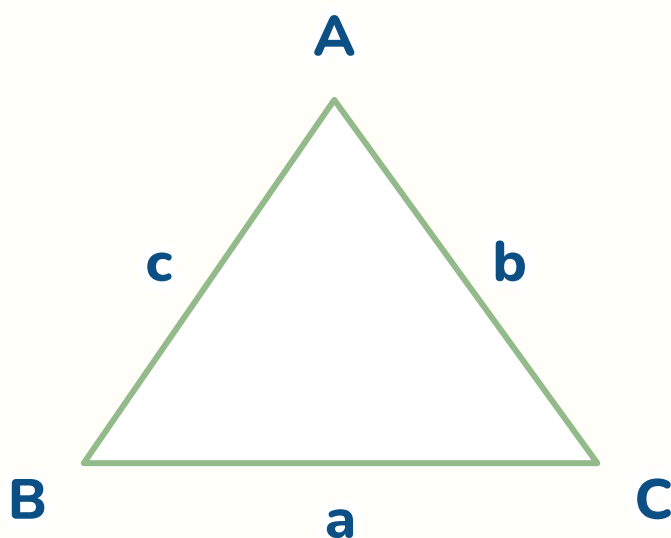


Law of sines and cosines



Any triangle

Each side takes the small letter of the angle across from it — side a is opposite angle A. Name the triangle that way and all three rules read straight off it.

Sine rule

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

A side and its opposite angle

Cosine rule

$$a^2 = b^2 + c^2 - 2bc \cdot \cos A$$

Two sides and the angle between

Area

$$\frac{1}{2} \cdot b \cdot c \cdot \sin A$$

Two sides and the angle between

For any triangle, not just right-angled ones. Use the sine rule when you know a side and its opposite angle; the cosine rule for two sides and the angle between them.