

## Factors

- a whole number that multiplies with another number to make a product.
  - Written in pairs
- Factor Pairs

- There are a limited number of factors (finite)  $\rightarrow$  limited
- Factors are always less than or equal to the given number  
Ex  $\rightarrow$  Factors of 10  
 $1 \times 10, 2 \times 5$

Think: Factors are Few

## Greatest Common Factor (GCF)

- Largest factor that 2 or more numbers have in common

## Multiples

- The number made by multiplying two whole numbers
- Also called a product
- Can be found by skip counting

5, 10, 15, 20...  
 $5 \times 1, 5 \times 2, 5 \times 3, 5 \times 4$

- There are an unlimited amount of multiples (infinite)  $\rightarrow$  unlimited
- Multiples are always greater than or equal to the given number  
Ex  $\rightarrow$  Multiples of 10  
10, 20, 30, 40...

Think: Multiples are Many

## Least Common Multiple (LCM)

- the smallest multiple that 2 or more numbers have in common

## Examples

① Find the GCF of 36 and 48

- Find the factors of each number

$$\begin{array}{r} \underline{36} \\ 1 \times 36 \\ 2 \times 18 \\ 3 \times 12 \\ 4 \times 9 \\ 6 \times 6 \end{array}$$

$$\begin{array}{r} \underline{48} \\ 1 \times 48 \\ 2 \times 24 \\ 3 \times 16 \\ 4 \times 12 \\ 6 \times 8 \end{array}$$

Common:

1, 2, 3, 4, 6, 12

$$\boxed{\text{GCF} = 12}$$

② Find the GCF of 20, 32, and 36.

$$\begin{array}{r} \underline{20} \\ 1 \times 20 \\ 2 \times 10 \\ 4 \times 5 \end{array}$$

$$\begin{array}{r} \underline{32} \\ 1 \times 32 \\ 2 \times 16 \\ 4 \times 8 \end{array}$$

$$\begin{array}{r} \underline{36} \\ 1 \times 36 \\ 2 \times 18 \\ 3 \times 12 \\ 4 \times 9 \\ 6 \times 6 \end{array}$$

$$\boxed{\text{GCF} = 4}$$

③ Find the LCM of 3 and 8

3 - 3, 6, 9, 12, 15, 18, 21, 24

8 - 8, 16, 24

$$\boxed{\text{LCM} = 24}$$

④ LCM of 3, 5, 6

3 - 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

5 - 5, 10, 15, 20, 25, 30

6 - 6, 12, 18, 24, 30

$$\boxed{\text{LCM} = 30}$$