Guide to:
Factors, multiples and primes

maths Links

Explanation:

A **factor** of a number divides into it exactly with no remainder. Always find factors in **factor pairs** starting from 1 × *n* so you never miss one. A **multiple** is a number in its times table (e.g. multiples of 6 are 6, 12, 18, 24, …).

A **prime number** has **exactly two factors**: 1 and itself. Remember that **1 is NOT prime** (it only has one factor) and **2 is the only even prime number**. The first ten primes are **2, 3, 5, 7, 11, 13, 17, 19, 23, 29**.

Example 1: List all the factors of **24**, and write down which of these factors are **prime numbers**.

Solution:

Find factor pairs systematically from 1 upwards:
• 1 × 24 = 24 • 2 × 12 = 24
• 3 × 8 = 24 • 4 × 6 = 24
Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24
Prime factors: 2 and 3 (1 is not prime)

Example 2: From the list **9, 15, 17, 24, 27, 32**, write down: (a) a prime number (b) a multiple of 8 (c) a factor of 45

Solution:

(a) **17** only divides by 1 and 17 → **17**
(b) 8 times table: 8, 16, 24, 32 → **24** (or **32**)
(c) 45 = 9 × 5 and 45 = 15 × 3 → **9** (or **15**)

Answers: (a) 17 (b) 24 or 32 (c) 9 or 15

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