Solving Triangle Problems

Specification: AQA 7357: E1 · Edexcel 9MA0: 5.1

HOMEWORK Consolidation

1 In triangle ABC, $AB = 8.5$ cm, $AC = 12$ cm and angle $BAC = 73°$. Find BC.
AQA E1 · Edexcel 5.1 · L1

2 In triangle ABC, $AC = 10.4$ cm, angle $ABC = 42°$ and angle $BAC = 57°$. Find BC.
AQA E1 · Edexcel 5.1 · L2

3 In triangle ABC, $AB = 11$ cm, $AC = 8$ cm and angle $ABC = 35°$. Find the two possible sizes of angle ACB.
AQA E1 · Edexcel 5.1 · L3

4 Two sides of a triangle are 9.6 cm and 7.2 cm, and the angle between them is 41°. Find the area.
AQA E1 · Edexcel 5.1 · L4

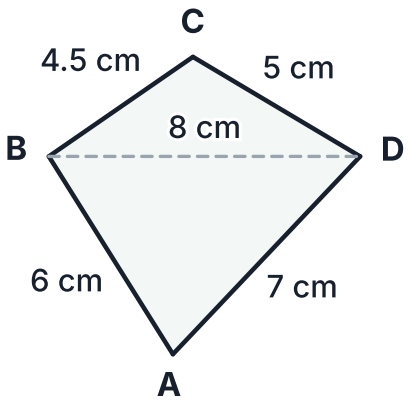
5 Two sides of a triangle are 9 cm and 8 cm, and the angle θ between them is obtuse. The area is 30 cm².
(a) Find θ.
(b) Find the length of the third side.
AQA E1 · Edexcel 5.1 · L4

6 A triangle has sides 6.4 cm, 8.1 cm and 11.7 cm. Name the rule, then find the largest angle.
AQA E1 · Edexcel 5.1 · L5

7 A and B are 35 m apart on level ground, in a straight line with the foot of a tower, with B nearer the tower. The angles of elevation of the top of the tower from A and B are 18° and 29°. Find the height of the tower.
AQA E1 · Edexcel 5.1 · L5

8 A yacht sails 22 km from P on a bearing of 130° to Q, then 17 km on a bearing of 215° to R.
(a) Find the distance PR.
(b) Find the bearing of R from P.
AQA E1 · Edexcel 5.1 · L5

9 The diagram shows quadrilateral $ABCD$ with diagonal $BD = 8$ cm.
(a) Find angle BAD.
(b) Find angle BCD.
(c) Find the area of $ABCD$.
AQA E1 · Edexcel 5.1 · L5



10 A triangle has sides 5 cm, 9 cm and $(x + 2)$ cm.
Show that $2 < x < 12$.
AQA E1 · Edexcel 5.1 · L5

11 *AQA-style*. Do not use a calculator. In triangle ABC, $AB = 5$ cm, $BC = 7$ cm and $CA = 8$ cm.
(a) Show that angle $BAC = 60°$. [3 marks]
(b) Find the exact area of the triangle. [2 marks]
(c) Find the exact shortest distance from A to BC. [2 marks]
AQA E1 · Edexcel 5.1 · AQA-style

12 *Edexcel-style*. A lighthouse L is 15 km due west of a port P. A boat S is on a bearing of 050° from L and is 12 km from P.
(a) Show that there are two possible positions for the boat. [3 marks]
(b) Find the distance between the two possible positions. [4 marks]
AQA E1 · Edexcel 5.1 · Edexcel-style