# Chapter 17

# Multiples & Factors

## Multiples

Find multiples of a number & the lowest common multiple of a set of numbers

When you multiply a whole number by 3 the answer is called a **multiple of 3**.

$3 \times 0 = 0$  $3 \times 1 = 3$  $3 \times 2 = 6$  $3 \times 3 = 9$  $3 \times 4 = 12$

So the multiples of 3 are :-  0, 3, 6, 9, 12, 15, 18, 21, 24 ...

## Exercise 1

1. Write down the first eight multiples of 5, starting with 0, 5, .....

2. Write down the first five multiples of 8, starting with 0, 8, .....

3. Write down the first ten multiples of 4, starting with 4, ...

   zero is called the trivial multiple and is generally ignored.

4. Write true or false for each statement :-

   a 27 is a multiple of 3
   b 42 is a multiple of 6
   c 54 is a multiple of 7
   d 105 is a multiple of 5
   e 9 is a multiple of 45
   f 121 is a multiple of 11
   g 70 is a multiple of 20
   h 120 is a multiple of 40.

5. Make a list of :-

   a the multiples of 3 between 23 and 37
   b the multiples of 5 between 19 and 66
   c the multiples of 6 between 29 and 49
   d the multiples of 9 between 44 and 89.

6. a Write down the first ten multiples of 3. {3, 6, ... }.
   b Write down the first ten multiples of 4. {4, 8, ... }.
   c Write down all the numbers which appear in both lists (multiples of 3 and of 4).
   d These are called the "**common multiples**" of 3 and 4.
   What is the smallest (the lowest) multiple they have in common ?
   This is called the **lowest common multiple** of 3 and 4, (or the **l.c.m.** of 3 and 4).

7. a Write down the first ten multiples of 5. {5, 10, ... }.
   b Write down the first ten multiples of 6. {6, 12, ... }.
   c Write down all the numbers which appear in both lists (multiples of 5 and of 6).
   d What is the **lowest common multiple** (or the **l.c.m.**) of 5 and 6 ?