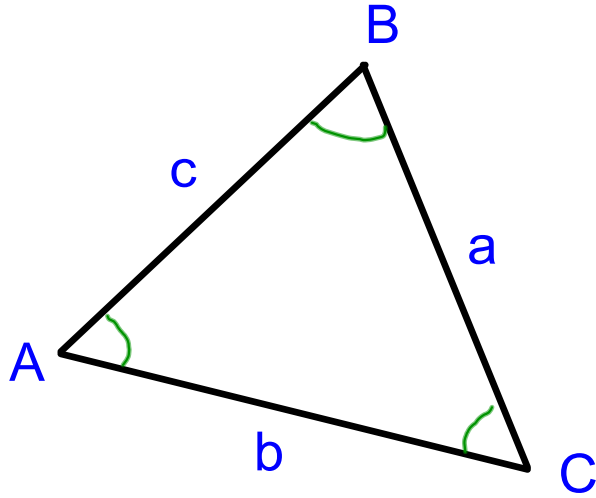


Trigonometry in non-right-angled triangles



1. The Sine Rule

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

(use this if you know a side and the angle opposite it)

2. The Cosine Rule

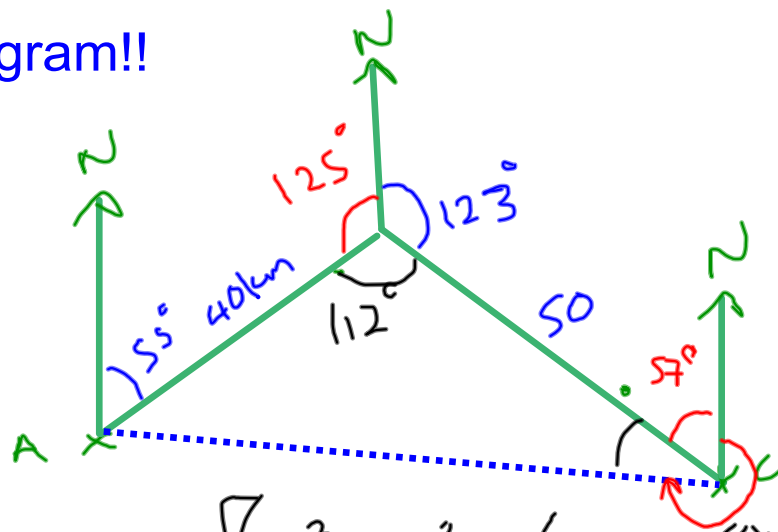
$$a^2 = b^2 + c^2 - 2bc \cos A$$

(use this if you know two sides and the angle between them)

Bearings Example...

A ship sails from a port on a bearing of 055° for 40km.
It then turns and sails on a bearing of 123° for 50km.
What course should it take to get back to port?

Good diagram!!



$$AC = \sqrt{40^2 + 50^2 - (2 \times 40 \times 50 \times \cos 112)} \\ = \underline{\underline{74.8 \text{ km}}}$$

