

Unit 2A: Non-Right Triangle Trigonometry

5.3 The Sine Law – Ambiguous Case

Information to construct a triangle:

AAA

SSS

SAS

ASA

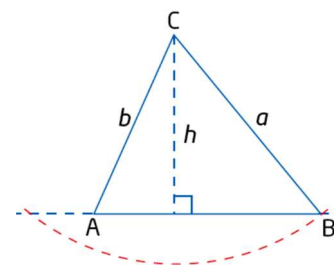
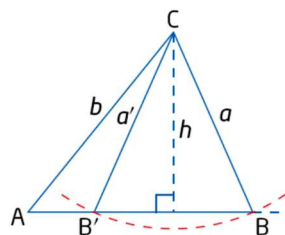
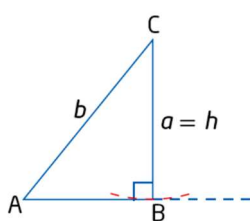
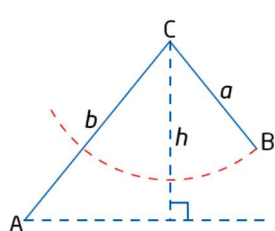
SSA

Ambiguous Case:

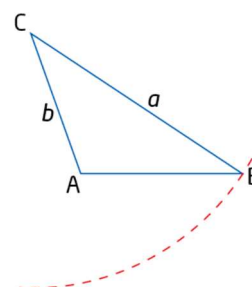
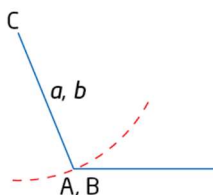
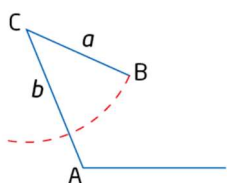
[Applet \(click\)](#)

Suppose you are given the measure of $\angle A$, a , & b of $\triangle ABC$.

Case 1: $\angle A$ acute – 4 possibilities



Case 2: $\angle A$ obtuse – 3 possibilities



ex. Solve $\triangle ABC$, $\angle A = 30^\circ$, $a = 24$ cm, and $b = 42$ cm. Angles to the nearest degree and side lengths to the nearest tenth.

ex. Determine whether there are 1, 2 or no solutions for $\triangle ABC$, $\angle A = 39^\circ$, $a = 14$ cm, and $b = 10$ cm

ex. Determine whether there are 1, 2 or no solutions for $\triangle ABC$, $\angle A = 145^\circ$, $a = 18$ m, and $b = 10$ m



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