





Air maths tuition


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## Cosine rule (Finding a Length)

Cosine Rule: Finding the length of a side of a triangle


$$\begin{aligned}x^2 &= 7.2^2 + 5.3^2 - 2 \times 7.2 \times 5.3 \times \cos 58^\circ \\&= 39.4865\dots \\ \therefore x &= \sqrt{39.4865\dots} \\&= 6.283\dots \\&= 6.3 \text{ m (1dp)}\end{aligned}$$


Cosine Rule

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

$$\begin{aligned}x^2 &= 5.4^2 + 6.3^2 - 2 \times 5.4 \times 6.3 \times \cos 40^\circ \\&= 16.7283\dots \\ \therefore x &= \sqrt{16.7283\dots} \\&= 4.090\dots \\&= 4.1 \text{ cm (1dp)}\end{aligned}$$

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