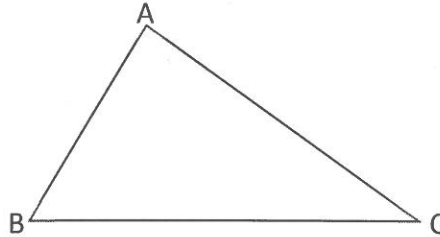
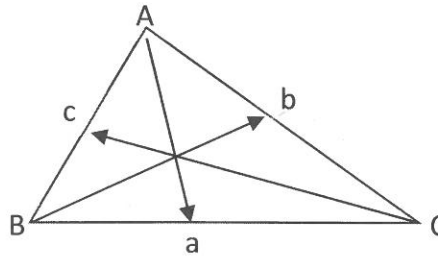


# Lesson One: Introduction to Triangles

A triangle is a three sided figure. Although it has three sides, it actually contains six parts: three sides and three angles. If we are to solve problems using triangles, we will need to understand a bit about the naming of the parts in a triangle.



The triangle above is called triangle **ABC**. The three angles are located at the vertices (singular: vertex) and are shown using capital letters. Each angle has a side that is opposite to it. The opposite side has the same name, but is shown using small letters, as below:



In this section of the course, we will be trying to find the length of a missing side (usually called “x”) or the size of a missing angle (often referred to using the Greek letter  $\theta$  – theta).

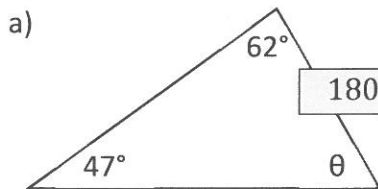
## Part A: The 180° Rule

The sum of the three angles in a triangle is always 180°

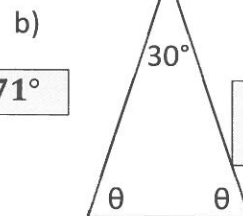
This means that if we know two of the angles in a triangle, we can easily find the size of the third angle (by subtracting the other two from 180°).

### Example 1

Calculate the size of angle  $\theta$  in each of the triangles below:



$$180^\circ - 62^\circ - 47^\circ = 71^\circ$$



$$180^\circ - 30^\circ = 150^\circ$$
$$150^\circ \div 2 = 75^\circ$$