



GCSE Foundation/Higher 19

Shape, space and measure



Questions



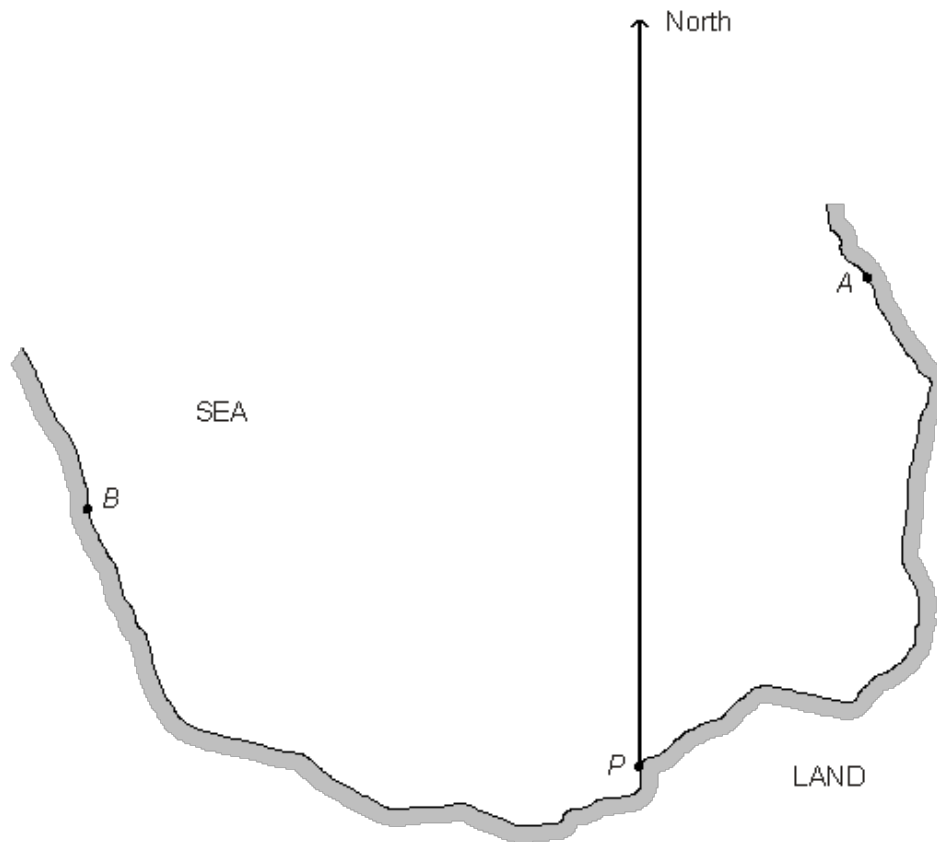
30 minutes



25 marks

Constructions and loci

Q1. The diagram shows a port P and two lighthouses A and B on the coast.



- (a) (i) A fishing boat sails to A from P .

What is the three-figure bearing of A from P ?

Answer degrees

(1)

- (ii) A yacht sails to B from P .

What is the three-figure bearing of B from P ?

Answer degrees

(1)

- (b) A ship leaves the port, P , on a course that is an equal distance from PA and PB .

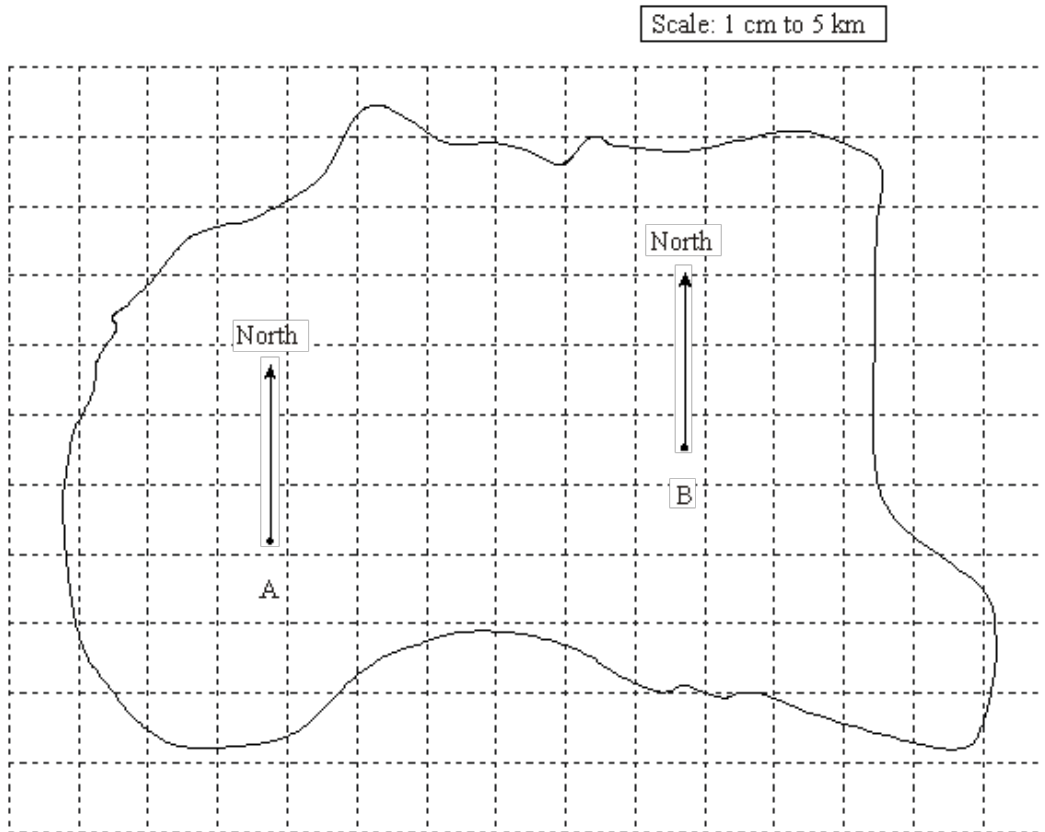
Using ruler and compasses only, construct the course on the diagram.

You **must** show your construction arcs.

(2)

(Total 4 marks)

Q2. The diagram shows an island with North lines drawn at points A and B.



- (a) Treasure is buried on a bearing of 037° from A and 290° from B.
Mark, with a x, the position of the treasure.

(3)

- (b) Find the real distance between the points A and B.

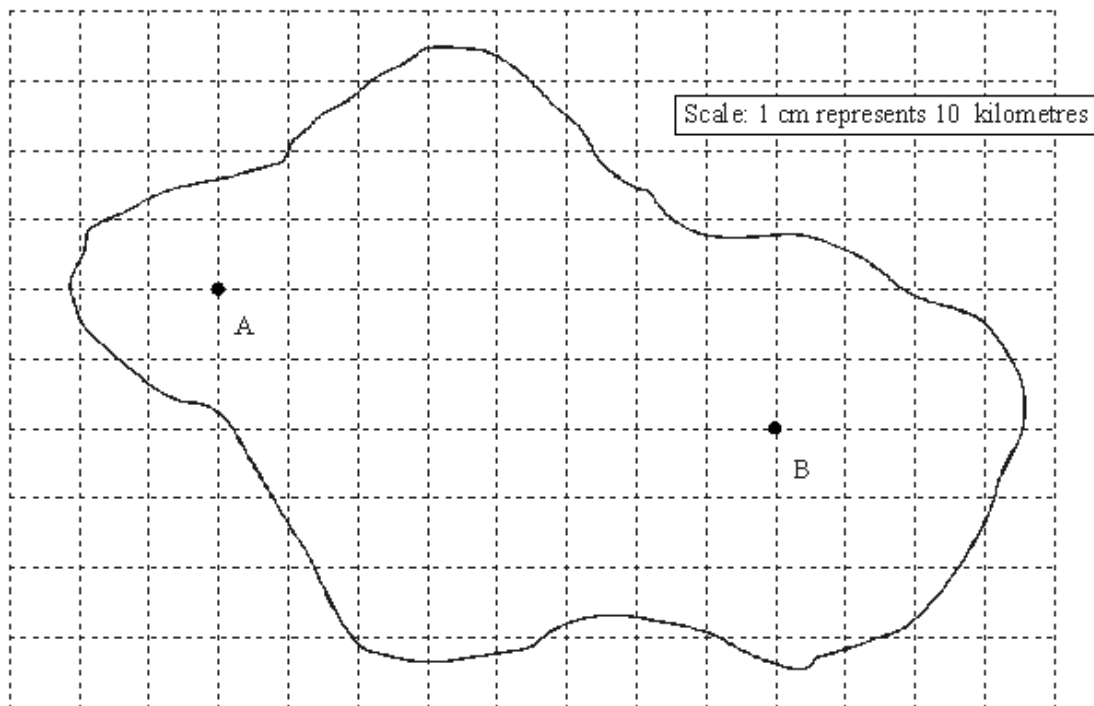
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Answer km

(3)

(Total 6 marks)

- Q3.** There are two TV transmitters on an island.
 The transmitter at A has a range of 40 km.
 The transmitter at B has a range of 60 km.



Show clearly the area in which the signal from both transmitters can be received.

(Total 3 marks)

- Q4.** (a) Using a ruler and compasses only, construct an angle of 60° .
 Show all your construction lines and arcs.

(2)

- (b) Two lifeboat stations A and B receive a distress call from a boat.
 The boat is within 6 kilometres of station A .
 The boat is within 8 kilometres of station B .
 Shade the possible area in which the boat could be.



(2)
 (Total 4 marks)

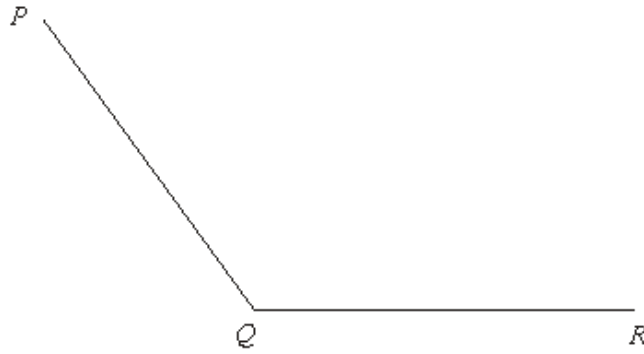
- Q5.** A is due North of B .
 The bearing of C from A is 115° .
 The bearing of C from B is 075° .



Mark the position of C on the diagram.

(Total 3 marks)

- Q6.** Using ruler and compasses only, construct the bisector of angle PQR .



(Total 2 marks)

- Q7.** (a) The line LM is drawn below.



Use ruler and compasses to construct the perpendicular bisector of LM .
You **must** show clearly all your construction arcs.

(2)

- (b) Complete the sentence. The perpendicular bisector of LM is the locus of points which are

.....

(1)

(Total 3 marks)

