Write your name, centre number and candidate number in the boxes below.

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

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Scale drawings and bearings

Time allowed: 35 minutes

Subject code **0580**

Mathematics

Questions from Paper 1, Paper 2 and Paper 3

You must have: a ruler marked in centimetres and millimetres, a protractor, compasses, a pen, an HB pencil and an eraser.
You may use a calculator.

Total marks

/ 27

Instructions

- Answer every question in the space provided on this paper.
- Write in black or dark blue ink. Pencil may be used for diagrams and graphs.
- Fill in your name, centre number and candidate number above.
- Show your working: a correct method can earn marks even if the answer is wrong.
- Unless a question says otherwise, give answers that are not exact to 3 significant figures, and angles in degrees to 1 decimal place.

Information

- This paper has 9 questions worth 27 marks in total.
- The marks for each question or part are shown in brackets, for example [3].

Advice

- Read every question through once before you write anything.
- Use the marks in brackets to judge how long to spend on each part.
- If you finish early, go back and check your working.

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Print at 100% (Actual size) so diagrams keep their real measurements.

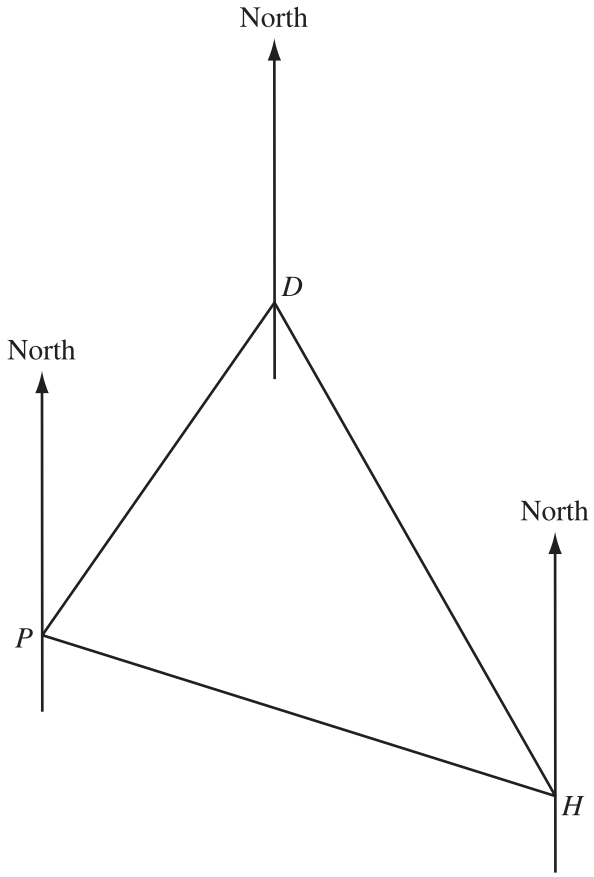
1 The scale of a map is 1 : 125 000.
On a map, the length of an island is 9.4 cm.

Calculate the actual length of the island, giving your answer in kilometres.

..... km [2]

Scale drawings Click for more variations

2



The positions of Perth (P), Darwin (D) and Hobart (H) are shown on the diagram.

Measure accurately any angles you need and write down the bearing of

(a) D from P,

Answer(a) ..... [1]

(b) P from H.

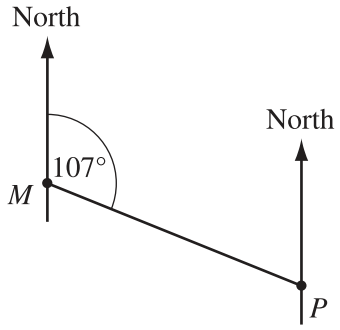
Answer(b) ..... [1]

(a) Bearings (b) Bearings Click for more variations

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3

NOT TO SCALE



The bearing of P from M is 107°.
Work out the bearing of M from P.

Answer ..... [2]

Bearings Click for more variations

4 The scale drawing shows the position of a hospital, H.
The scale is 1 centimetre represents 6 kilometres.



Scale: 1 cm to 6 km

A school, S, is 33 km from H on a bearing of 155°.

Mark the position of S on the scale drawing. [2]

Bearings Click for more variations

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5 **(a)** The scale on a map is 1 cm represents 12 km.

Write this in the ratio 1 : n .

1 : ..... [1]

(b) The bearing of B from A is 070°.

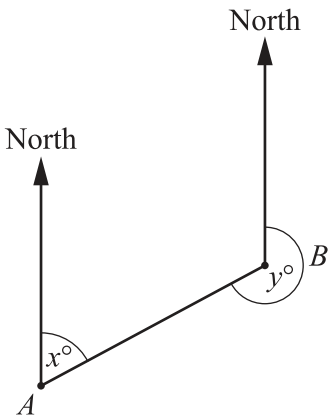
Find the bearing of A from B.

..... [2]

(a) Scale drawings (b) Bearings Click for more variations

6 The bearing of B from A is $x°$.
The bearing of A from B is $y°$.
$x : y = 2 : 7$

Calculate the value of y.



NOT TO SCALE

$y =$ ..... [3]

Bearings Click for more variations

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7 The scale on a map is 1: 20 000.

(a) Calculate the actual distance between two points which are 2.7 cm apart on the map.
Give your answer in kilometres.

Answer(a) ..... km [2]

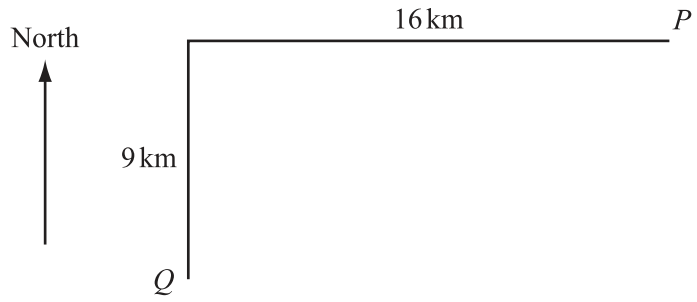
(b) A field has an area of 64 400 m^2.
Calculate the area of the field on the map in cm^2.

Answer(b) ..... cm^2 [2]

(a) Scale drawings (b) Similar areas and volumes Click for more variations

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8



NOT TO SCALE

The diagram shows the route of a ship that leaves a port, P.
It travels due west for 16 km and then changes course to due south for 9 km.

(a) Calculate the straight line distance PQ.

Answer(a) PQ = ... km [2]

(b) Use trigonometry to calculate the bearing of P from Q.

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Answer(b) ..... [2]

(a) Pythagoras' theorem (b) Bearings Click for more variations

9 The scale drawing shows the positions of two lighthouses, P and Q.
The scale is 1 centimetre represents 0.8 kilometres.



Scale: 1 cm to 0.8 km

(a) (i) Find the actual distance between P and Q.

..... km [2]

(ii) Measure the bearing of Q from P.

..... [1]

(b) A boat, B, is on a bearing of 127° from P.

Calculate the bearing of P from B.

..... [2]

(a)(i) Scale drawings (a)(ii) Bearings (b) Bearings Click for more variations

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