

Name: _____

Period: _____

Date: _____

Math Unit 1: Numerical Expressions and Factors**Lesson 1.5- Greatest Common Factor****SWBAT:****Paraphrase:****Essential Question:** How can you find the greatest common factor of two numbers?

Example 1

Find the GCF of 24 and 40.

List the factors of each number.

Factors of 24: ①, ②, 3, ④, 6, ⑧, 12, 24

Circle the common factors.

Factors of 40: ①, ②, ④, 5, ⑧, 10, 20, 40

The common factors of 24 and 40 are 1, 2, 4, and 8. The greatest of these common factors is 8.

❖ So, the GCF of 24 and 40 is 8.

Your Turn

Find the GCF of the numbers using lists of factors.

1. 8, 36

2. 18, 72

3. 14, 28, 49

Example 2


Ladder Method: Find the GCF of 12 and 56.

$$\begin{array}{r}
 2 \overline{) 12 \quad 56} \\
 \underline{2 \quad 6 \quad 28} \\
 3 \quad 14
 \end{array}$$

$$\begin{array}{r}
 2 \overline{) 12 \quad 56} \\
 \underline{2 \quad 6 \quad 28} \\
 3 \quad 14
 \end{array}$$

$$2 \cdot 2 = 4$$

$$\underline{\underline{GCF = 4}}$$

Your Turn	<p>Use the Ladder Method to find the GCF of:</p> <p>4. 12 and 18</p> <p>5. 24 and 36</p>
Example 3	 <p>You are filling piñatas for your sister's birthday party. The list shows the gifts you are putting into the piñatas. You want identical groups of gifts in each piñata with no gifts left over. What is the greatest number of piñatas you can make?</p> <p>The GCF of the numbers of gifts represents the greatest number of identical groups of gifts you can make with no gifts left over. So, to find the number of piñatas, find the GCF.</p> <p> $18 = 1, 2, 3, \textcircled{6}, 9, 18$ The GCF of 18, 24, and 42 is 6. $24 = 1, 2, 3, 4, \textcircled{6}, 8, 12, 24$ \therefore So, you can make at most 6 piñatas. $42 = 1, 2, 3, \textcircled{6}, 7, 14, 21, 42$ </p>
Your Turn	<p>You are arranging your collection of DVDs into stacks. You have 16 drama, 32 action, and 40 comedy DVDs. You want all of the stacks to be the same height. What is the greatest number of DVDs you can have in a stack to make them the same height, without any leftover?</p>
Notes / Questions	