

M9

REVIEW III

Factoring Numbers

A factor is a whole number that divides another whole number without leaving a remainder.

A prime factor is a prime number that divides another whole number without leaving a remainder.

- Every counting number greater than one has at least two factors: 1 and itself

A prime number is a number that has exactly two factors – 1 and itself.

Examples:

A composite number is a number greater than 1 that has more than two factors.

Example of composite numbers:

Recall: number 1 and number 0 are neither prime nor they are composite!

Task: List all the factors of each number:

36	56	28

Prime Factorization – Writing Prime Factorization Tree

- Remember to always start with the smallest prime number and if it does not work, use the prime number that follows. Do not skip primes when writing prime factorization tree. Always try if the prime works before moving onto the next prime.

Task: Write a prime factorization tree for each number. Then use the tree to write the prime factorization statement.

120	28
8	45

GCF – greatest common factor
“Noodle Method”

To find the greatest common factor of two or more numbers is to find the largest number that divides both or all given numbers.

Steps:

1. Write a prime factorization tree for each given number.
2. Write the prime factorization for each given number.
3. Circle factors that appear in both (or all) lists.
4. Find the product of these factors.
5. State the final answer.

Example: What is the greatest common factor of 28 and 98? Show all your work.

Practice: Find the GCF for each pair of numbers. Show all your work.

18, 24

35, 120

45, 189

26, 51

