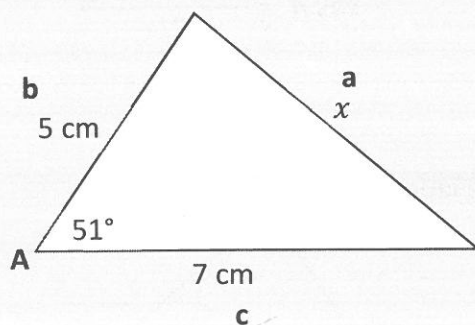


(example 1 continues...)

Now that you have labelled the 'a' and 'A', you need to pick the correct formula. If you are looking for a missing side using the cosine law, choose the first version of the cosine law (shown below):

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

Now fill in the missing information. You have already labelled 'a' and 'A'. The other two sides become 'b' and 'c' (either label for either side – it does not matter).



Insert your given information into the formula:

$$x^2 = 5^2 + 7^2 - 2(5)(7) \cos 51^\circ$$

Calculate the right hand side (try to do it all in one step on your calculator). You should get:

$$x^2 = 29.94757263$$

This is not our final answer! We are looking for 'x', not 'x²'. To arrive at the final answer you need to square root both sides of the equation.

$$\sqrt{x^2} = \sqrt{29.94757263}$$

$$x = 5.47 \text{ cm}$$