

Unit 11 – Part 1

Types of Triangles

Properties of Triangles

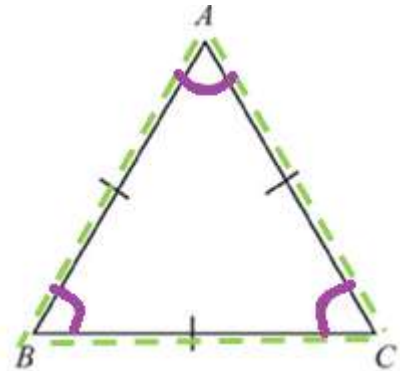
Equilateral Triangle

$AB = BC = AC$ (3 sides are equal in length)

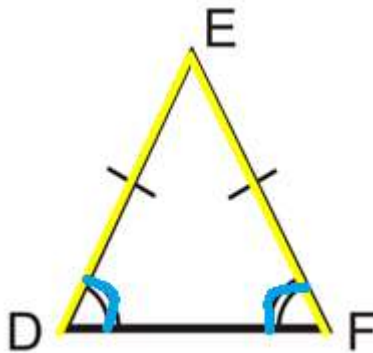
$\hat{A} = \hat{B} = \hat{C}$ (3 angles are equal)

Therefore:

If $AC = 5\text{cm}$ then AB and BC are also equal to 5cm



Isosceles Triangle



$DE = EF$ (2 sides are equal in length)

$\hat{D} = \hat{F}$ (base angles are equal)

Therefore:

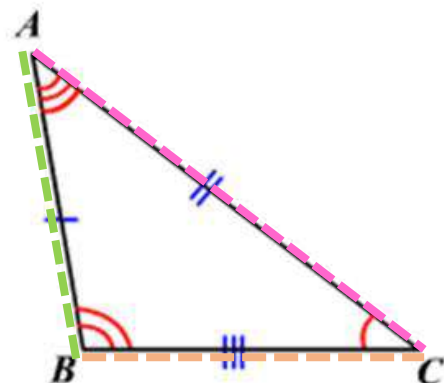
If $DE = 2\text{cm}$ then EF is also equal to 2cm

If $\hat{D} = 45^\circ$ then $\hat{F} = 45^\circ$

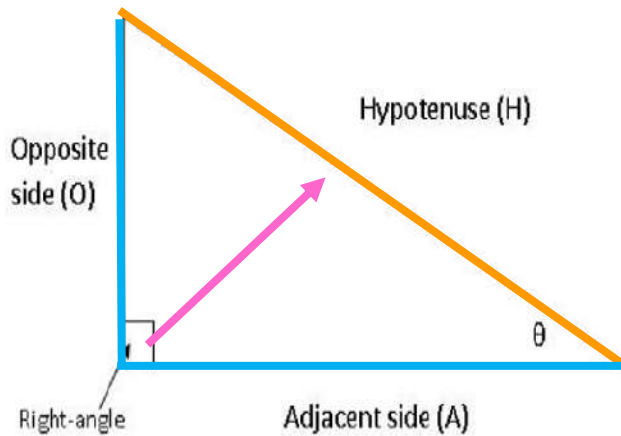
Scalene Triangle

There are no sides that have the same length

There are no angles that are equal



Right-Angled Triangle



The **hypotenuse** is always **diagonally across** from your right angle.

Remember your Pythagoras Theorem

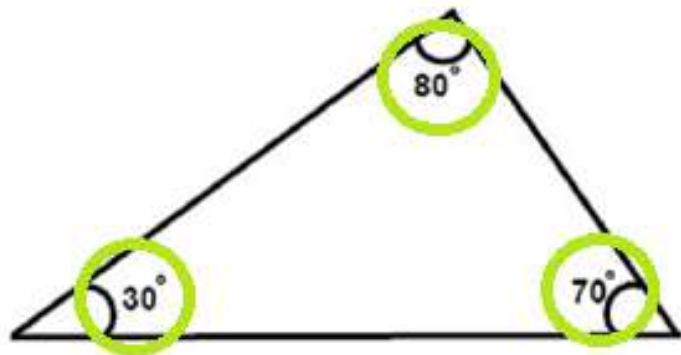
$$a^2 + b^2 = c^2$$
$$\text{side}^2 + \text{side}^2 = \text{hypotenuse}^2$$

Acute-Angled Triangle

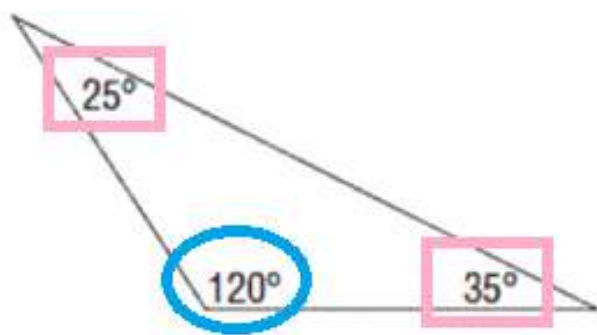
An acute angle is an angle that is smaller than 90° .

Therefore:

All three angles of the triangle has to be **smaller than 90°**



Obtuse-Angled Triangle



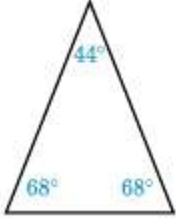
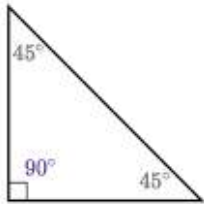
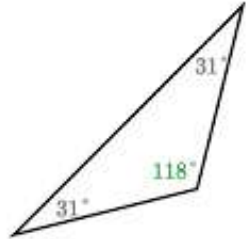
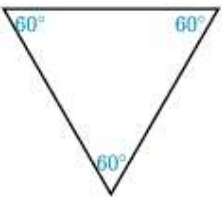
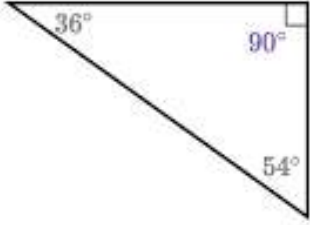
One angle is **bigger than 90°** but still **smaller than 180°** .

IMPORTANT

The other two angles can be any size however they will not be the same size otherwise it would be an isosceles triangle.

Exercise

Fill in the table below by stating the type of triangle given as well as the properties of the triangle.

Triangle	Type of Triangle	Properties of the Triangle
E.g. 	ISOSCELES	Base angles are both 68°
1. 		
2. 		
3. 		
4. 		
5. 