**MATHEMATICS**

**SPACE, LINE, AND SHAPE – INTRODUCING GEOMETRY**

**INTRODUCTION**

Geometry is an important field of mathematics our whole world is made up of shapes, lines and spaces and these present so many interesting problems and challenges. We will learn how to use some of the rules and discoveries about shapes and lines to solve problems.

This module will deal with the following issues:

1. The language and symbols of geometry
2. Angles
   1. What makes an angle?
   2. Finding the address of an angle
   3. Types of angles
3. What’s in a “maths set”?
   1. The compass
   2. The protractor
   3. The other gadgets
4. Using mathematical instruments to construct special shapes.
   1. Perpendicular line
   2. Perpendicular bisector
   3. Bisecting an angle
   4. 600 angle
5. All about triangles
   1. Types of triangles according to sides
   2. Types of triangles according to angles
   3. Three important properties of triangles
   4. Similarity of triangles
   5. Congruent triangles
6. What happens around straight lines?
7. The amazing world of parallel lines
   1. What are parallel lines
   2. “Zoos for uncles”!

**LEARN THE LANGUAGE**

Mathematics uses particular words (**terms**) in special ways and if you do not master the terminology or “language” properly you will easily get lost or confused.

Mathematicians also like to use symbols as shortcuts in place of writing out words and it is very important to know each of these symbols and how to use them.

You also need to learn, and even memorise, certain **rules** (sometimes called **theorems**), because these are the basic tools you will use to solve problems. To find something that is not known you need at least two known pieces of information and a suitable tool e.g., 2 + 3 = x has tow pieces of information (2 and 3) and a tool (+, the symbol for “add together”). Using these you can easily find that the unknown quantity x must be 5 and can only be 5. In the same way if we have a triangle ABC and we know that angle A is 300 and angle B is 700 then we can use these two pieces of information and the “tool” (all angles in a triangle total 1800) to find unknown size of angle C (1800 – (700 + 300) = 800).

To sum up: Always look for two or more pieces of known information and a suitable tool to find an unknown! This module will provide you with a number of such tools.

Here are some of the important terms and symbols you must know

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| **Term** | **Symbol** | **Meaning** |
| Point |  |  |
| Ray |  |  |
| Line |  |  |
| Line segment |  |  |
| Degree |  |  |
| Angle |  |  |
| Triangle |  |  |
| Intersect |  |  |
| Bisect |  |  |
| Perpendicular |  |  |
| Adjacent |  |  |
| Opposite |  |  |
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