

## Unit 3+4 Overview – Trigonometry

### Learning Outcomes

B3. Solve problems that involve the cosine law and the sine law, including the ambiguous case.

- 3.1 Draw a diagram to represent a problem that involves the cosine law or sine law.
- 3.2 Explain the steps in a given proof of the sine law or cosine law.
- 3.3 Solve a problem involving the cosine law that requires the manipulation of a formula.
- 3.4 Explain, concretely, pictorially or symbolically, whether zero, one or two triangles exist, given two sides and a non-included angle.
- 3.5 Solve a problem involving the sine law that requires the manipulation of a formula.
- 3.6 Solve a contextual problem that involves the cosine law or the sine law.

**By the end of the unit, you should be able to solve this type of question...**

1) The pendulum of a grandfather clock is 85.0 cm long. When the pendulum swings from one side to the other side, it travels a horizontal distance of 10.5 cm. Determine the angle through which the pendulum swings. Round your answer to the nearest tenth of a degree.

2) A landowner says that his property is triangular, with one side 500 m long and another side 350 m long. The opposite angle to the 350 m side measures  $20^\circ$ . Determine two possible lengths of the third side, to the nearest metre. Show your work.

### Unit 3&4 Lessons

- 3.1 Trig Ratios
- 3.2 Right Angle Problems
- 3.3 Obtuse Angles
- 3.4 Sine Law
- 3.5 Obtuse Sine Law
- 3.6 Sine Law Problems
- 3.7 Cosine Law
- 3.8 Cosine Law Problems
- 3.9 Sine or Cosine
- 3.10 Word Problems
- Review Worksheet
- Review Practice Test Questions
- Unit Test

Total = 13 classes