Name	Class

☗ MATHS TEACHER HUB

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Bearings

(9 – 1) Topic booklet

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

Instructions
•Use **black** ink or ball-point pen.
•**Fill in the boxes** at the top of this page with your name, centre number and candidate number.
•Answer **all** questions.
•Answer the questions in the spaces provided
 – *there may be more space than you need*.
•Diagrams are NOT accurately drawn, unless otherwise indicated.
•You must **show all your working out.**
•If the question is a **1F** question you are not allowed to use a calculator.
•If the question is a **2F** or a **3F** question, you may use a calculator to help you answer.

Information
•The marks for **each** question are shown in brackets
 – *use this as a guide as to how much time to spend on each question*.

Advice
•Read each question carefully before you start to answer it.
•Keep an eye on the time.
•Try to answer every question.
•Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

9 Here is a map of an island.

N

Backley ✕

Diagram accurately drawn

N

Cremford ✕

Scale: 1 cm represents 0.5 km
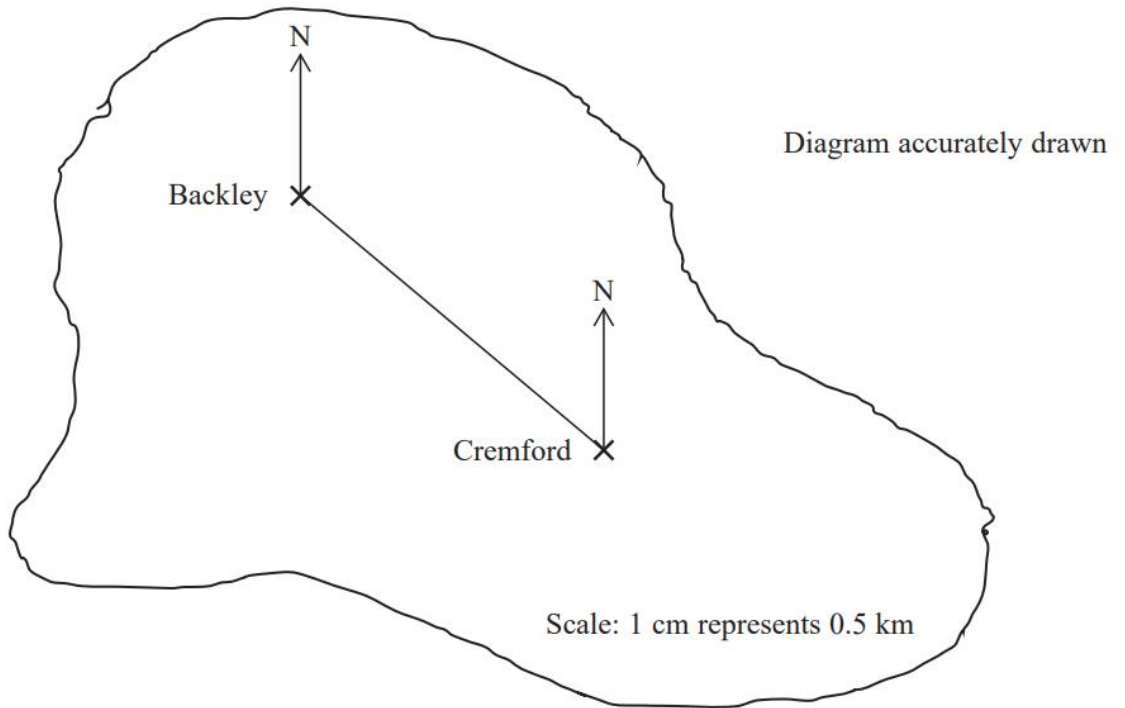
A straight road joins the two villages, Backley and Cremford.

(a) Work out the real distance between the two villages.

....km
(2)

(b) Find the bearing of Cremford from Backley.

°
....
(1)

(Total for Question 9 is 3 marks)

13 The accurately drawn map shows the positions of three points, A, B and C, in a field.
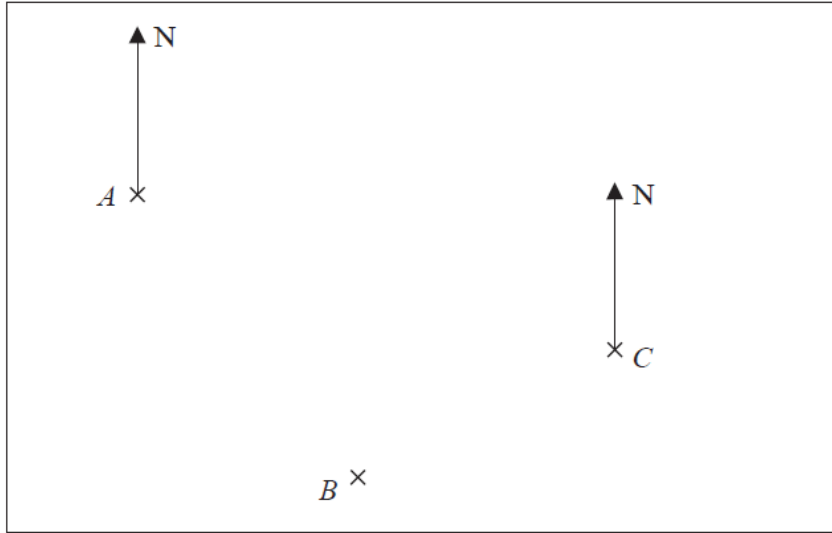
Scale: 1 cm represents 150 metres

Parveen walks in a straight line from A to B.
She then walks in a straight line from B to C.

Susan walks in a straight line from A to C.

Parveen walks more metres than Susan.

(a) How many more?

.... metres

(3)

(b) Find by measurement the bearing of A from C.

.... °

(1)

(Total for Question 13 is 4 marks)

13 The diagram shows two points, A and B, on a map.

N

Diagram accurately drawn

× B

N

A ×
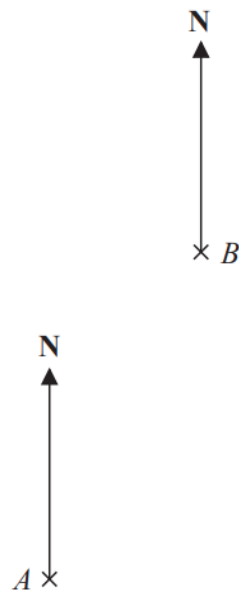
Scale: 1 to 25 000

(a) Find the bearing of B from A.

.... °

(1)

(b) Work out the real distance between A and B.
Give your answer in kilometres.

.... kilometres

(3)

(Total for Question 13 is 4 marks)

18 The diagram shows the positions of two churches, A and B.
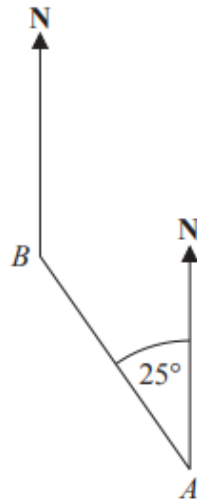
Amber says,

"The bearing of church B from church A is 025°"

Amber is wrong.
Explain why.

....

....

(Total for Question 18 is 1 mark)

27 The accurate scale drawing shows the positions of port *P* and a lighthouse *L*.

N

↑

✕
P

N

↑

✕
L

Scale: 1 cm represents 4 km.

Aleena sails her boat from port *P* on a bearing of 070°

She sails for $1\frac{1}{2}$ hours at an average speed of 12 km/h to a port *Q*.

Find

    (i) the distance, in km, of port *Q* from lighthouse *L*,

    (ii) the bearing of port *Q* from lighthouse *L*.

distance *QL* = ... km

bearing of *Q* from *L* = ... °

      (Total for Question 27 is 5 marks)