

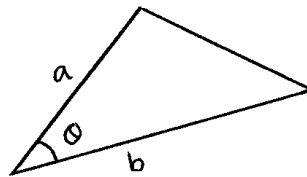
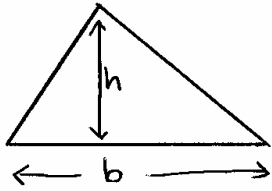
Areas of Triangles

There are 2 formulas for finding the area of a triangle.

Formulas:

$$\text{Area} = \frac{1}{2} \times \text{base} \times \text{perpendicular height} \quad \text{or} \quad \text{Area} = \frac{1}{2} ab \sin \theta$$

$$A = \frac{b \times h}{2}$$



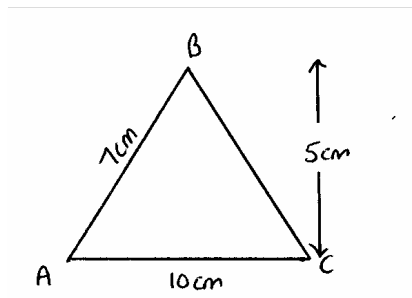
Example 1.

Find the area of triangle ABC (diagram not to scale)

$$A = \frac{b \times h}{2}$$

$$A = \frac{10 \times 5}{2}$$

$$A = 25\text{cm}^2$$



Example 2.

Find the area of triangle ABC (diagram not to scale)

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

$$\cos \theta = \frac{9^2 + 11^2 - 14^2}{2 \times 9 \times 11}$$

$$\cos \theta = 0.030303$$

$$\theta = 88.26^\circ$$

$$\therefore A = \frac{1}{2} ab \sin \theta$$

$$A = \frac{1}{2} \times 9 \times 11 \times \sin 88.26^\circ$$

$$A = 49.48\text{m}^2$$

