Lesson 1.2 – Greatest Common Factor (GCF)

**Prior Knowledge: Prime factorization**

**Prime or composite**

**1.) 83 2.) 76**

**Prime factorization of…**

**3.) 78 4.) What number represented by x 3?**

**Standard: N.S. 2.4 –** Determine the least common multiple and the greatest common divisor of the whole numbers.

**Objective:** Students will be able to distinguish the difference between common factor, greatest common factors, and greatest common divisors. Students will be able to calculate the GCF and GCD.

**Vocabulary:**

1. **Common Factor** – A whole number that is a factor of two or more nonzero whole numbers.
2. **Greatest Common Factor (GCF) –** The greatest number that is a common factor of two or more numbers.
3. **Greatest Common Divisor (GCD) –** A synonym for greatest common factor.

Common Factor

Greatest Common Divisor

Greatest Common Factor

**Different**:

1.)

**SAME**:

1.)

2.)

**Option 1:** List of Divisors

**GCD of 28, 42, & 70**

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| Step 1: Write the divisors of each number.  Step 2: Find the number that ALL THREE numbers share.  28: \_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, & \_\_\_\_\_\_ (6 Factors)  42: \_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, & \_\_\_\_\_\_ (8 Factors)  70: \_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, & \_\_\_\_\_\_ (8 Factors) |

**Guided Practice – *Factor List***

**Find the GCF (GCD)**

1.) 14, 21 2.) 20, 55, 65

**Option 2:** Using Prime Factorization to FIND GCF (GCD)

**Find the GCF of 28, 45**

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| Step 1: Create a factor tree for BOTH numbers and find the  prime numbers.  Step 2: Make a list of all prime factors.  Step 3: Find the common factors.  Step 4: Multiply them together.  Step 5: The product is the GCF (GCD) |

**Guided Practice – *Factor Tree***

**Find the GCF (GCD)**

1.) 11, 33 2.) 18, 60

**CFU – Whiteboards**

**Find the GCF (GCD)**

1.) 39, 52 2.) 42, 72, 84

3.) 36, 168 4.) 63, 84, 126