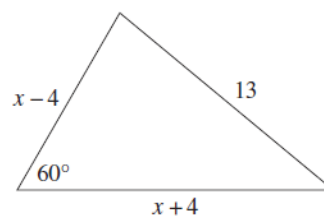




- TG 2** Using the cosine rule, find the value of x in the diagram.



NOT TO
SCALE

$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$13^2 = (x + 4)^2 + (x - 4)^2 - 2(x + 4)(x - 4) \cos 60^\circ$$

$$169 = x^2 + 8x + 16 + x^2 - 8x + 16 - 2(x^2 - 16) \times \frac{1}{2}$$

$$169 = 2x^2 + 32 - x^2 + 16$$

$$x^2 = 169 - 48$$

$$x^2 = 121$$

$$x = 11 \quad (x > 4)$$

* These solutions have been provided by [projectmaths](http://projectmaths.com.au) and are not supplied or endorsed by NESA.

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