| Surname	
Other Names	
Candidate's Signature	

GCSE 9 - 1 Questions

Bearings 3

Calculator Allowed

INSTRUCTIONS TO CANDIDATES

- Write your name in the space provided.

- Write your answers in the spaces provided in this question paper.

- Answer ALL questions.

- Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

- You should have a ruler, compass and protractor where required.

Total Marks :

1) **The bearing of B from A is 042°.**
What is the bearing of A from B ?
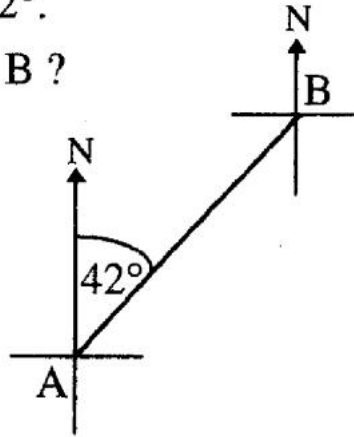
Answer .... [1]

2) A man left point P and walked 50 metres due North to a point R.
Then he ran 100 metres due East to arrive at a point Q.
   a)   Taking a scale of 1 cm = 10 m; make a scale drawing for this information.
   b)   Measure and write down the length, in cm, from P to Q.

Answer ....cm

   c)   Work out the actual distance, in metres, from P to Q ?

Answer ....m

   d)   Measure and write down the bearing of Q from P.

Answer ....

N

P

(6 marks)

3) A ship sailed from port P for 40 km on a bearing of 130° to point A. It then changed course and sailed for 24 km on a bearing of 040° to point B, where it broke down and anchored.

    a) Using **1cm to represent 4km**, show the information given above.

    b) What distance did a helicopter have to fly from port P to go directly to the ship at B?

Answer ....

    c) What bearing did the helicopter have to fly back to port P from the ship at B?

Answer ....

(7 marks)

4) An aeroplane is flown 40 km on a bearing of 310° from airstrip A to airstrip B.

It then turns and flies 45 km due north to airstrip C.

The plane then heads directly to airstrip D, which is 135 km due north of its starting point at airstrip A.

For the final leg of the flight path of the plane, how far does it need to fly, and what is the bearing of the final leg of the flight path?

   a) Using **1cm to represent 10km** draw the flight of the aeroplane.

   b) For the final leg of the flight path of the plane, how far does ir fly and what is the bearing of the final leg of the flight path?

Answer ....Km on a bearing of ....

N

(6 marks)

5) The park is at a bearing of 59° and 5.5km from John's house, and the library is 322° and 6.5km from John's house.

   a) Using 1 cm to represent 1 km, show this on a diagram in the space below.

   b) Using your diagram, measure the distance between the library and the park.

Answer ....[2]

   c) Using your diagram, measure the bearing from the library to the park.

Answer ....[2]

6) The scale drawing below shows the location where Anton is staying while on holiday.
The position of the hotel and the position of the closest bus station are shown.
The scale of the drawing is such that 1 cm represents 200 m.
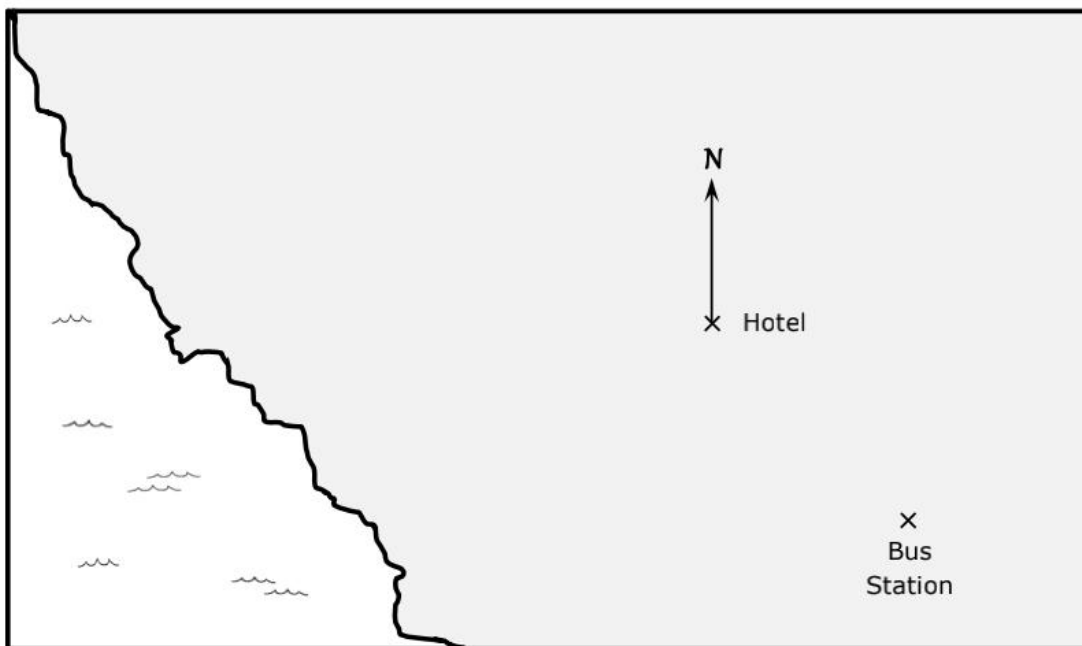
(a) What is the actual distance, in km, from the hotel to the bus station?

(2)

(b) Measure the bearing of the bus station from the hotel.

(1)

(c) Anton is going to visit a museum.
The museum is set at a distance of 1.6km on a bearing of 295° from the hotel.
Mark the position of the museum with a cross (x) on the scale drawing.

(2)

(Total: 5 marks)

7) A boat sails 40 km due South from **A** to **B**.
At **B**, the boat changes direction and travels 35 km on a bearing of 250° to **C**.

    (a)   Draw a scale diagram showing the positions of **A**, **B** and **C**.
            Write down the scale used.

(5)

    (b)   Use your scale diagram to determine **the distance** and **bearing of C** from **A**.

(3)
(Total: 8 marks)

8) The figure shows a scale drawing of the position of three places A, B and C on a map. The North direction is shown at each of these three places with an arrow.

Scale 1: 2000
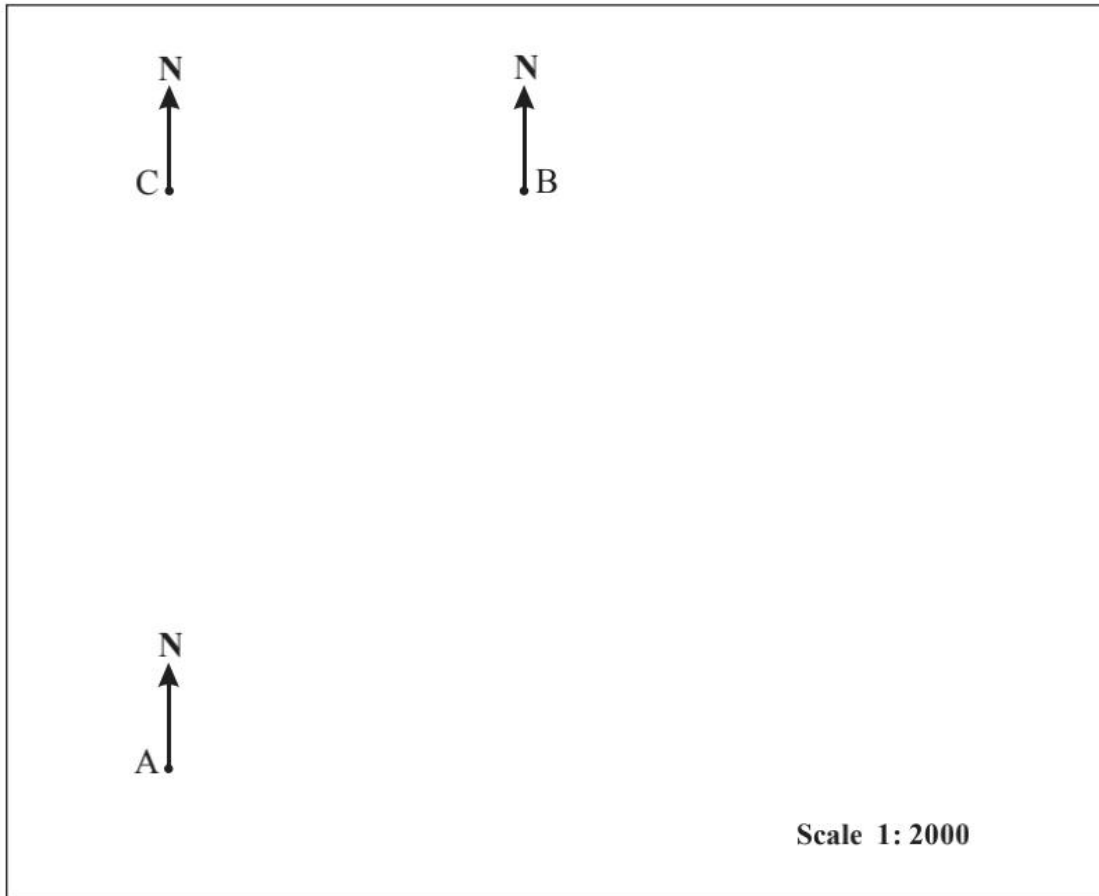
(a) What is the bearing of B from C?

Answer.........................°

(1)

(b) What is the actual distance BC in **metres**?

Answer.........................m

(2)

(c) What is the bearing of B from A?

Answer.........................°

(1)

(d) P is on a bearing of 155° from B and a bearing of 050° from A.
How far, in **metres**, is P from C?

Answer.........................m

(3)

(Total: 7 marks)

9)   Three flag poles P Q and R are fixed to the ground in a flat field. The bearing of P from Q is 243°. The bearing of R from Q is 153°. The distance from QP is 67m and the distance QR is 54m.

a) Using scale of 1cm to 10m, make an accurate scale drawing of the information given.

[2]

b) Measure the bearing of P from R.

Answer ....[2]

c) Measure the distance from R to P

Answer ....[2]

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10) A ship leaves port P and sails 80 km due East to bay B. Then it sails from B to harbour H, 60 km away on a bearing of 040°.

a) Make a scale drawing below to show the above information. Use a scale of **1cm to represent 10km.**

[3]

b) What is the distance from P to H?

Answer ....[2]

c) What is the bearing of H from P?

Answer ....[2]

11) Three ships A, B and C are in the Atlantic Ocean.

A is 150km away from B on a bearing of 236°.

C is 135km away from A on a bearing of 046°.

a) Make a scale drawing below to show the above information. Use a scale of **1cm to represent 15km.**

[3]

b) Measure how far B is from C.

Answer ....[2]

c) What is the bearing of C from B?

Answer ....[2]

12) Teagan has a plan of her local playground, which has a sandpit, swing, see-saw, and a slide.

a) The swing see-saw and slide are all 10 metres from the sandpit.

The slide is on a bearing of 285° from the sandpit.

The see-saw is on a bearing of 350° from the sandpit.

The swing is on a bearing of 130° from the sandpit.

Make an accurate drawing below of this information. Use **1cm to represent 2m**.

[3]

b) How far is the slide from the see-saw?

Answer ....[2]

c) What is the bearing of the swing from the slide?

Answer ....[2]

13) An albatross flies long distances. A bird was recorded flying from a lighthouse for a distance of 900km on a bearing of 128°. It then turned 90° clockwise and flew another 800km before landing on its favourite island.

   a) By using a scale 100km to 1cm, draw an accurate diagram of the flight of the albatross.

[3]

   b) By measuring, how far is the albatross from the lighthouse and what is the bearing the albatross would need to fly to return to the lighthouse?

   Answer ....km on a bearing of ....

[2]

14) Amihan is working on some designs for a jet-boat race, On each course, S marks the start and the finish of the course. Throughout this question use a scale of **1cm to 500m**.

    a) His first design has the boats travelling for 2800m due East on a bearing of 090° from S to buoy A. Then they travel 2800m north to buoy T, before returning to S,

        i.   Draw an accurate diagram of the course below.

[2]

        ii.   By measuring, what is the total length of the course?

Answer ....m (1 mark)

        iii. What is the bearing of S from T?

Answer ....° (1 mark)

b) Amihan's second design is condtructed as follows. Start at S and travel 2000m on a bearing of 045° to reach buoy A. From A travel 3100m on a bearing 0f 315° to reach buoy T. Finally straight back to S,

   i.   Draw an accurate diagram of the course below.

[2]

   ii.   By measuring, what is the total length of the course?

Answer ....m (1 mark)

   iii. What is the bearing of S from T?

Answer ....° (1 mark)

c) Amihan's final design has these directions for the boats. Start at S and travel for 2800m on a bearing of 050° to buoy A. From A travel another 2800m on a bearing of 330° to buoy T. Finally straight back to S

    i.   Draw an accurate diagram of the course below.

[2]

    ii.   By measuring, what is the total length of the course?

Answer ....m (1 mark)

    iii. What is the bearing of S from T?

Answer ....° (1 mark)