

Stage 1 General Maths	Topic: Non-Right Angle Trigonometry
Term 3 2018	

Lesson Plan

Week 2: Monday, Lesson 5 (50 mins)

Topic Details Find the area of a triangle using: <ul style="list-style-type: none"> - Heron's rule, - Sine rule. Find the length of a side using: <ul style="list-style-type: none"> - Sine rule, - Cosine rule, Find an angle using: <ul style="list-style-type: none"> - Cosine rule, - Sine rule (+ambiguous case). 	Previous lesson (prior knowledge) Students are familiar with SOH CAH TOA and pythagoras. They have just been doing some work with angles and bearings, and should probably be able to remember how to calculate the area of a right angle triangle.
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Learning Intentions

Students will:

- Be able to identify questions which are appropriate to use Heron's Rule for by having access to all three side lengths.
- Be able to calculate the area of a triangle using Heron's Rule.

Time (mins)	Teacher Activity	Student Activity	Resources
5min	Introducing myself, welcoming the class, taking the role.	Coming in, settling down, etc.	
5min	Go through how to calculate the area of a right angle triangle on the whiteboard, asking for student participation (they should know this).	Suggesting how to go about doing the calculations.	Whiteboard
10min	Explain how Heron's Rule's rule can be used to calculate the area of a non-right angle triangle and	Listening, asking questions, I'll get them to suggest numbers for the	Whiteboard

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	go through a worked example on the board.	side lengths of the triangle.	
20min	Going around offering one-on-one support	Students will construct a triangle with known side lengths using matchsticks, and then calculate the area of that triangle using Heron's Rule.	

Extension: If students get through all that quickly and want some extension, I'll show them how the area of a non-right angle triangle can be calculated using trigonometry, and the Sine Rule, and then by measuring the angle of their triangle with a protractor they can validate their calculated area using the three different methods (Heron's Rule, the Sine Rule, and trigonometry).

Evaluation/Assessment

Asking for verbal feedback during class, and observation of individual work during one-on-one support.