

## Unit 5: Triangle Trigonometry

### Day 5: Cosine Law

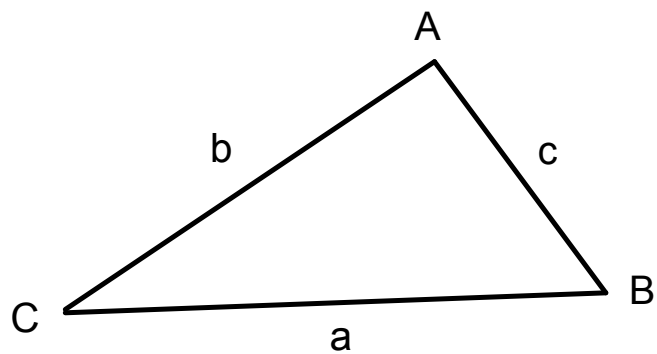
Today we will...

1. Learn the Cosine Law
2. Use the Cosine Law to find missing sides and angles in non-right angled triangles.

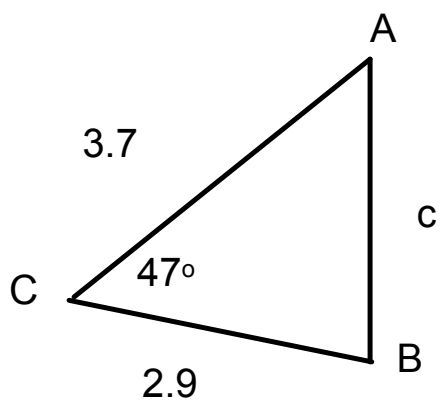
## Cosine Law

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

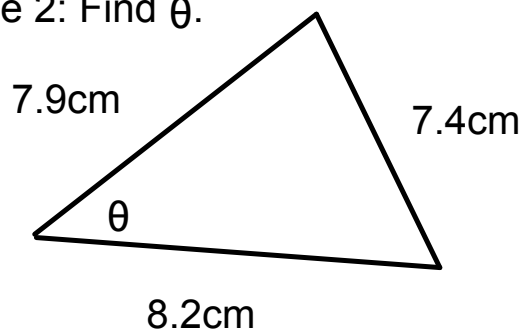
Also:



Example 1: Find  $c$ . Then solve triangle ABC.



Example 2: Find  $\theta$ .



Alternative Formula for Finding an Angle

Example 3: The equal sides of an isosceles triangle are 14.2 cm long. The angle between the sides is  $30^\circ$ . Find the perimeter.

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#4b:  $t = 10.1$  cm and  $r = 19$  cm