Factors, multiples and primes

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

1. List all positive factors of 36. [3 marks]

Use pairs 1×36, 2×18, 3×12, 4×9, 6×6.

List each factor only once.

Answer: 1, 2, 3, 4, 6, 9, 12, 18, 36

2. Write the first four positive multiples of 9. [2 marks]

Calculate 9×1, 9×2, 9×3 and 9×4.

Answer: 9, 18, 27, 36

3. List the prime numbers strictly between 10 and 20. [2 marks]

Reject 12, 14, 16 and 18 because they are even.

Reject 15 because it is divisible by 3 and 5.

The remaining numbers have no factor besides 1 and themselves.

Answer: 11, 13, 17, 19

4. Find the highest common factor of 24 and 40. [2 marks]

Common factors are 1, 2, 4 and 8.

The greatest is 8.

Answer: 8

5. Find the lowest common multiple of 4 and 6. [2 marks]

Multiples of 4 begin 4, 8, 12.

Multiples of 6 begin 6, 12.

The smallest common positive multiple is 12.

Answer: 12

6. Thirty students form equal groups. Give every possible group size greater than 1 and less than 30 that leaves nobody out. [3 marks]

A possible group size must be a factor of 30.

The factors are 1, 2, 3, 5, 6, 10, 15, 30.

Exclude 1 and 30 as requested.

Answer: 2, 3, 5, 6, 10, 15