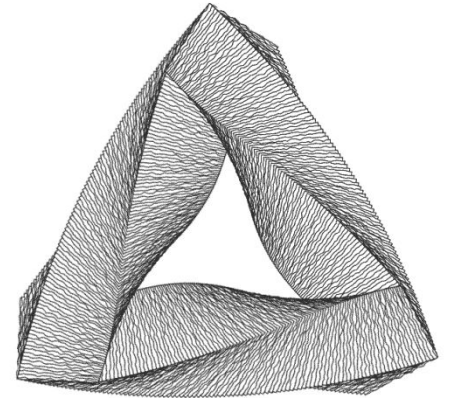
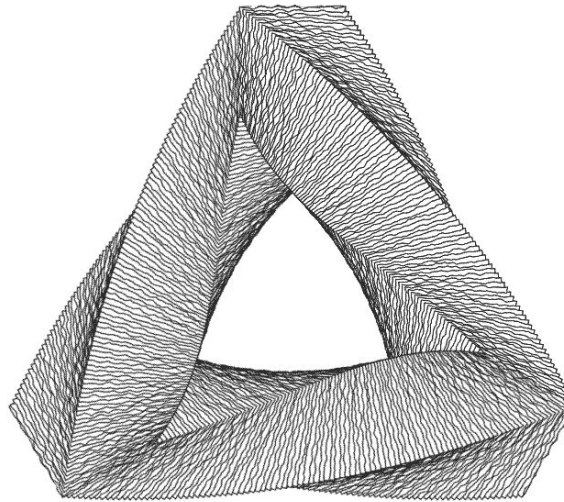
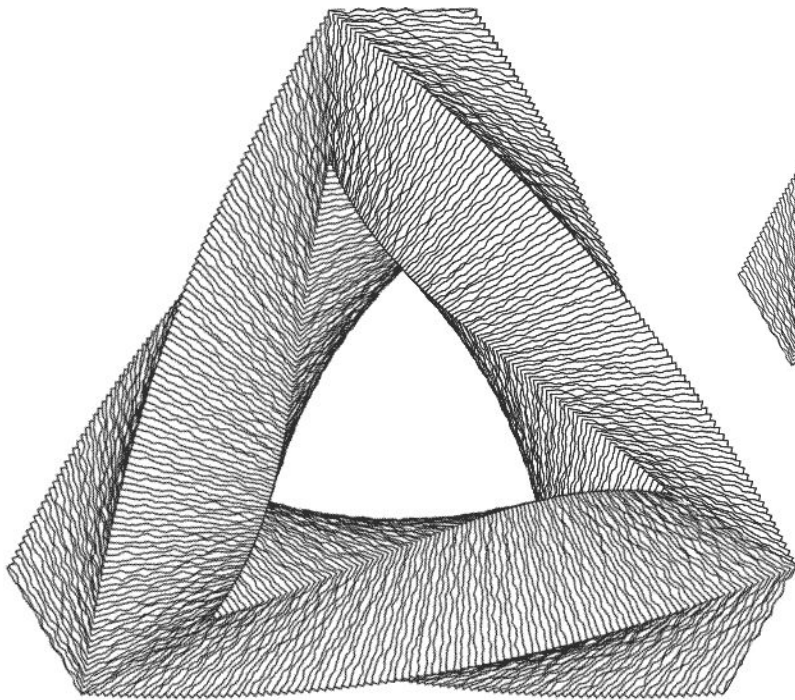


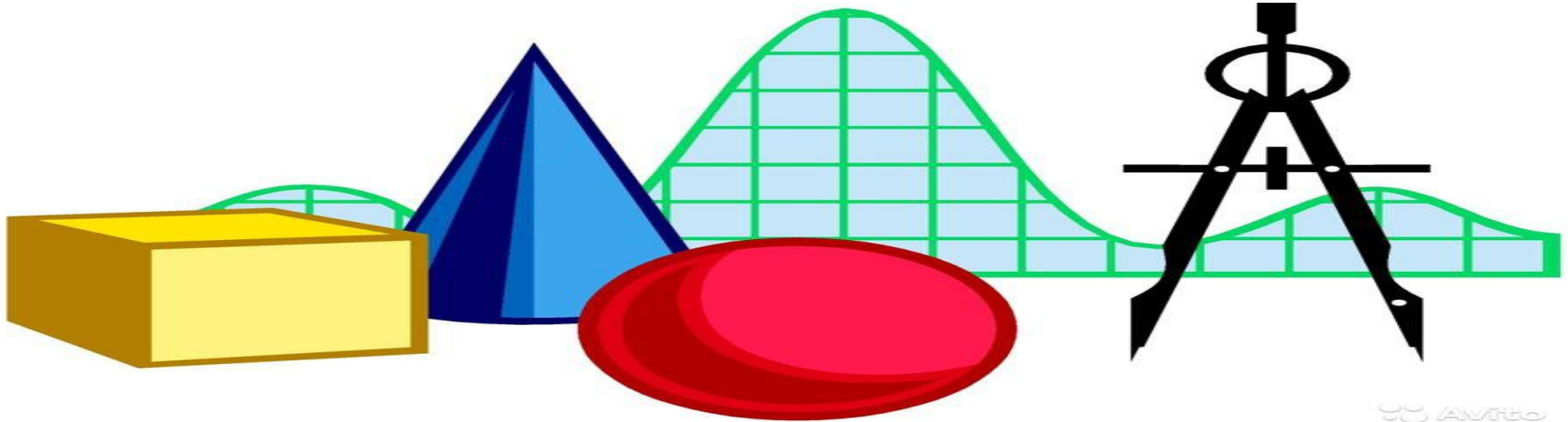
# TRIANGLE



*Kazmukasheva  
Gulim  
04401*

# *Purpose of the lesson:*

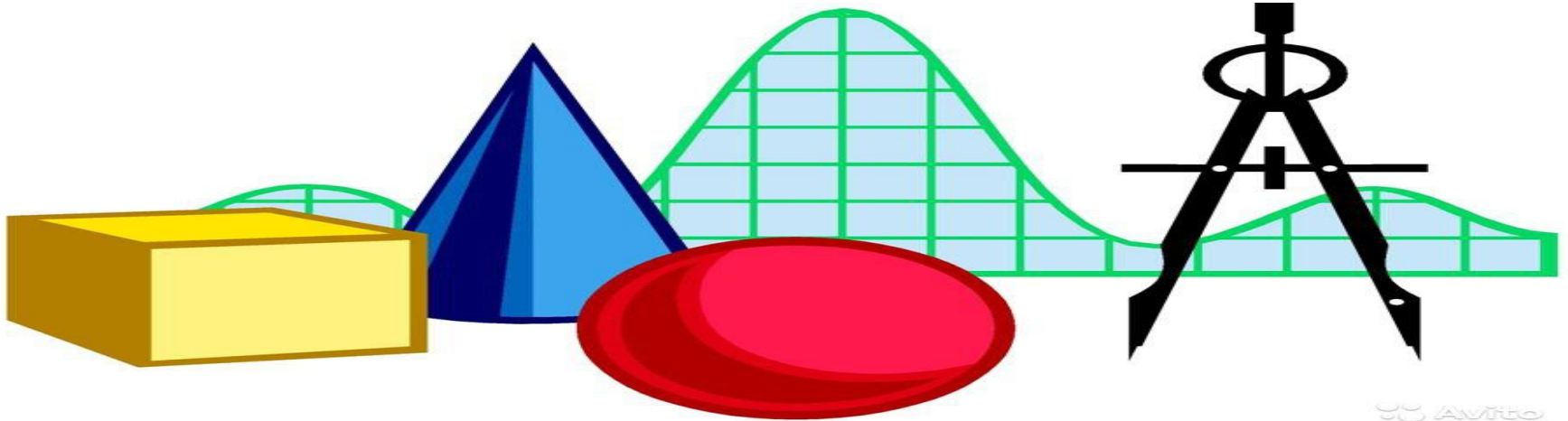
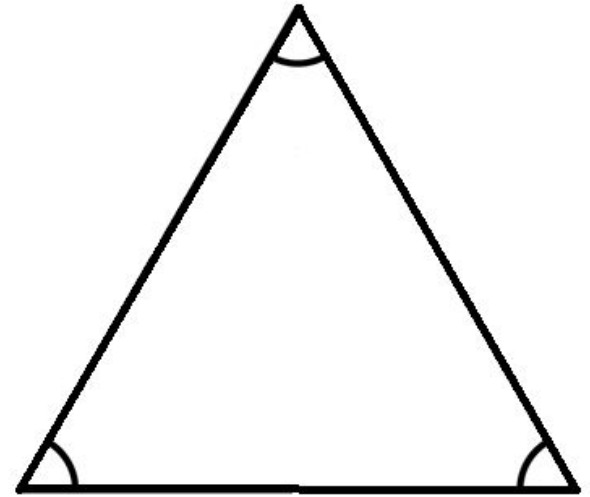
*An explanation of the new concepts for  
childrens.*

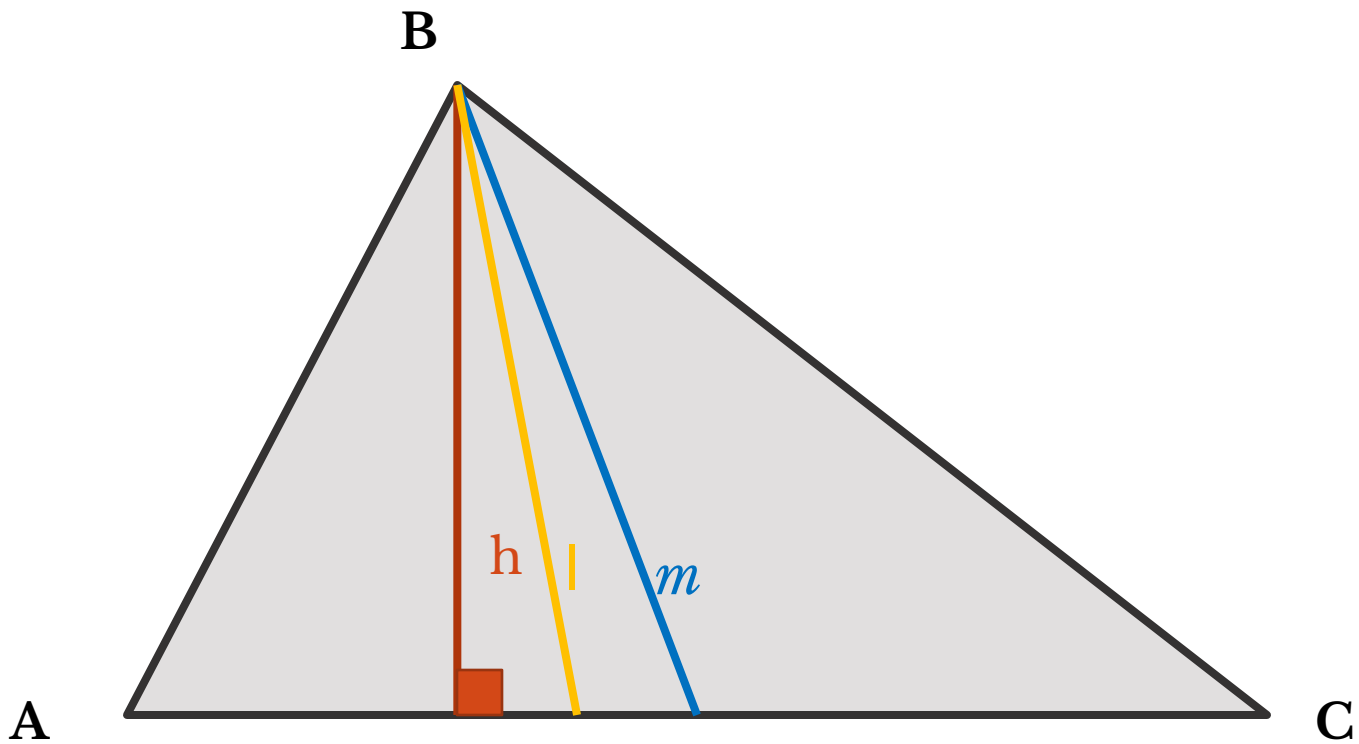


## Definition

*A triangle is a polygon with exactly three sides*

*Because it is a polygon, it follows that it also has three vertices and three angles.*



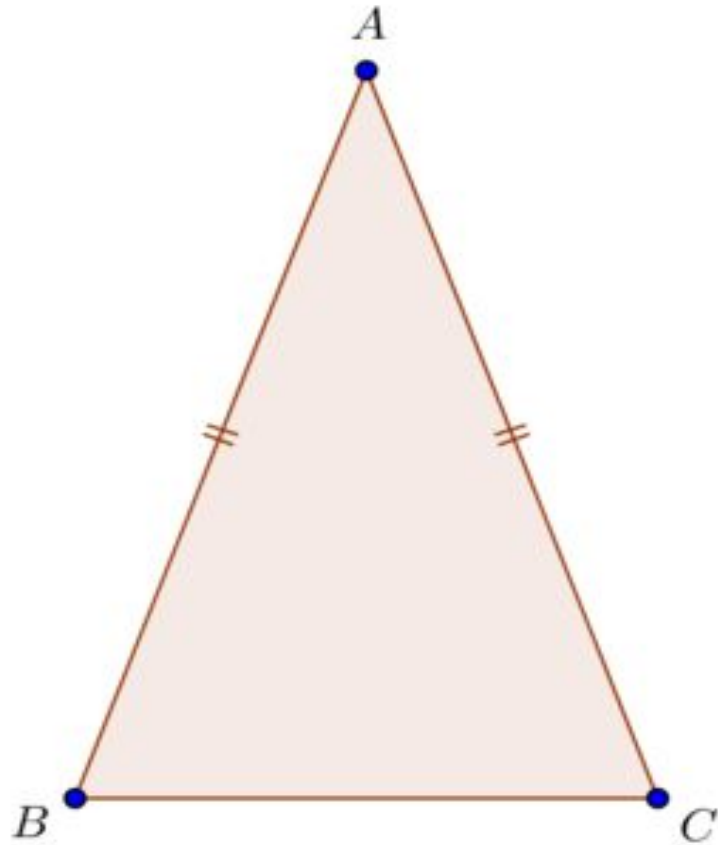


*h- height*  
*l- bisector*  
*m- median*

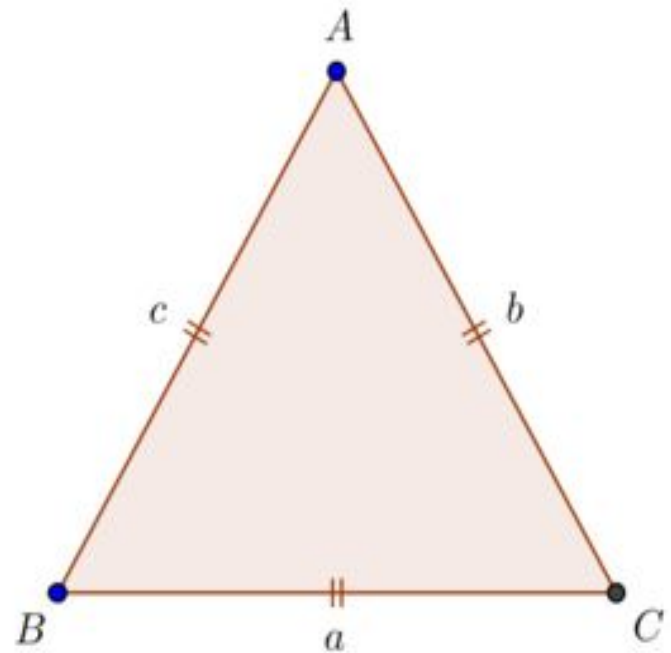


# Types of Triangle

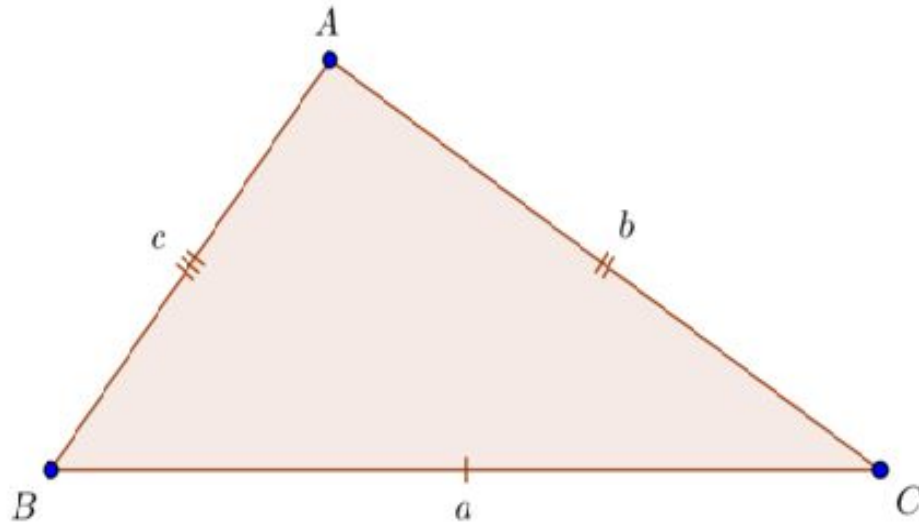
*An isosceles triangle is a triangle in which two sides are the same length.*



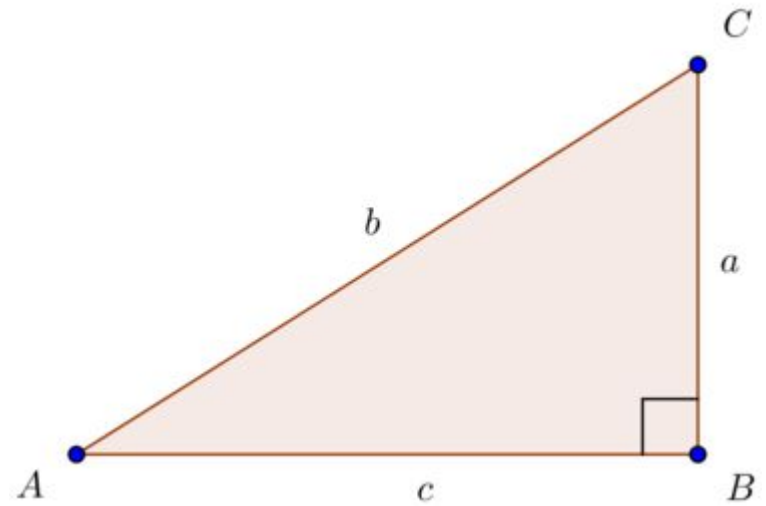
*An equilateral triangle is a triangle in which all three sides are the same length:*



*A scalene triangle is a triangle in which all three sides are of different lengths.*



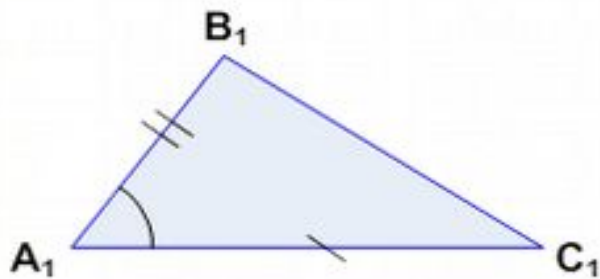
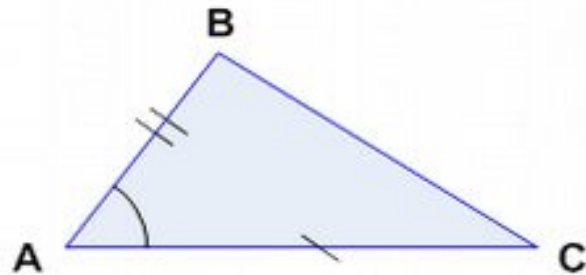
*A right-angled triangle is a triangle in which one of the vertices is a right angle.*





# EQUAL TRIANGLES

If 2 sides and the angle between them of the same triangle are accordingly equal to 2 sides and the angle between them of the other triangle, then these triangles are equal.



**Given:**

AB is equal to A1B1

AC is equal to A1C1

The angle A is equal to the angle A1

**To be to prove that:**

The triangle ABC is equal to the triangle A1B1C1





The perimeter is the distance around a closed plane figure.

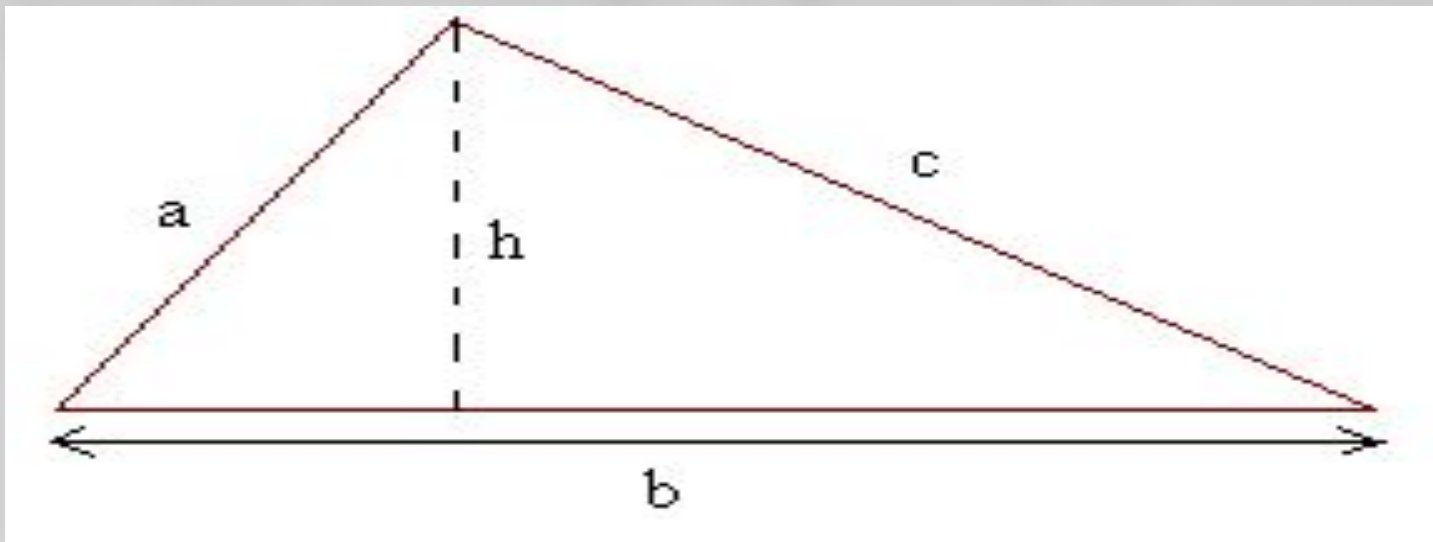
The perimeter,  $P$ , of a triangle is given by the formula

$$P = a + b + c$$

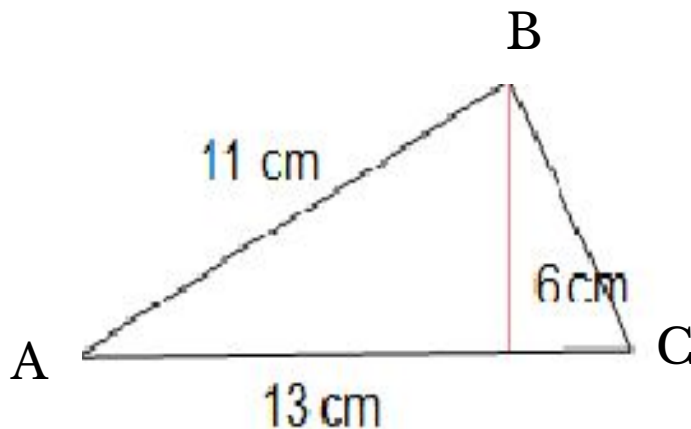
$$\text{Area} = \frac{bh}{2}$$

where  $a$ ,  $b$  and  $c$  are the side lengths of the triangle.

The area of a triangle is given by the formula



# Find the area of



$$\text{Area} = \frac{1}{2} (bh)$$

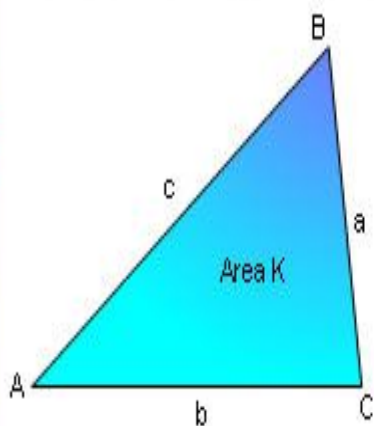
$$\text{Area} = \frac{1}{2} (13\text{cm} \cdot 6\text{cm})$$

$$\text{Area} = \frac{1}{2} (78\text{cm}^2)$$

$$\text{Area} = 39\text{cm}^2$$



## Heron's Formula



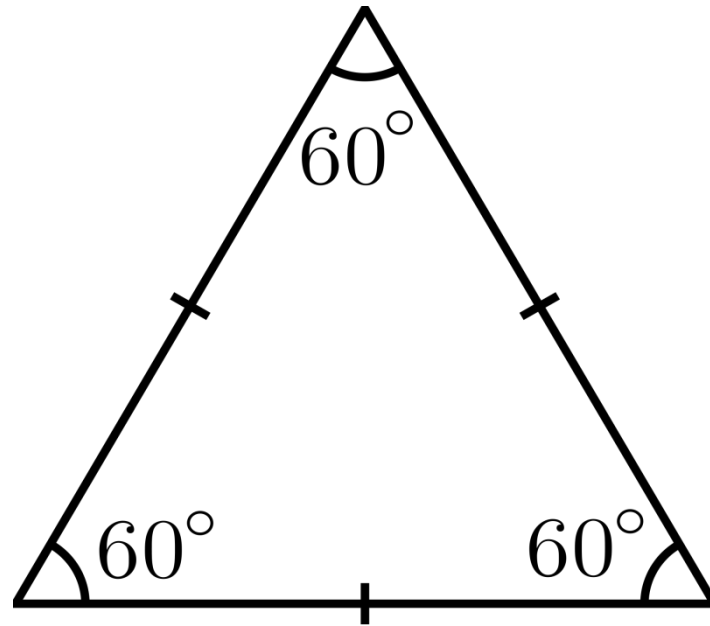
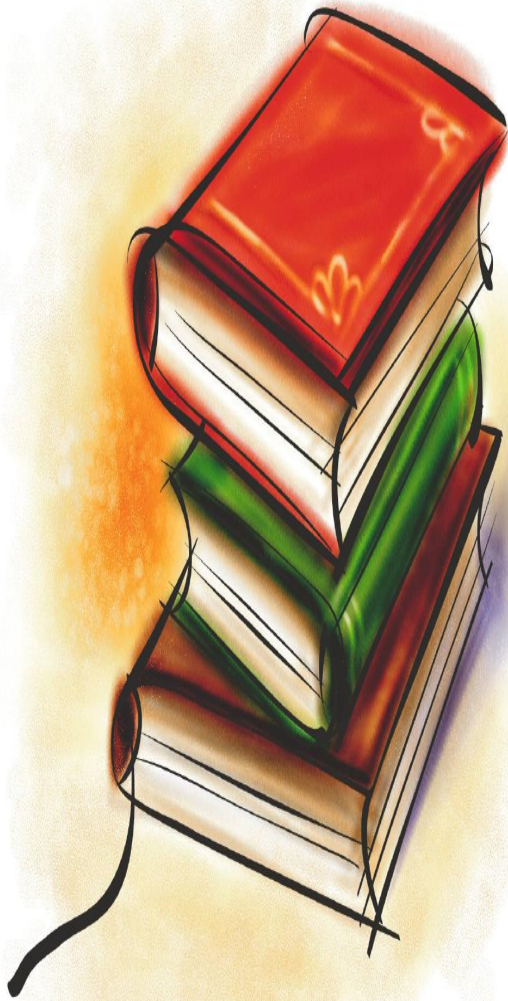
△ABC: sides  $a, b, c$

Semiperimeter:  $s = \frac{a+b+c}{2}$

To Prove:

Area △ABC:  $K = \sqrt{s(s-a)(s-b)(s-c)}$

Sum of the interior angles of a triangle is  $180^\circ$



The figure below shows an isosceles triangle.



$$\text{Angle Sum} = 180^\circ$$

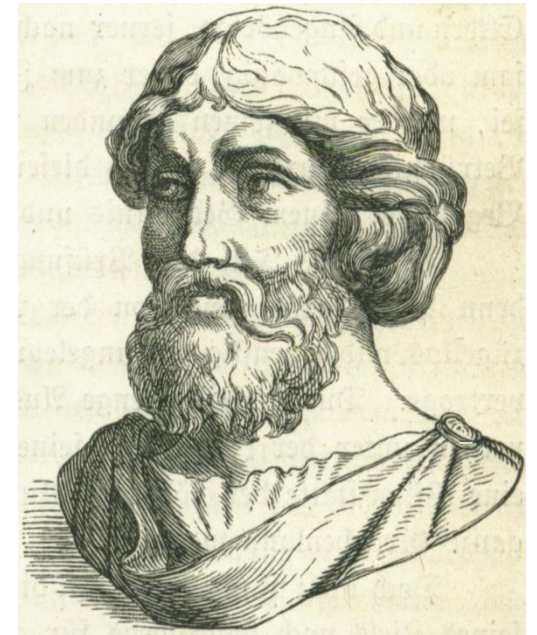
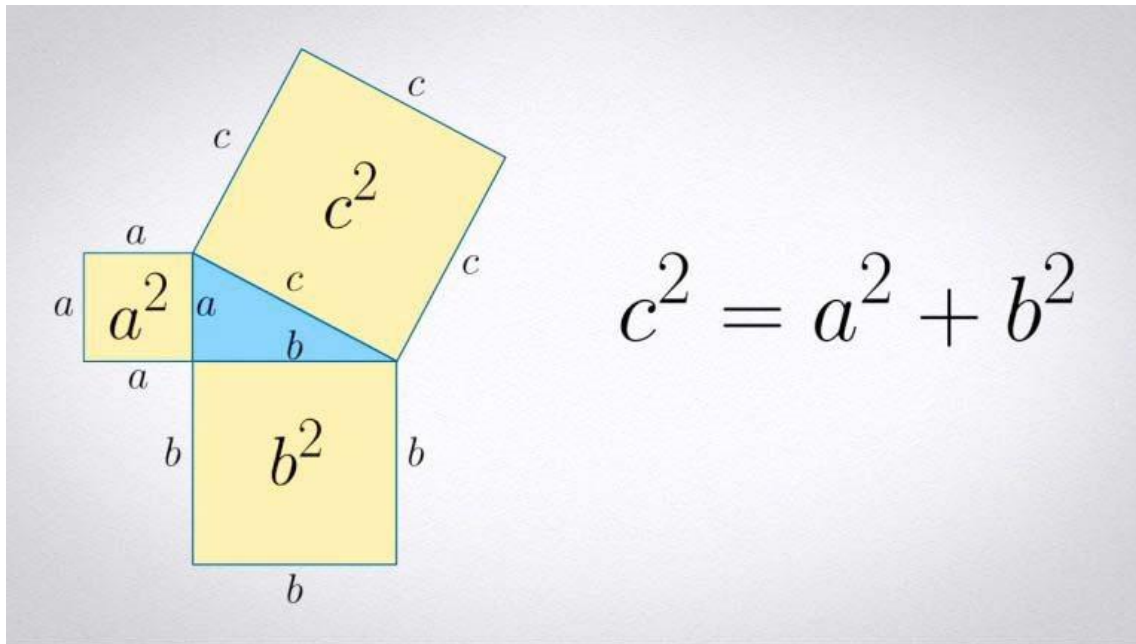
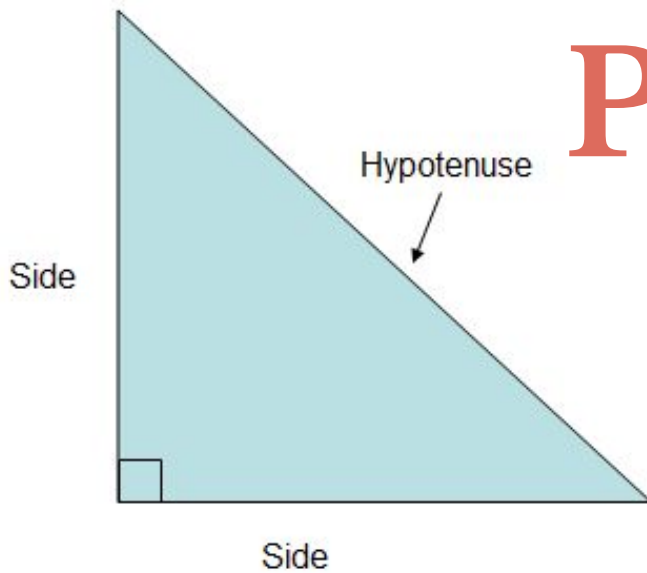
$$m + 70^\circ + 70^\circ = 180^\circ$$

$$m + 140^\circ = 180^\circ$$

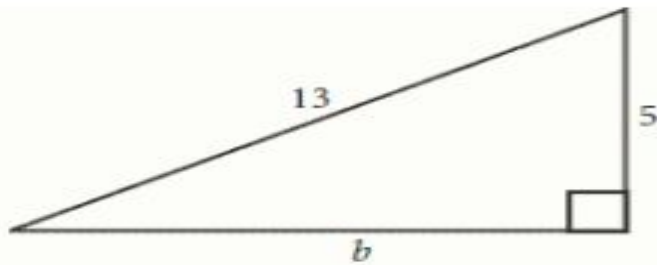
$$m = ?$$

What is the value of  $m$ ?

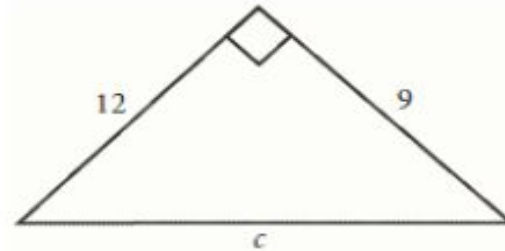
# PYTHAGORE AN THEOREM



# Find the length of the triangle below



$$\begin{aligned}a^2 + b^2 &= c^2 \\5^2 + b^2 &= 13^2 \\25 + b^2 &= 169 \\b^2 &= 144 \\\sqrt{b^2} &= \sqrt{144} \\b &= 12\end{aligned}$$



$$\begin{aligned}a^2 + b^2 &= c^2 \\12^2 + 9^2 &= c^2 \\144 + 81 &= c^2 \\225 &= c^2 \\\sqrt{225} &= \sqrt{c^2} \\15 &= c\end{aligned}$$

