





# Notes and Examples

Name: \_\_\_\_\_

*Finding **ALL** Factors of a number*  
*Finding Prime Factors of a number*

Math 6  
Period \_\_\_\_\_

Sometimes we want to find the secret 'factor prints' of a composite number. This is called **Prime Factorization**. These are the prime factor's of a number.

Examples:

$$6 = 2 \quad \times \quad 3 \quad \underline{\hspace{1cm}} \text{ and } \underline{\hspace{1cm}} \text{ are both prime numbers}$$

$$15 = \underline{\hspace{1cm}} \quad \times \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \text{ and } \underline{\hspace{1cm}} \text{ are both prime numbers}$$

$$21 = \underline{\hspace{1cm}} \quad \times \quad \underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \text{ and } \underline{\hspace{1cm}} \text{ are both prime numbers}$$

Tricky: Some composite numbers need more than 2 prime numbers to multiply together.

$$\text{Try } 12 = \underline{\hspace{1cm}} \quad \times \quad \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

$\underline{\hspace{1cm}}$ ,  $\underline{\hspace{1cm}}$  and  $\underline{\hspace{1cm}}$  are ALL prime numbers

$$\text{and } \underline{\hspace{1cm}} \quad \times \quad \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = 12$$

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We can use a factor tree to find the prime factors of a target number and write it as a multiplication problem.

15

24

40

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