

1.1 Prime Factorization to find GCF and LCM

Objective: To find the Greatest Common Factor (GCF) and Least Common Multiple (LCM) of two numbers



Prime Factorization

Step 1: Write the **prime factorization** for each number

Step 2: Circle the factors that the **numbers share**

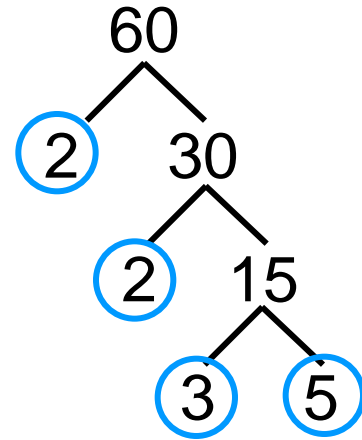
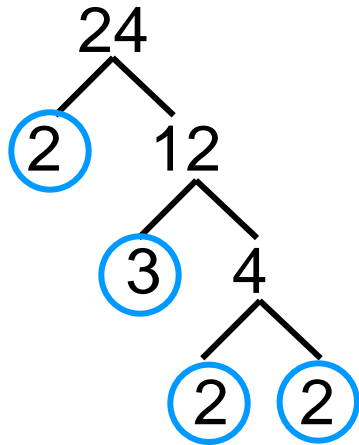
To find the **GCF**, multiply the **numbers that you circled (shared)**

To find the **LCM**, multiply all the factors in the list (if circled, include only once)



Example

1) Find the **LCM** and **GCF** of 24 and 60



$$24: 2 \times 2 \times 2 \times 3$$

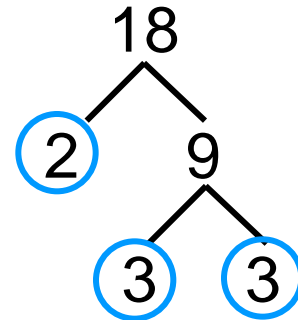
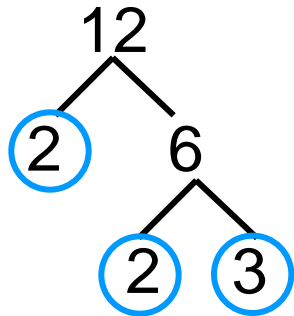
$$60: 2 \times 2 \times 3 \times 5$$

$$\text{LCM: } 2 \times 2 \times 2 \times 3 \times 5 = 120$$

$$\text{GCF: } 2 \times 2 \times 3 = 12$$

Example

2) Find the **LCM** of 12 and 18



$$12: 2 \times 2 \times 3$$
$$18: 2 \times 3 \times 3$$

$$\text{LCM: } 2 \times 2 \times 3 \times 3 = 36$$

$$\text{GCF: } 2 \times 3 = 6$$