

Bearings with Trigonometry

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **25**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You may use a calculator.

- 1** From a campsite W , the bearing of a radio mast M is 206°
Work out the bearing of W from M .

.....[°]
(1)

(Total for Question 1 is 1 mark)

- 2** A ship sails 12 km from a harbour on a bearing of 050°
(a) Work out how far east of the harbour the ship is.
Give your answer correct to 3 significant figures.

..... km
(2)

- (b) Work out how far north of the harbour the ship is.
Give your answer correct to 3 significant figures.

..... km
(1)

(Total for Question 2 is 3 marks)

- 3** Town B is 25 km from town A on a bearing of 050°
 Town C is 18 km from town A on a bearing of 140°
 Work out the area of triangle ABC .

..... km^2
 (3)

(Total for Question 3 is 3 marks)

- 4** Port P is 20 km from port Q on a bearing of 300° from Q .
 Port R is 15 km from Q on a bearing of 020°
 Calculate the distance PR .

..... km
 (4)

(Total for Question 4 is 4 marks)

- 5 Two coastguard stations, A and B , are on a straight coastline.
 B is 15 km due East of A .

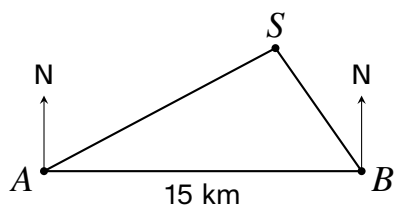


Diagram **NOT** accurately drawn

A ship S is on a bearing of 062° from A and on a bearing of 325° from B .
 Calculate the distance AS .

Give your answer correct to 3 significant figures.

..... km
 (4)

(Total for Question 5 is 4 marks)

- 6 A lighthouse L is 9 km due North of a port P .
 A ship S is 14 km from P on a bearing of 115°

Work out the bearing of S from L .

Give your answer correct to the nearest degree.

..... $^\circ$
 (5)

(Total for Question 6 is 5 marks)

- 7 A , B and C are three buoys.
 B is 12 km due East of A .
 C is 7 km from A and is North of the line AB .

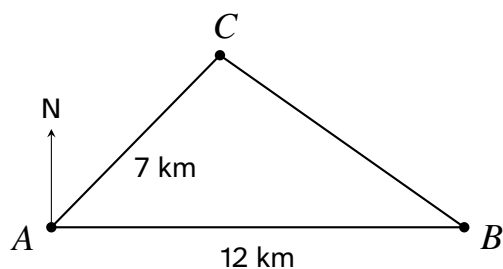


Diagram **NOT** accurately drawn

The area of triangle ABC is 30 km^2
Angle BAC is acute.
Find the bearing of C from A .
Give your answer correct to 1 decimal place.
You must show all your working.

..... °
(5)

(Total for Question 7 is 5 marks)