

Hello. We are Zara H ~~XXXXXX~~, Felicity I ~~XXXXXX~~ and Siya K ~~XXXXXX~~ from NCLS and we will explain to you the properties of different triangles. After a while, we realised that the only equilateral triangle that exists is acute. This is because all angles must be equal, meaning that each of the angles is  $60^\circ$ . Each of these is acute.

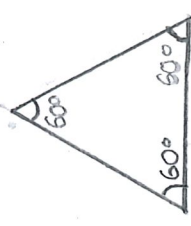
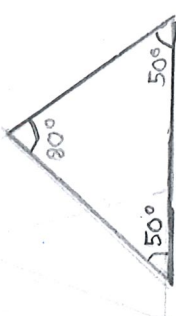

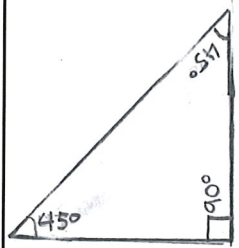
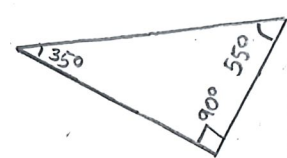
It is not possible for a right angle triangle to be obtuse. This is because any obtuse angle plus  $90^\circ$  (a right angle) will equal more than  $180^\circ$ . This is impossible because a triangle's interior angles always add up to  $180^\circ$ .

A scalene triangle can be right angled, obtuse or acute. This is because you can have any combination of angles that adds up to  $180^\circ$ . For example, an angle of  $100^\circ$  can be combined with an angle of  $35^\circ$  and another angle of  $45^\circ$ , creating a scalene triangle.

An isosceles triangle can also be acute, right angled and obtuse. Isosceles right angled triangles are always half the area of a square. For the same reasons above we know that an isosceles triangle can be acute, obtuse and right angled.

Thank you for reading our explanation and hope you learnt from it.

Felicity Lee  
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	Equilateral	Isosceles	Scalene
Acute			
Right (angled)	<p>Not possible</p>		
Obtuse	<p>Not possible</p>	