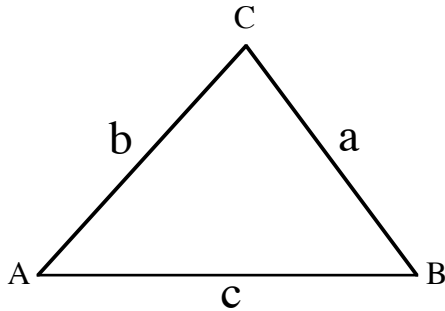


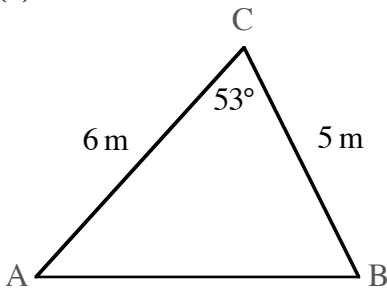
AREA FORMULA



$$\text{Area } \Delta ABC = \frac{1}{2}ab \sin C$$

NOTE: requires knowing 2 sides and the angle between them.

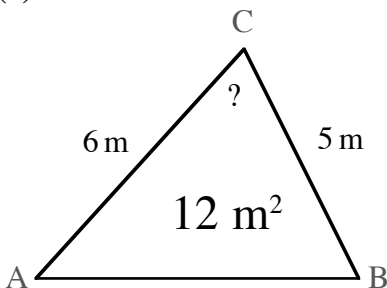
(1)



$$\begin{aligned} \text{Area } \Delta ABC &= \frac{1}{2}ab \sin C \\ &= \frac{1}{2} \times 5 \times 6 \times \sin 53^\circ \\ &= 11.979\dots \\ \text{Area} &\approx 12.0 \text{ m}^2 \end{aligned}$$

Find the area of the triangle.

(2)



$$\begin{aligned} \text{Area } \Delta ABC &= \frac{1}{2}ab \sin C \\ 12 &= \frac{1}{2} \times 5 \times 6 \times \sin C && \text{double both sides} \\ 24 &= 30 \times \sin C \\ \sin C &= 24 \div 30 = 0.8 \end{aligned}$$

Find angle ACB.

$$\begin{aligned} C &= \sin^{-1}(0.8) \\ &= 53.130\dots^\circ \quad \text{or} \quad 126.869\dots^\circ \\ &\quad \text{(from } 180^\circ - 53.130\dots^\circ \\ &\quad \text{as angle could be obtuse)} \end{aligned}$$

$$\angle ACB \approx 53.1^\circ \quad \text{from diagram, angle acute}$$