

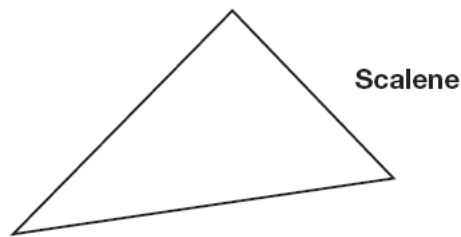
# Triangles

A triangle is a three sided polygon. It has three vertices, three sides and three vertices.

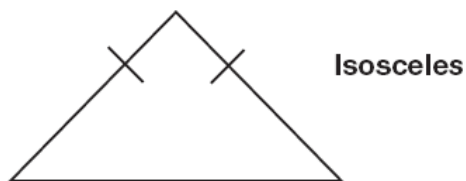
Triangles can be classified based on special characteristics of their sides or their angles

Based on the sides, there are three different types of triangles

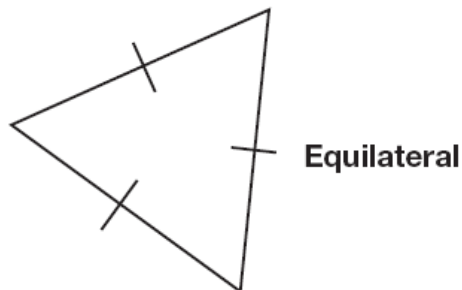
**Scalene Triangle:** no equal sides



**Isosceles Triangle:** two equal sides

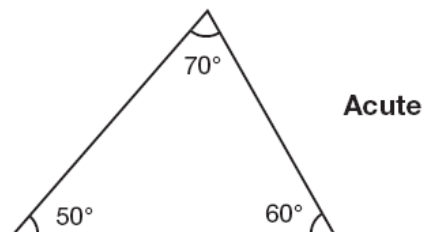


**Equilateral Triangle:** all equal sides

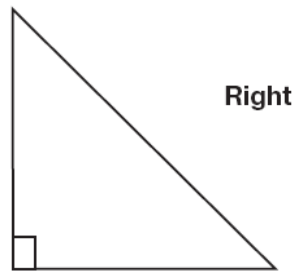


Based on the angles, there are three different types of triangles

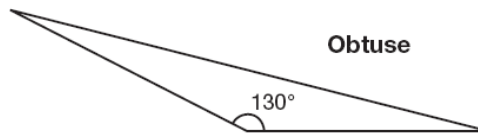
**Acute Triangle:** a triangle with every angle that measures less than  $90^\circ$



**Right Triangle:** a triangle with an angle that measures exactly  $90^\circ$

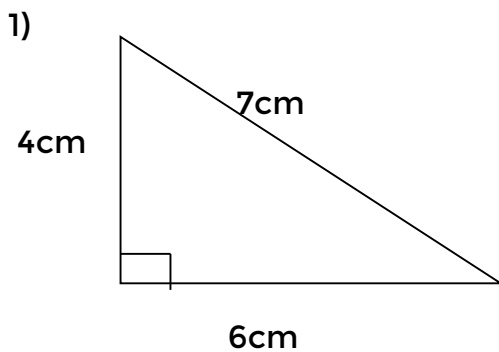


■ **Obtuse Triangle:** a triangle with an angle that measures greater than  $90^\circ$

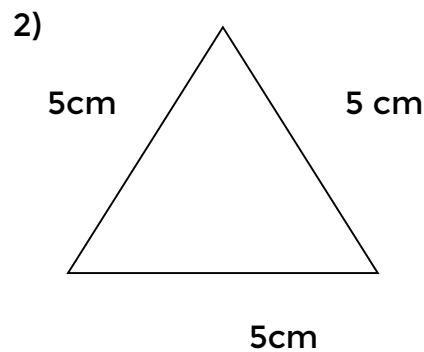


**Examples:**

**A- Classify each triangle by its angles and sides.**



**Right Angle Triangle,**  
**it had a  $90^\circ$  angle**



**Equilateral Triangle,**  
**it has all 3 sides equal**

**B- Tell if the following angles form a triangle.**

3)  $40^\circ, 60^\circ, 80^\circ$

$40^\circ + 60^\circ + 80^\circ = 180^\circ$

**The sum of angles is  $180^\circ$**   
**It is a triangle**

4)  $75^\circ, 85^\circ, 40^\circ$

$75^\circ + 85^\circ + 40^\circ = 200^\circ$

**The sum of angles is  $200^\circ$**   
**It is not a triangle**