frac{7}{6} - 5\frac{8}{12} =$

4) $9\frac{3}{5} - 7\frac{7}{15} =$

5) $2\frac{7}{8} + \frac{3}{8} =$

6) $12\frac{6}{10} + 5\frac{5}{10} =$

A

To add and subtraction similar fraction, simply add or subtract the numerator and copy the denominator. To add or subtract fractions with dissimilar denominators, get the LCD. Change the fractions to similar fractions or equivalent fractions using the LCD. Then, add or subtract the equivalent fractions.

To subtract mixed forms with dissimilar fractions, make the fraction similar. If the fraction in the minuend is less than the fraction in the subtrahend, rename the minuend as a mixed form with a fraction greater than one.

Learning Task 3: Subtract the following fractions. Write you answer on your notebook.

1) $6\frac{4}{12} - \frac{5}{10} =$

2) $11 - 6\frac{5}{8} =$

3) $8\frac{6}{10} - 4\frac{7}{12} =$

4) $7\frac{3}{25} - 6\frac{4}{15} =$

5) $4\frac{7}{9} - \frac{3}{15} =$

6) $15\frac{6}{25} - 11\frac{5}{10} =$

Solves Routine and Non-routine Problems Involving Addition or Subtraction of Fractions

I   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.

Learning Task 1. Find the sum or difference. Express each answer in lowest term. Write your answer in your notebook.

$$\frac{4}{8} - \frac{2}{8} = \qquad \frac{10}{24} - \frac{5}{12} = \qquad \frac{8}{28} + \frac{12}{28} = \qquad \frac{40}{56} - \frac{10}{28} =$$

$$\frac{5}{9} - \frac{2}{12} = \qquad \frac{18}{28} + \frac{10}{28} = \qquad \frac{16}{18} - \frac{12}{18} = \qquad \frac{15}{27} + \frac{10}{36} =$$
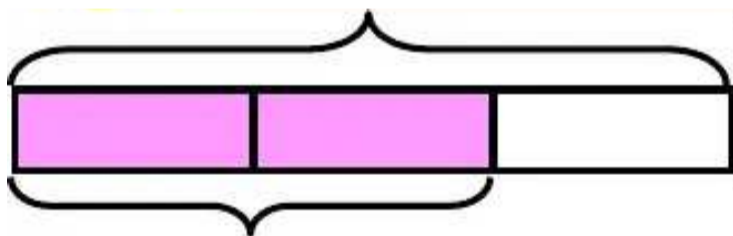
D Study the problem. Look for the solution.

Marlon has Php 720. 00. He spent 2/3 of it on a ballpen and Php 90.00 on a drink. How much money did he have left?

Php.720.00   2/3 of Php 720.00= Php 480.00 for ballpen

2/3

Solution:

Php 480.00 — ballpen

+   90.00 — drink
_____

Php 570.00

1.) Add first, Php 480.00 (ballpen) and Php 90.00

2.) Subtract Php 570.00 from Php 720.00

Php 720.00

- 570.00
_____

Php. 130.00

E

Learning Task 2: Read and solve each problem. Write your answer on your notebook.

Eden bought $2 \frac{1}{4}$ meters of cloth. She uses $\frac{3}{4}$ of meter for her project. How many meters of cloth did she have left.

Rina bought $5 \frac{1}{4}$ meters of cloth. She uses $3 \frac{3}{4}$ of meter for her project. How many meters of cloth did she have left.

A

To solve routine and non-routine problems involving additions and subtraction of fractions: Understand the problem, plan strategies/tools in solving the problem like illustration to use the LCD and then solve by writing the mathematical statement. Rename the fraction if its dissimilar fraction. Find the LCD then rename the fractions.

Learning Task No 3: Read and solve. Simplify your answer if necessary. Write your answer in your notebook.

1. Barby has small plot in the garden. She planted $\frac{2}{5}$ of it to radishes and $\frac{1}{4}$ to carrots. What part the plot did she use? _____

2. Mary uses $2 \frac{1}{2}$ liters of waters for watering her ampalaya seedlings in the morning and $1 \frac{1}{4}$ liters in the afternoon. How many liters of water does she use daily? _____

3. Mrs. Perez bough kilogram of $\frac{1}{2}$ chicken and $\frac{3}{4}$ kilogram of beef.

   How many kilograms of meat did she buy? _____

Visualizes Multiplication of Fraction Using Models and Multiplies Fraction and a Whole Number and Another Fraction

I _____ Lesson _____

You can use area model to develop understanding the concept of multiplying fractions as well as to find the product of two common fraction. After going through with this lesson, you are expected to visualize multipli-cation of fraction using models and multiply fraction and a whole number and another fraction.

Learning Task 1: Illustrate the following fractions on your notebook.

a) $\frac{2}{3}$ b) $\frac{7}{9}$ c) $\frac{10}{12}$ d) $\frac{8}{12}$

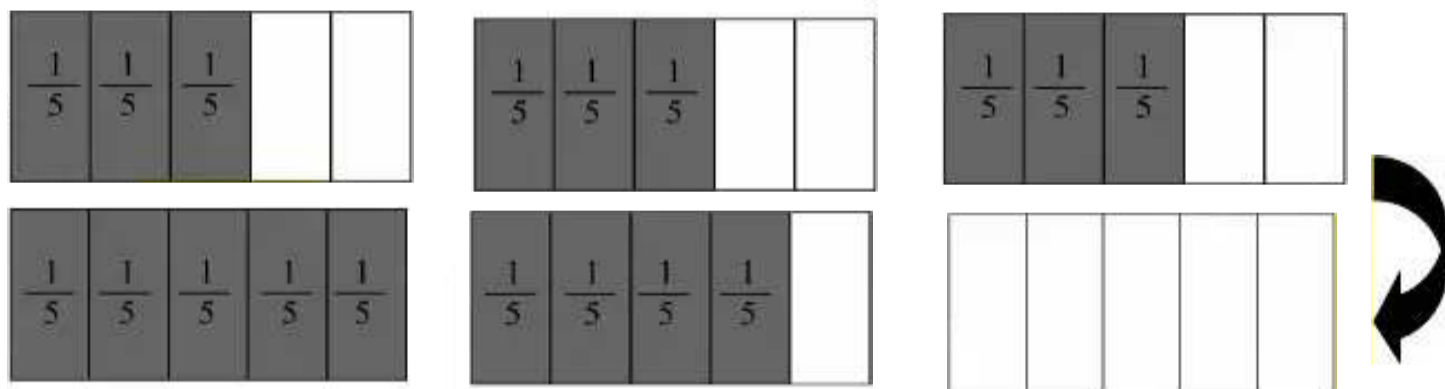e) $\frac{4}{5}$ f) $\frac{8}{6}$ g) $\frac{9}{4}$ h) $2\frac{8}{10}$

D _____

Read and analyze the problem. Observe the visualization of the problem.

A. It takes $\frac{3}{5}$ hours to read a book. How many hours will it take him to read 3 books?

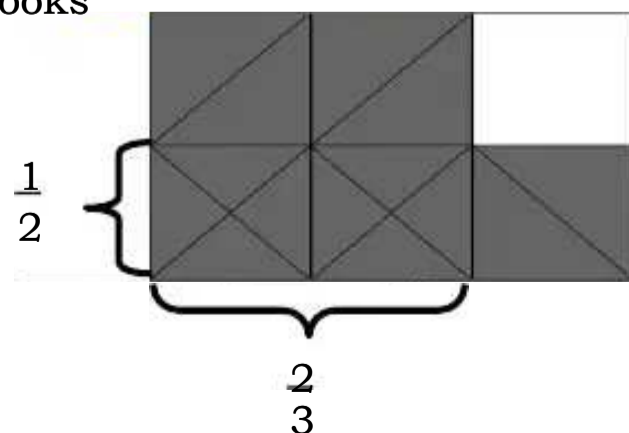We use to multiply 3 by $\underline{3}$ to get the total number of hours.

$3 \times \frac{3}{5} = \frac{3 \times 3}{5} = \frac{9}{5} = 1\frac{4}{5}$

Therefore it takes $1\frac{4}{5}$ hours to read 3 books

B) Multiply $\frac{2}{3}$ by $\frac{1}{2}$ or $\frac{2}{3} \times \frac{1}{2}$

$\frac{1}{2}$

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

$\frac{2}{3}$

It's easy to multiply fractions by a whole numbers and another fraction. Start by turning your mixed fractions or whole numbers into improper fractions. Then multiply the numerators of both improper fractions. Multiply the denominators and simplify your result.

Example: Multiply 2, $5\frac{1}{2}$ and $\frac{1}{3}$

First, Convert the whole number to fraction. $2 \Rightarrow \frac{2}{1}$

Next, Convert the mixed fractions to improper fractions. $5\frac{1}{2} \Rightarrow \frac{5 \times 2 + 1}{2}$

$$\Rightarrow \frac{11}{2}$$

Third, Multiply the numerators and the denominator of the whole number, improper fractions and the remaining fraction.

$$\Rightarrow \frac{2 \times 11 \times 1}{1 \times 2 \times 3}$$

Fourth, Turn the answer into a mixed fraction if possible and simplify your answer.

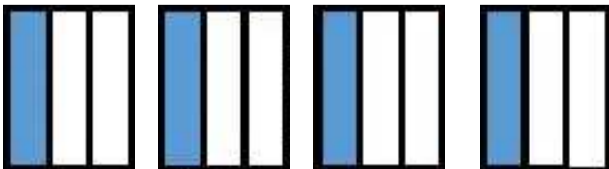$$\Rightarrow \frac{22}{6} \Rightarrow 3\frac{4}{6} \Rightarrow 3\frac{2}{3}$$

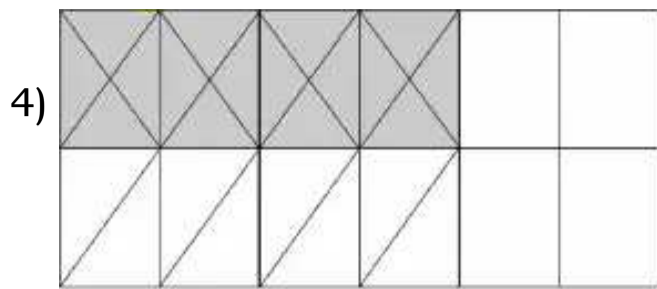Therefore, the product is $3\frac{2}{3}$

E

Learning Task 2: Visualize the following multiplication of fraction.
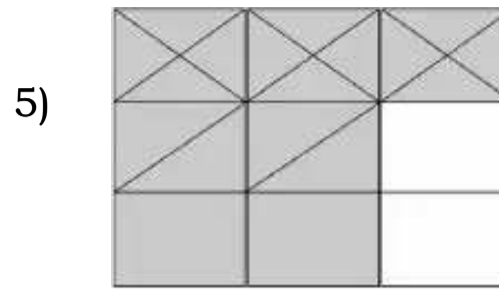
1) $3 \times \frac{1}{2} =$

2) $3 \times \frac{2}{4} =$

3) $4 \times \frac{1}{3} =$

4)

5)

$$\frac{4}{6} \times \frac{1}{2} =$$

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

Learning Task 3: Visualize the following multiplication of fraction using models. Then solve.

1) $\frac{7}{9} \times \frac{5}{8} =$ 2) $\frac{4}{8} \times \frac{7}{8} =$ 3) $\frac{6}{10} \times \frac{3}{8} =$

4) $4 \times \frac{5}{6} =$ 5) $\frac{5}{7} \times \frac{6}{7} =$ 6) $\frac{2}{5} \times \frac{4}{8} =$

A

Learning Task 4. Multiply the following fractions. Write your answer in your notebook.

1. $\frac{6}{7} \times \frac{1}{7} \times 5$

2. $\frac{4}{8} \times \frac{2}{6} \times 6$

3. $\frac{3}{4} \times \frac{5}{7} \times 3$

4. $\frac{2}{3} \times \frac{1}{5} \times 4$

5. $\frac{1}{6} \times \frac{5}{8} \times 2$

6. $\frac{2}{3} \times \frac{4}{5} \times 8$

7. $\frac{2}{3} \times \frac{1}{4} \times 9$

8. $\frac{3}{8} \times \frac{7}{9} \times 2$

9. $\frac{2}{5} \times \frac{3}{6} \times 4$

10. $\frac{1}{2} \times \frac{3}{4} \times 5$

Multiplies Mentally Proper Fraction with Denominators Up to 10

Lesson

When we do math mentally we need to look for patterns and follow certain rule or properties. Hence, we can solve and accomplish without consuming much time. This lesson is about multiplicaion of fraction mentally. After going through this lesson, you are expected to multiply mentally the proper fraction with denominators up to 10.

Learning Task 1. Simplify the given fractions to lowest term Ask your parents to use stop watch to monitor your performance. Write your answer on your notebook.

1) $\dfrac{2}{4}$ 2) $\dfrac{6}{9}$ 3) $\dfrac{10}{12}$ 4) $\dfrac{8}{12}$
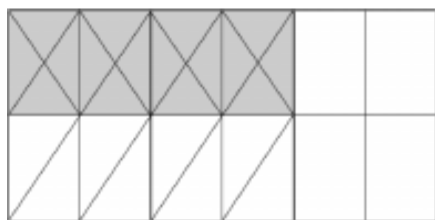
5) $\dfrac{12}{32}$ 6) $\dfrac{27}{45}$ 7) $\dfrac{35}{63}$ 8) $\dfrac{64}{96}$

D

One way to multiply fraction mentally and easily is cancellation method. Look at the example below:

$$\dfrac{4}{6} \times \dfrac{1}{2} =$$

$$\dfrac{\cancel{4}^{2}}{6} \times \dfrac{1}{\cancel{2}_{1}} =$$

$$\dfrac{\cancel{4}^{2}}{6} \times \dfrac{1}{\cancel{2}_{1}} = \dfrac{2}{6} = \dfrac{1}{3}$$

The following is the procedure for multiplying fractions with cancelling of factors.

Multiply fractions by cancelling common factors, divide out factors that are common to both a numerator and a denominator.

The factor being divided out can appear in any numerator and any denominator.

Here is another example;

$$\dfrac{2}{9} \times \dfrac{3}{7} =$$

$$\dfrac{2}{\cancel{9}_{3}} \times \dfrac{\cancel{3}^{1}}{7} = \dfrac{2}{21}$$

Notice that 3 and the 9 are both share a factor of 3 since 3=3×1 and 9=3×3 .

Because of this, we can cross cancel before we multiply.

E

Learning Task 2. Multiply the following fractions mentally. Ask your parents to use stop watch to monitor your progress.

1. $\dfrac{6}{7}$ of $\dfrac{1}{7}$ is

2. $\dfrac{4}{5}$ of $\dfrac{2}{3}$ is

3. $\dfrac{3}{8}$ of $\dfrac{2}{9}$ is

4. $\dfrac{2}{3}$ of $\dfrac{3}{5}$ is

5. $\dfrac{2}{6}$ of $\dfrac{2}{8}$ is

6. $\dfrac{5}{7}$ x $\dfrac{1}{2}$ =

7. $\dfrac{2}{8}$ x $\dfrac{1}{6}$ =

8. $\dfrac{5}{6}$ x $\dfrac{2}{9}$ =

9. $\dfrac{2}{5}$ x $\dfrac{3}{6}$ =

10. $\dfrac{2}{7}$ x $\dfrac{1}{4}$ =

A

To multiply the fraction mentally, we have to multiply the numerators to get the product of the numerator. Next, multiply the denominators to get the product of the denominator, And express the product in lowest terms if applicable. Use cancelation method if necessary.

Learning Task 3. Multiply mentally and express in simplest form. Write the answer on your notebook.

1. $\dfrac{2}{2}$ x $\dfrac{2}{4}$ is

2. $\dfrac{2}{9}$ x $\dfrac{3}{4}$ is

3. $\dfrac{4}{5}$ x $\dfrac{2}{3}$ is

4. $\dfrac{1}{4}$ x $\dfrac{6}{7}$ is

5. $\dfrac{1}{5}$ x $\dfrac{2}{3}$ is

Solve Word Problems Involving Multiplication Without or With Addition or Subtraction of Fractions and Whole Numbers

I

Lesson

After going through with this lesson, you are expected to solve routine or non-routine problems involving multiplication with or without addition or subtraction of fractions and whole numbers using appropriate problem solving strategies and tools.

Learning Task 1: Read and solve each simple problem. Then write your answer on your notebook.

1) A class of 40 pupils. 2/5 of them are boys. How many are girls?
2) Rene had Php 960. He spent 1/3 of his money on food. How many were left to him?
3) Efren had 480 apples for sale. He sold 3/5 of them. How many were left?
4) Find the product of 2/5 and 3/4.
5) Two fifth of the worker in a factory are men. The rest are women. If there are 28 men, how many more women than men are there?

D

Read and analyze the example problem below. Observe the steps to solve the problem.

> Aling Rena prepare food for incoming fiesta of their barrio. She allotted budget of ₱3,500. 00 for the food that she will cook. . She allots 4/7 for purchasing vegetables and 2/7 for fish and the rest is for meat. How much money did she spend for vegetables, fish and meat?

Understand the Problem:

a) What is asked?

The amount she spend for vegetables, fish and meat
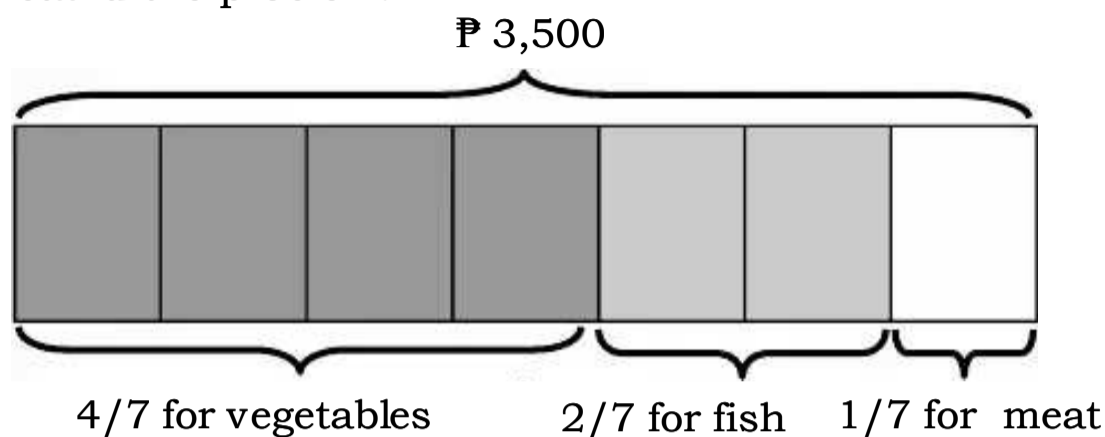
b) What are the givens facts?

Budget is ₱ 3,500.00, 4/7 for vegetables, 2/7 for fish,

c) Solve the hidden given.

$$\frac{4}{7} + \frac{2}{7} = \frac{6}{7}$$

$$\frac{7}{7} - \frac{6}{7} = \frac{1}{7} \text{ for meat}$$

Plan: What operation to be used? An illustration bellow can help you to understand the problem.
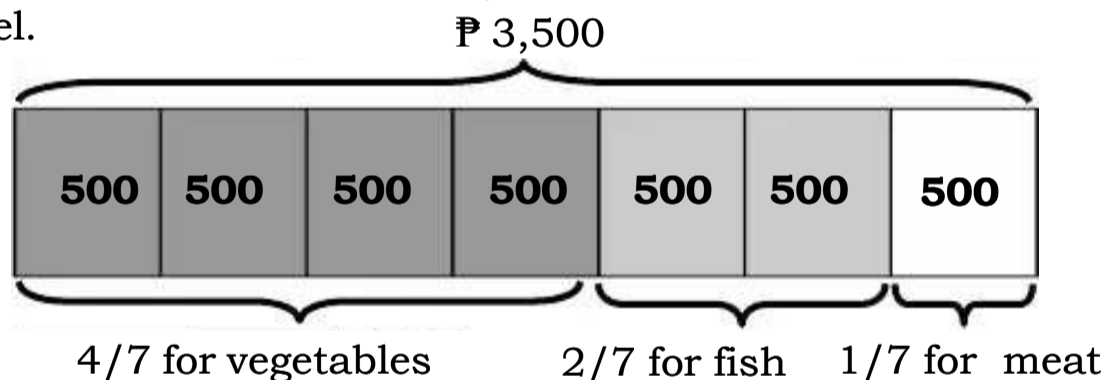
₱ 3,500

4/7 for vegetables   2/7 for fish   1/7 for meat

Solve: Show the computation   **Answer:**

$$\frac{3500 \times 4}{7} = \frac{14,000}{7} = ₱\,2,000 \quad \text{amount allotted for vegetables}$$

$$\frac{3500 \times 2}{7} = \frac{7,000}{7} = ₱1,000 \quad \text{amount allotted for fish}$$

$$\frac{3500 \times 1}{7} = \frac{3,500}{7} = ₱\,500 \quad \text{amount allotted for meat}$$

Check: Check the answer. One way to check the answer is to use the block model.

₱ 3,500

| 500 | 500 | 500 | 500 | 500 | 500 | 500 |

4/7 for vegetables   2/7 for fish   1/7 for meat

Learning Task 2: Try to solve the following problem. Use block model to help you. Write your answer in your notebook.

1) Ruben can paint $6\frac{1}{2}$ square meters per hour. At the same rate, how many square meters can he paint in $2\frac{1}{2}$ hour .

2) The lot has length of $18\frac{1}{2}$ meters and width of $20\frac{1}{2}$ meters. The piece of lot per square unit is ₱ 850.00. What is the total value of lot?

E

Learning Task 3. Analyze and solve the following problem. Use block model or by computation in solving this word problem. Write your answer in your notebook.

1. 10 flowers were picked form the garden $\frac{3}{5}$ of it were yellow. How many are not yellow?

2. The special science class had their performance task in English. If the teacher grouped the class into 7 pupils and $\frac{2}{7}$ of it are boys, how many are boys?

3) In the EDSA, there are billboards located every $1\frac{1}{2}$ kilometers. There are 14 billboards in the ESDA highway. How long is the highway?

A

Always follow the steps in solving a word problem. The use block model approach in solving problems involving fractions is an extension of whole numbers. It helps to visualize and understand word problems on fractions.

Learning Task 4. Solve the given problems. Write your answer in your notebook.

1) The fish vendor sells $\frac{5}{7}$ kilos of bangus for ₱ 72.50. If you will buy $2\frac{1}{7}$ kilos of bangus, how much will cost?

2) Mr. Rivera withdrew ₱ 7,500 from his ATM account. He spent $\frac{4}{9}$ of the money for her daughter's educational trip in Manila and $\frac{3}{10}$ of the remaining money on grocery. He spent the rest of money for 2 sacks of rice.

How much did he spend for each sack of rice.

3) Lira has a flowers. $\frac{2}{9}$ Of them are roses, and $\frac{3}{7}$ of the remainder are sunflowers and the rest are tulips. If she has 36 tulips, how many sunflowers and roses does she have altogether?

4) Michelle was visited by her classmates when she was sick. They give 2 kilos of orange, 3 kilos of lanzones, $\frac{2}{4}$ kilo of chico and $\frac{3}{4}$ kilo of grapes. How many kilos of fruits were bought by her classmates?

5.) Eva can finish sewing a bag in $3\frac{1}{2}$ hours. Edna can do the same task in only $2\frac{1}{3}$ hours. How fast can Edna sew?

Showing the Reciprocal of Fraction

I

Lesson

The reciprocal of a fraction is found by inverting the fraction. These are the numerator and denominator are interchanged. After going through with in this lesson, you are expected to show that multiplying a fraction by its reciprocal is equal to 1.

Learning Task 1. What fraction shall be multiply to the given value so that its product will be 1? Write your answer in your notebook.

Example: $\dfrac{3}{4}$ x $\dfrac{4}{3}$ = 1

1) $\dfrac{5}{8}$ 2) $\dfrac{6}{9}$ 3) $\dfrac{10}{12}$ 4) $\dfrac{8}{12}$

5) $\dfrac{2}{9}$ 6) $\dfrac{7}{8}$ 7) $\dfrac{15}{20}$ 8) $\dfrac{10}{25}$

D

Reciprocals represent two numbers whose product is one. Multiplying a fraction by its reciprocal gives the product of 1. Look at the example below.

$\dfrac{1}{8}$ x $\dfrac{8}{1}$ = $\dfrac{8}{8}$ = 1

To find the reciprocal of a proper fraction or improper fraction, simply a matter of transposing the numerator and the de-

$2\dfrac{2}{4}$ = $\dfrac{10}{4}$ x $\dfrac{4}{10}$ = $\dfrac{40}{40}$ = 1

To find the reciprocal of a mixed number, change the mixed number to improper fraction.

2 = $\dfrac{2}{1}$ x $\dfrac{1}{2}$ = $\dfrac{2}{2}$ = 1

To find the reciprocal of a whole number, change the whole number to fraction form.

E

Learning Task 2. Give the reciprocal of the given fractions below. Write your answer in your notebook.

1. $\dfrac{6}{8}$

2. $\dfrac{7}{2}$

3. $33\dfrac{4}{5}$

4. 41

5. $54\dfrac{1}{5}$

6. $\dfrac{2}{7}$

7. $\dfrac{1}{8}$

8. $\dfrac{4}{5}$

9. $\dfrac{5}{6}$

10. $\dfrac{1}{5}$

A Reciprocals represent two numbers whose product is one. Multiplying a fraction by its reciprocal gives the product of 1. To find the reciprocal of a mixed number, change the mixed number to improper fraction. To find the reciprocal of a whole number, change the whole number to fraction form. To find the reciprocal of a proper fraction or improper fraction, simply a matter of transposing the numerator and the denominator.

Learning Task 3: Make the statement true: Use the number given inside the rectangle that will give a product of 1. Number can be repeated. Write your answer in your notebook.

1. | 12 | 1 |

$$\dfrac{12}{1} \ x \ \underline{\quad} = \dfrac{\quad}{12} =$$

2. | 1 | 6 |

$$\underline{\quad} \ x \ \dfrac{\quad}{6} = \dfrac{6}{\quad} =$$

3. | 2 | 1 |

$$\underline{\quad} \ x \ \dfrac{\quad}{2} = \dfrac{\quad}{2} =$$

4. | 17 | 1 |

$$\dfrac{17}{\quad} \ x \ \underline{\quad} = \dfrac{\quad}{17} =$$

5. | 1 | 43 |

$$\dfrac{\quad}{43} \ x \ \underline{\quad} = \dfrac{\quad}{43} =$$

Visualization of Division of Fraction

I

Lesson

Fractions are well understood if it's represented by a circle or rectangular shape.   It is easier to visualizes such as halves, thirds and quarter or those denominators that has more factors such as eights and twelfths. Using fraction strip, it will help you visualized fractions.   After going through with this lesson, you are expected to visualize division of fractions.

Study the example below.

| 1 | 1/8 | $\frac{1}{16}$ |

$$\frac{1}{8} \div 2 = \frac{1}{16} \quad \text{because} \quad \frac{1}{16} \times 2 = \frac{1}{8}$$

| 1 | 1/2 | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ |

$$\frac{1}{2} \div 5 = \frac{1}{10} \quad \text{because} \quad \frac{1}{10} \times 5 = \frac{1}{2}$$

D

Lets us read and analyzed the given problem.

Daimler walks home after school then suddenly he passed by a chunk of wood. An idea popped up to his mind and wanted to share it to her sister. He brought it home and chopped the chunk of wood equally.

Because sharing is defined as division of resources, therefore if you divide something, you're sharing.

Learning Task 1. Answer the given questions. Write your answer in your notebook.

1. Have you experienced sharing? What did you share?

2. What did you feel?

3. In the given word problem, what has been divided ?

5. What is asked in the problem?

6. Write your answer using fraction strip.

E

Learning Task 2. Do what is necessary. Write your observation in your notebook.

1. Take two identical pieces of paper and fold one piece into two equal parts. Each part of the paper is 1/2.

2. Divide one of the two parts into three equal parts. Color one small part in red. The red part is 1/2 ÷ 3 or 1/3 of 1/2.

3. Take the second piece of paper, fold it into three equal parts. Each part is 1/3.

4. Then fold one of the three parts into two equal parts. Color one small part in green. The green part is 1/3 ÷ 2 or 1/2 of 1/3.

A

Fractions are a way to represent parts of a whole. It is written in a/b. The denominator *b is* the number of equal parts the whole has been divided into, and the numerator *a* indicates how many parts are included.

Learning Task 3. Write each of the following as a fraction. Model the fractions and solve it in your notebook.

1) 3 ÷ 12   5.) 2 ÷ 4

2) 6 ÷ 10   6.) 4 ÷ 16

3) 7 ÷ 14   7.) 3 ÷ 24

4) 10 ÷ 12   8) 18 ÷ 54

Dividing Simple Fraction, Whole Number by Fraction and Vice Versa.

I

Lesson

Division of fractions is a simple operation. You will be surprised to know that division of one fraction by other fraction is actually a process of multiplication of fractions. After going through with this lesson, you are expected to divide a simple fraction, whole number by a fraction and vice versa.

Learning Task 1. Give the lowest term then write the reciprocal of the following fractions. Write your answer on your notebook.

1) $\dfrac{2}{4}$ 2) $\dfrac{6}{9}$ 3) $\dfrac{10}{12}$ 4) $\dfrac{8}{12}$

5) $\dfrac{12}{32}$ 6) $\dfrac{27}{45}$ 7) $\dfrac{35}{63}$ 8) $\dfrac{64}{96}$

D

When dividing a whole number by a fraction, you are finding how many groups of the fraction you can fit in the whole. The standard way of dividing a whole number by a fraction is to multiply the whole number by the reciprocal of the fraction. You can also draw a diagram to help you visualize the process. You need to remember do multiplication or division first before you do addition or subtraction.

Example: Suppose you are given $10\dfrac{1}{2}$ and $\dfrac{3}{4}$. You are asked to find the quotient of the two fractions.

First, find the reciprocal of the divisor $\dfrac{3}{4}$. Now, $\dfrac{3}{4}$ becomes $\dfrac{4}{3}$.

Next, multiply the dividend $10\dfrac{1}{2}$ by the reciprocal $\dfrac{3}{4}$.

$$10\dfrac{1}{2} \longrightarrow \dfrac{21}{2}$$

Now, multiply $\dfrac{21}{2}$ by $\dfrac{4}{3} \longrightarrow \dfrac{21}{2} \times \dfrac{4}{3} = \longrightarrow \dfrac{8}{6}$

Learning Task 2. Find the quotient. Reduce your answer to lowest term. Write your answer in your notebook.

1. $5 \div \dfrac{1}{2} =$

2. $9 \div \dfrac{1}{3} =$

3. $8 \div \dfrac{4}{5} =$

4. $12 \div \dfrac{2}{6} =$

5. $16 \div \dfrac{4}{5} =$

A

       To divide a whole number by a fraction, multiply the dividend by the reciprocal of the divisor. In order to find the reciprocal of a fraction, reverse the position of the numerator and the denominator.

       If the fraction is a mixed number, change the mixed number to an improper fraction first then get the reciprocal of the given improper fraction.

       If the numbers to be divided are mixed numbers, change them first to improper fractions before dividing.

Learning Task 3. Perform the indicated operation. Compare the quotient of each expression. Write >,<, or = in your notebook.

Expression	Quotient	Comparison	Quotient	Expression
1. $\dfrac{3}{5} \div \dfrac{1}{3}$				$1\dfrac{1}{5} \div \dfrac{3}{8}$
2. $8\dfrac{5}{7} \div \dfrac{1}{2}$				$11 \div \dfrac{1}{3}$
3. $5\dfrac{4}{9} \div \dfrac{7}{8}$				$6 \div \dfrac{3}{5}$
4. $18\dfrac{1}{3} \div 3$				$\dfrac{3}{4} \div 7\dfrac{8}{13}$
5. $10 \div 2\dfrac{4}{5}$				$4\dfrac{3}{8} \div \dfrac{5}{32}$

PIVOT 4A CALABARZON

Solves Routine or Non-Routine Word Problems Involving Division Without or With Any Other Operations of Fractions

Lesson

After going through with this lesson, you are expected to solve routine or non-routine problems involving division with any of the other operations of fractions and whole numbers using appropriate problem- solving strategies and tools.

Learning Task 1: Read and analyze each problem carefully. Write your final answer in your notebook based on the given questions below.

1) There are 2 2/3 pizzas. How many people are sharing when each has 2/3 of pizza?

2) A plastic bottle of mineral holds 600 ml of water when it is 3/5 full. What is the capacity of the bottle

3) Joel spend 4/8 of his monthly salary for their groceries. After spending had Php 980 left. How much his monthly salary?

D

Read and analyze the problem. Observe the steps on how to solve the problem.

Mrs. Lovie baked a loaf of bread for the birthday party. It measures 18 inches long. How many slices can she make if each slice measures $1\frac{1}{8}$ inches long?

Understand the Problem:

1) What is asked?

The number of slices that can be cut from a loaf of bread.
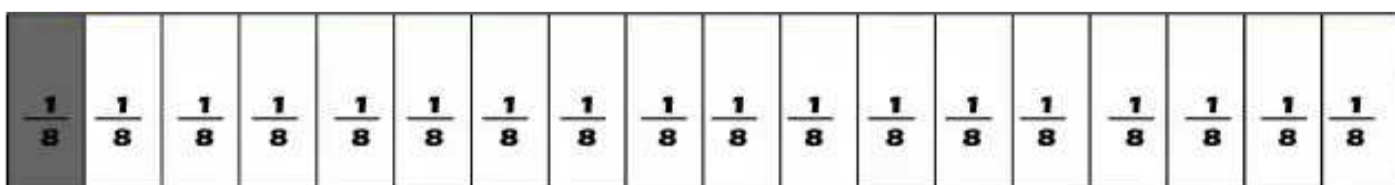
2) What are givens?

Loaf of bread is 18 inches long

each slice of bread is 1 1/8 inch long

Plan: What is the operation to be used?

Divide the length of the loaf of bread by 1 1/8 inches long.

Visualize or illustrate to help you in solving this problem.

$18 \div 1\frac{1}{8} =$ **Solve:** Show your computation.

$18 \div \frac{9}{8} =$ Convert mixed number into improper fraction.

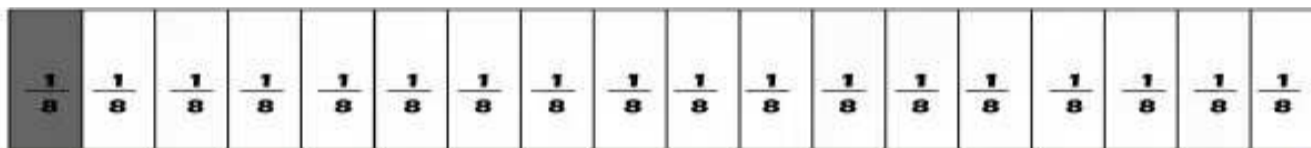$\frac{18}{1} \div \frac{8}{9} =$ Get the reciprocal of the converted mixed number to improper fraction.

$\frac{18}{1} \div \frac{8}{9} = \frac{18 \times 8}{1 \times 9} =$ Multiply the numerators and then denominators

$\frac{18}{1} \div \frac{8}{9} = \frac{18 \times 8}{1 \times 9} = \frac{144}{9} = 16$ Convert improper fraction to fraction or mixed number in lowest term if necessary.

Check : One way to check if the answer is correct is to go back the illustration.

$$\frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}\ \frac{1}{8}$$

E

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

1.) Darla needs $\frac{3}{9}$ cup of flour to bake a cake. She added another $\frac{3}{5}$ cup of flour to make it bigger. How much flour did she use?

2.) Fe shared her sandwich to April. Lovely ate $\frac{1}{4}$ of the sandwich while May ate $\frac{2}{3}$ of the sandwich. Which part of the sandwich was eaten by the two friends?

A

Learning Task 3. Follow the steps in solving word problems. Write your answer in your notebook.

1. Mr. Rommel rents a van for their yearly out of town. The van rental covers 100 km only. But he travels for 110 km, so he needs to pay Php 250 1/5 . How much is the payment for every kilometer he exceeded?

2. The government needs to interview people who will be the beneficiaries of the Social Amelioration Program (SAP). They needed to interview 5 beneficiaries for 3/8 of an hour. How many minutes needed for each beneficiary?

3. During feast, there is a carnival in our place. Audrey like to ride on a carousel. The carousel takes about of 2/5 an hour to finish. If there are 8 carousel horse and 32 kids in front of Audrey. How long does Audrey need to wait before it is her turn to ride the carousel?

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