

Factors and Multiples

Definitions

- **Factor:** A factor of a number is a whole number that divides it exactly (without a remainder).
- **Example:** Factors of 12 are 1, 2, 3, 4, 6, and 12 because these numbers divide 12 exactly.
- **Multiple:** A multiple of a number is the product of that number and any whole number.
- **Example:** Multiples of 5 are 5, 10, 15, 20, 25, ... (infinite sequence).
- **Common Factors:** Numbers that are factors of two or more given numbers.
- **Example:** Common factors of 8 and 12 are 1, 2, and 4.
- **Common Multiples:** Numbers that are multiples of two or more given numbers.
- **Example:** Common multiples of 3 and 4 are 12, 24, 36,
- **Highest Common Factor (HCF):** The largest factor common to two or more numbers.
- **Example:** HCF of 18 and 24 is 6.
- **Lowest Common Multiple (LCM):** The smallest multiple common to two or more numbers.
- **Example:** LCM of 4 and 6 is 12.

Factors and Multiples

Finding Factors

- List all the factors of: a) 16
b) 20 c) 36 d) 45
- Find the common factors of:
a) 12 and 18 b) 24 and 30

Finding Multiples

- List the first five multiples of:
a) 7 b) 9 c) 12
- Find three common multiples of:
a) 4 and 6 b) 5 and 8

HCF and LCM

- Find the HCF of the following pairs of numbers:
a) 15 and 25 b) 18 and 27 c) 21 and 35
- Find the LCM of the following pairs of numbers:
a) 6 and 9 b) 8 and 12 c) 10 and 15

Word Problems

- Two friends go jogging together. One takes 12 minutes for a lap, and the other takes 16 minutes. After how many minutes will they meet again at the starting point? (Find LCM of 12 and 16)