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_Z_est for _P_rogress
_Z_eal of _P_artnership

MATHEMATICS

2ND QUARTER – Module 2:

COMMON MULTIPLES

Name of Learner: _____

Grade & Section: _____

Name of School: _____

JANUARY
Makugihon

FEBRUARY
Mahigugmaon

MARCH
Matinabangon

APRIL
Matinahuron

MAY
Mahapsay og Malinmyo

JUNE
Maabtik og Musunod sa Ihsuktong Oras

JULY
Maantigo og Maabilidad

AUGUST
Maginhunahunaon para sa Uban

SEPTEMBER
Madaginoton

OCTOBER
Matinud-anon

NOVEMBER
Masaligan

DECEMBER
Maalampuon

Grade 4
Alternative Delivery Mode
Quarter 2 - Module 2: COMMON MULTIPLES

First Edition, 2020

This self-learning package consist of activities that will help you learn, understand in writing prime factors of a given number (M4NSIIb-67), find the greatest common factor (M4NS-IIc-68.1), and Finding the common multiples and the least common multiples (LCM) of two numbers.

The goals in Mathematics education is to help you become a critical thinker and a problem solver individual. The activities of this module are written to further improve your critical thinking and problem solving skills. These acquired skills would soon be applied in your everyday lives.

So, find time to study this module because learning amidst COVID 19 pandemic depends on you.

Good luck, stay safe and God bless.

Quarter 2: Week 1-Lesson 1 Writing Prime Factors of a Given Number. Find the Greatest Common Factor(GCF) and (Finding the common multiples and the least common multiples (LCM) of two numbers

What's In

ACTIVITY 1. Writing prime factors

What prime numbers can we multiply to get 75? Let us identify these using a factor tree.

```
              75
             /   \
(5 is a prime)  5      15    (15 can still be factored)

              5      5    3   (5 and 3 are prime)
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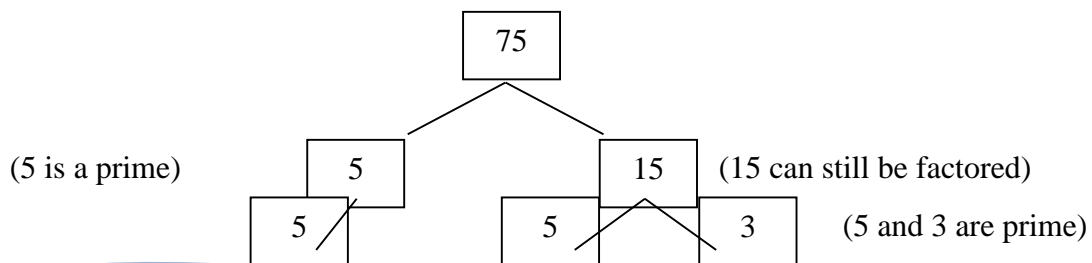
So, 75 = 5 x 5 x 3. We can say that 5, 5, and 3 are the prime factors of 75. Therefore, 75 is the product of its prime factors of 3 x 5 x 5.

What we did is what we call *prime factorization*. Using a factor tree, we try to identify all possible prime factors of a given number. This means that the factoring process goes on until all the remaining factors are prime.

Let's do another example.
What are the prime factors of 42?

42

6   (6 can still be factored)   7   (7 is a prime)
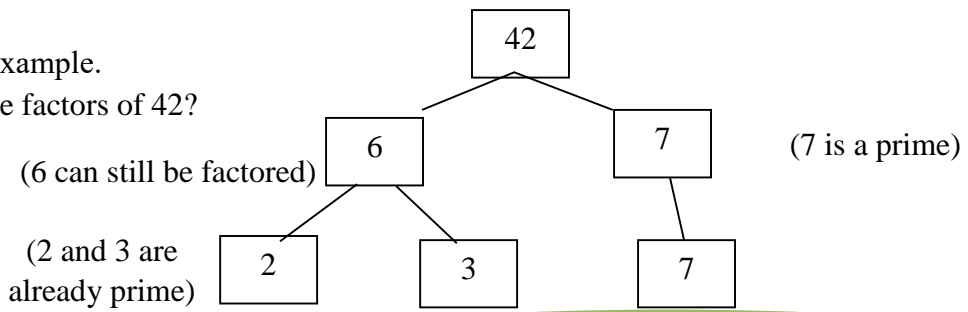
(2 and 3 are already prime)   2   3   7

So, 42 = 2 x 3 x 7. We say that 2, 3 and 7 are the prime factors of 42. Therefore, 42 is the product of its prime factors 2 x 3 x 7.

What's New (Tuklasin
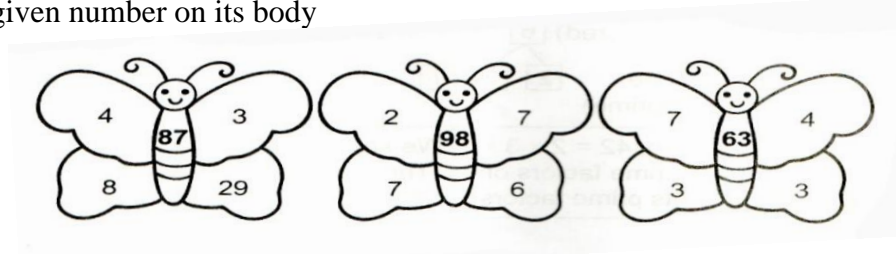
A. Write the prime factors for the following numbers.

1. 30 _____   4. 60 _____
2. 6 _____   5. 63 _____
3. 21 _____   6. 15 _____

B. Copy the exercise below on your paper. Color the wings of the butterflies with the prime factors of the given number on its body

ACTIVITY 2: Find GCF

Arvin's father has two pieces of wood that will be used for the house renovation. One is 15 meters long and the other is 21 meters long. He plans to cut both into smaller pieces of equal length without wasting any part of the wood. How long should each of these smaller pieces be?

15 meters

21 meters

We can help Arvin's father by looking for the GCF.

To find the GCF, we can list all the factors of 15 and 21 first.

factors of 15 ⟶ 1, 3, 5, 15
factors of 21 ⟶ 1, 3, 7, 21

The **greatest common factor** or GCF of 15 and 21 is 3.

So, Arvin's father will cut both pieces of wood into shorter pieces that are 3 meters long each, so that no part of the wood is wasted.

The method we just used is called the **Listing Method**. Let's find out the two other ways to find the GCF of a number.

A. Find the GCF of the following pairs of numbers using Listing Method. Write the answer on your paper.
1. 10 _____   GCF _____
    15 _____
2. 12 _____   GCF _____
    16 _____
3. 20 _____   GCF _____
    24 _____

B. Choose the Greatest Common Factor of the given pairs of numbers from the parenthesis.
1. 6, 9   (2 3 4)   3. 20, 30   (5 10 15)
2. 12, 16   (4 6 8)   4. 24, 32   (8 12 18)

ACTIVITY 3:   Find the least common multiple

Carina baked *puto.* She want to pack them in boxes of 8 and 12 pieces. What is the smallest number of pieces of *puto* that she can pack using the boxes?

To solve the problem, you need to find the least common multiple or LCM of 8 and 12.

Here's how you do it.
➢ By listing Method
  Write the multiples of 8:   8,16,24,32,40,48,…
  Write the multiples of 12   12,24,36,48,60,…
  Common Multiples: 24,48
  Least Common Multiple (LCM):   24

➢ By Prime Factorization
  8 = 2x2x2
  12= 2x2x3
  LCM: 2x2x2x3=24

➢ By Continous Division
  2 | 8   12
  2 | 4   6
  3 | 2   3
  2 | 2   1
    | 1
  LCM=2x2x3x2=24

- Notice that 24 is the least common multiple or LCM of 8 and 12. Therefore, the smallest number of pieces of *puto* that can be packed using the boxes is 24.
- You do not include 0 when dealing with common multiples.

A. Find the common multiples and least common multiple (LCM) of each pair of numbers. Some of the multiples are already given.

1. 2   (0,2,4,6,8,10,12,14,16,18,20,…)
    4   (0,4,8,12,16,20,24,28,32,36,40,…)
    Common multiples: _____
    Least Common Multiple (LCM): _____

2. 6   (0,6,12,18,24,30,36,42,48,54,60,…)
    8   (0,8,16,24,32,40,48,56,64,72,80,…)
    Common multiples: _____
    Least Common Multiple (LCM): _____

What is It (Suriin)

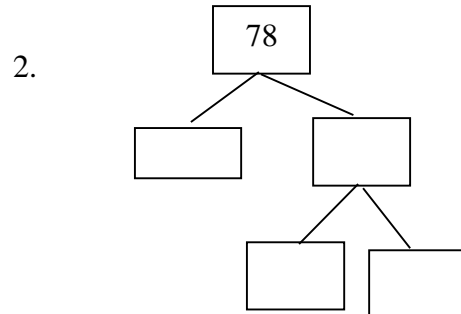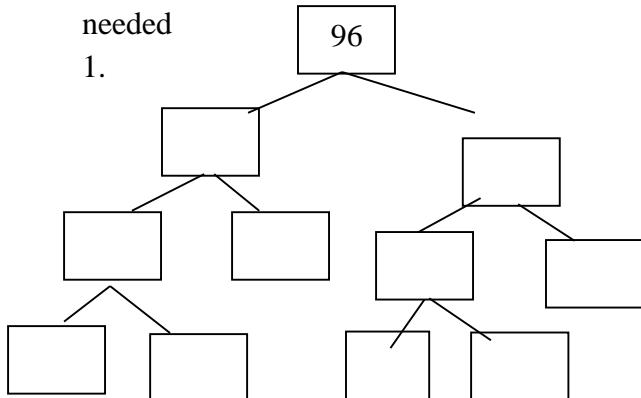B. Circle the letter of the correct answer.
    1. A common multiple of 6 and 4 is
        a. 12   b. 6   c. 3   d. 2
    2. A common multiple of 4 and 20 is
        a. 3   b. 4   c. 8   d. 20
    3. The LCM of 15 and 9 is
        a. 135   b. 45   c. 15   d. 3

Post Assessment

A. Write the prime factors using the factor tree. Start with the two boxes. Then continue as needed

1.   96

2.   78

B. Write TRUE if the statement is correct and FALSE if it is incorrect.
_____ 1. 7 is the GCF of 21 and 35.
_____ 2. 3 is the GCF of 42 and 45.
_____ 3. 5 is the GCF of 15 and 18.
_____ 4. 9 is the GCF of 36 and 45.

_____ 5. 13 is the GCF of 39 and 91.

C. Complete the table below. Find the LCM. Write your solutions inside the box.

Method	LCM of 8 and 12	LCM of 56 and 40	LCM of 30 and 45
Listing Method			
Prime Factorization			
Continuous Division			

A. Write prime factors

1. 30 = 2x3x

2. 6 = 2x3

3. 21 = 3x7

4. 60 = 2x2x3x5

5. 63 = 3x3x7

6. 15 = 3x5

B. Color the wings

A. Find the GCF

1. 10 - 1, 2, 5, 10   GCF-5
   15 – 1, 3, 5, 15
2. 12 – 1, 2, 3, 4, 5, 6, 12   GCF-4
   16 – 1, 2, 4, 8, 16
3. 20 – 1,2,4,5,10,20   GCF -4
   24 - 1,2,3,4,6,8,12,24

B. Choose the Greatest Common Factor of the given pairs of numbers from the parenthesis.
1. 3   2. 4   3. 10   4. 8

A. Find the common multiple and least common multiple.

1. Common Multiple -4,8,12,16, 20   2. Common Multiple – 24,48
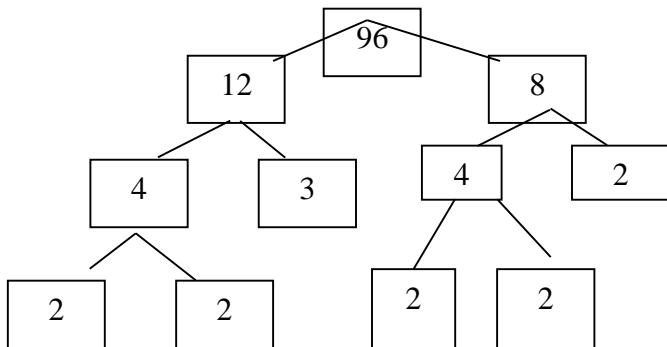   Least Common multiple- 4   Least Common multiple - 24

B.Circle the letter of the correct answer
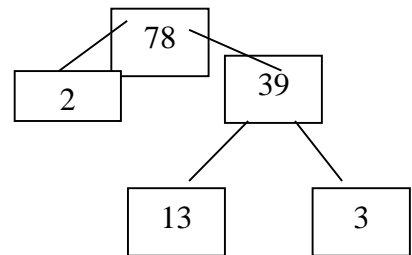   1. a   2. d   3.B

A. Write the prime factors using the factor tree. Start with the two boxes. Then continue as needed.

1.

```
                    96
         12                   8
      4      3            4        2
   2     2            2      2
```

2.

```
              78
        2          39
               13      3
```

A. Write True or False

1. True
2. True
3. False
4. True
5. True

Least Common multiple-

Method	LCM of 8 and 12	LCM of 56 and 40	LCM of 30 and 45
Listing Method	8= 8,16,24 12= 12,24	56= 56,112,168,224,280 40= 40,80,120,160,200,240,280	30= 30,60,90 45= 45,90
Prime Factorization	8= 2x2x2 12= 2x2x3 LCM: 2X2X2X3= 24	56= 2x2x2x7 40= 2x2x2x5 LCM: 2X2X2X5X7=280	30= 2X3X5 45= 3X3X5 LCM: 2X3X3X5=90

Continuous Division	2 8 12
	 2 4 6
	 2 2 3
	 3 1 3
	     1
		2 56 40
		 2 28 40
		 2 14 10
		 5 7 5
		 7 7 1
		    1
			3 30 45
			 5 10 15
			 2 2 3
			 3 1 3
			    1