



MATH NEWS



LAFAYETTE
PARISH SCHOOL SYSTEM

Grade 6, Module 2, Topic D

6th Grade Math

Module 2: Arithmetic Operations Including Division of Fractions

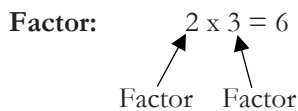
Math Parent Letter

This document is created to give parents and students a better understanding of the math concepts found in Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material which is taught in the classroom. Module 2 of Eureka Math (Engage New York), students complete their understanding of the four operations with positive rational numbers, thereby preparing students for understanding, locating, and ordering negative rational numbers.



Focus Area Topic D:

Words to Know:



Multiples: Multiples of 6: 6, 12, 18, 24, 30...
Multiples of 7: 7, 14, 21, 28, 32...

Greatest Common Factor (GCF): The greatest of the common factors of two or more numbers.

Least Common Multiple (LCM): The least of the common multiples of two or more numbers. The least common multiple of 2 and 3 is 6.

Focus Area Topic D:

Divisibility Rules

Students use these rules to make determining if a larger number is divisible by 2, 3, 4, 5, 8, 9, or 10 easier.

Divisibility Rule for 2: If and only if its last digit is even.

Divisibility Rule for 3: If the sum of the digits is divisible by 3, then the number is divisible by 3.

Divisibility Rule for 4: If and only if its last two digits are a number divisible by 4.

Divisibility Rule for 5: If and only if its last digit is 0 or 5.

Divisibility Rule for 8: If and only if the last three digits are a number divisible by 8.

Divisibility Rule for 9: If the sum of the digits is divisible by 9, then the number is divisible by 9.

Divisibility Rule for 10: If and only if its last digit is 0.

Focus Area Topic D:

Greatest Common Factor

Example Problems and Answers

GCF 30 and 50

Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30 Factors of 50: 1, 2, 5, 10, 25, 50

Common Factors: 1, 2, 5, 10 Greatest Common Factor: 10

There are 18 girls and 24 boys who want to participate in Trivia Challenge. If each team must have the same number of girls and boys, what is the greatest number of teams that can enter? How many boys and girls will be on each team?

Students recognize that they need to find the greatest common factor of 18 and 24.

The factors of 18 are: 1, 2, 3, 6, 9

The factors of 24 are: 1, 2, 3, 4, 6, 8, 12

The greatest common factor of 18 and 24 is 6; therefore the greatest number of teams that can enter is 6. Each team will have 3 girls and 4 boys.



Focus Area Topic D:

Least Common Multiple



Example Problem and Answer

What is the Least Common Multiple of 9 and 12?

Multiples of 9: 9, 18, 27, 36 Multiples of 12: 12, 24, 36

Least Common Multiple is 36.

Problem Solving:

1. Hot dogs come paked 10 in a package. Hot dog buns come paked 8 in a package. If we want one hot dog for each bun for a picnic, with none left over, what is the least amount of each we need to buy?

Multiples of 10 : 10, 20, 30, 40, 50,

Multiples of 8 : 8, 16, 24, 32, 40, 48

The least common multiple of 10 and 8 is 40

The least amount we can buy is:

4 packages of hot dogs = 40 hotdogs

5 packages of buns = 40 buns

2. The sixth grade class is creating group to help with the planning of their upcoming Valentine's Day Dance. There are 42 boys and 72 girls in the class. They want each group to have the same number of boys as girls. What is the greatest number of teams that can be formed? How many boys and how many girls will be in each group?

The greatest common factor:

If we want the greatest number of boys and the greatest number of girls in each group we need to find the greatest common factor of 42 and 72

Factors of 42: 1, 2, 3, 6, 7, 14, 21

Factors of 72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

The greatest common factor of 42 and 72 is 6.

The greatest number of groups that can be formed is six. Each group will have 7 boys and 12 girls.

Focus Area Topic D:

Euclidean Algorithm

Students learn that using Euclid's Algorithm is a more efficient means to finding the greatest common factor of larger numbers. This method is based on long division which students experienced in Topic C.

Euclid's Algorithm is used to find the greatest common factor (GCF) of two whole numbers

- 1.) Divide the larger of the two number by the smaller one
- 2.) If there is a remainder, divide it into the divisor
- 3.) Continue dividing the last divisor by the last remainder until the remainder is zero.
- 4.) The final divisor is the GCF of the original pair of numbers.

Applying Euclid's Algorithm to a problem.

What is the GCF of 30 and 50? 10

$$\begin{array}{r} 1 \\ 30 \overline{)50} \\ \underline{-30} \\ 20 \end{array} \quad \begin{array}{r} 1 \\ 20 \overline{)30} \\ \underline{-20} \\ 10 \end{array} \quad \begin{array}{r} 2 \\ 10 \overline{)20} \\ \underline{-20} \\ 0 \end{array}$$

When the remainder is zero, the final divisor is the GCF. The GCF is 10.

Euclid's Algorithm is named after a famous Greek mathematician. In its simplest form, Euclid's algorithm starts with a pair of positive integers, and forms a new pair that consists of the smaller number and the difference between the larger and smaller numbers. The process repeats until the numbers in the pair are equal. That number then is the greatest common divisor of the original pair of integers.

