

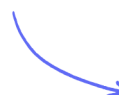
Non-Calculator Questions

Bearings, Constructions & Scale Drawings

Bearings / Scale / Constructing Triangles

Easy (5 questions)	/9
Medium (8 questions)	/21
Hard (3 questions)	/10
Total Marks	/40

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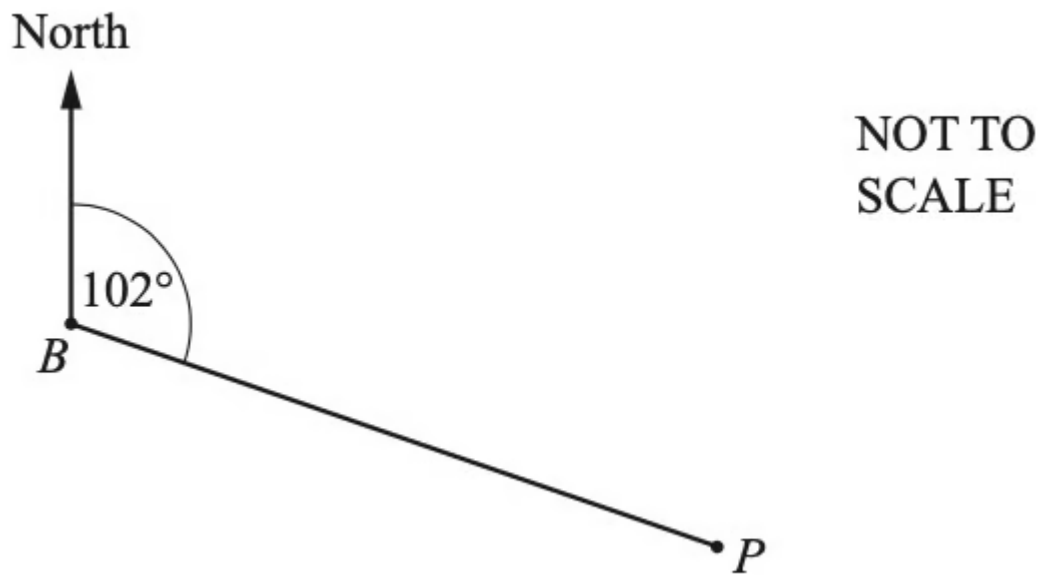
Easy Questions

- 1 Using a ruler and pair of compasses only, construct a triangle with sides 5 cm, 8 cm and 10 cm.

Leave in your construction arcs.

(2 marks)

2



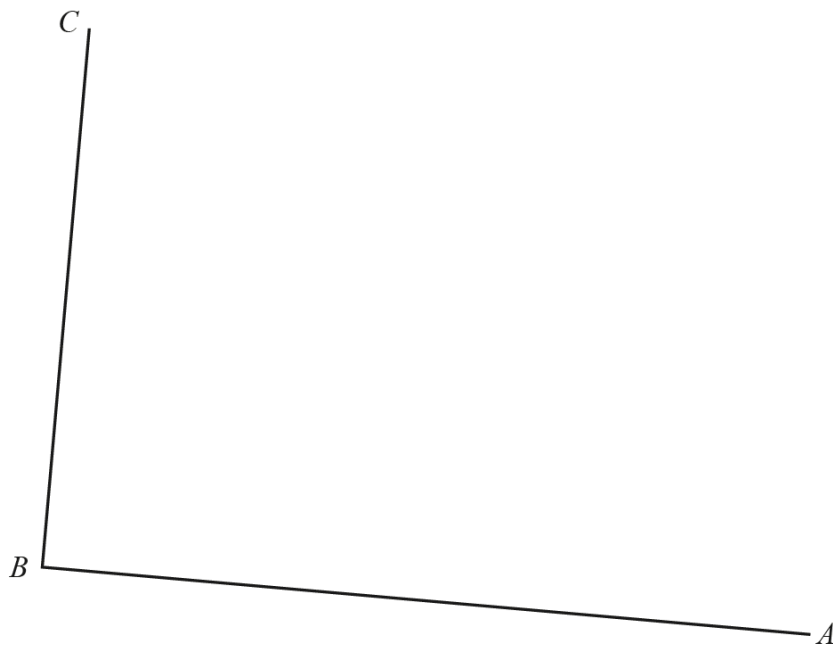
The bearing of P from B is 102° .

Find the bearing of B from P .

(2 marks)

- 3 The scale drawing shows two boundaries, AB and BC , of a field $ABCD$.

The scale of the drawing is 1 cm represents 8 m.



Scale: 1 cm to 8 m

The boundaries CD and AD of the field are each 72 m long.

Work out the length of CD and AD on the scale drawing.

..... cm

(1 mark)

- 4** The bearing of a ship from a lighthouse is 050°

Work out the bearing of the lighthouse from the ship.

(2 marks)

- 5** Martin and Janet are in an orienteering race.

Martin runs from checkpoint A to checkpoint B , on a bearing of 065° . Janet is going to run from checkpoint B to checkpoint A .

Work out the bearing of A from B .

(2 marks)

Medium Questions

- 1 A field, ABC , is in the shape of a triangle.
 $AC = 500\text{m}$ and $BC = 650\text{m}$.

Using a ruler and compasses only, complete the scale drawing of the field ABC .

Leave in your construction arcs.

Use a scale of 1 cm to represent 100m.

The side AB has been drawn for you.



Scale: 1 cm to 100m

(3 marks)

2

North



A

NOT TO
SCALE

North



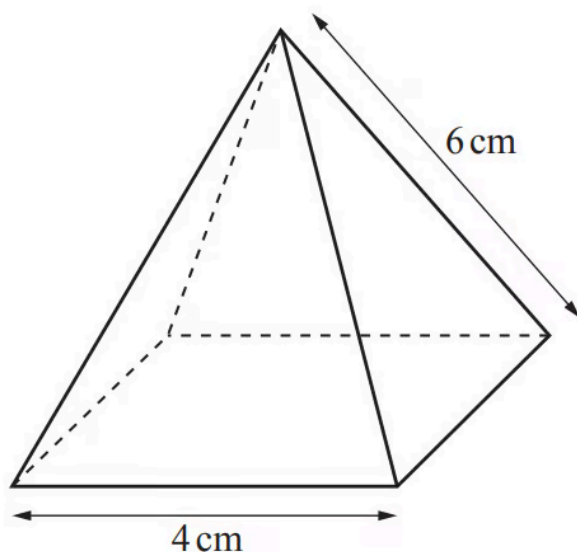
B

The bearing of B from A is 105° .

Find the bearing of A from B .

(2 marks)

3



NOT TO
SCALE

The diagram shows a pyramid with a square base.
The triangular faces are congruent isosceles triangles.

Using a ruler and compasses only, construct an accurate drawing of one of the triangular faces of the pyramid.

(2 marks)

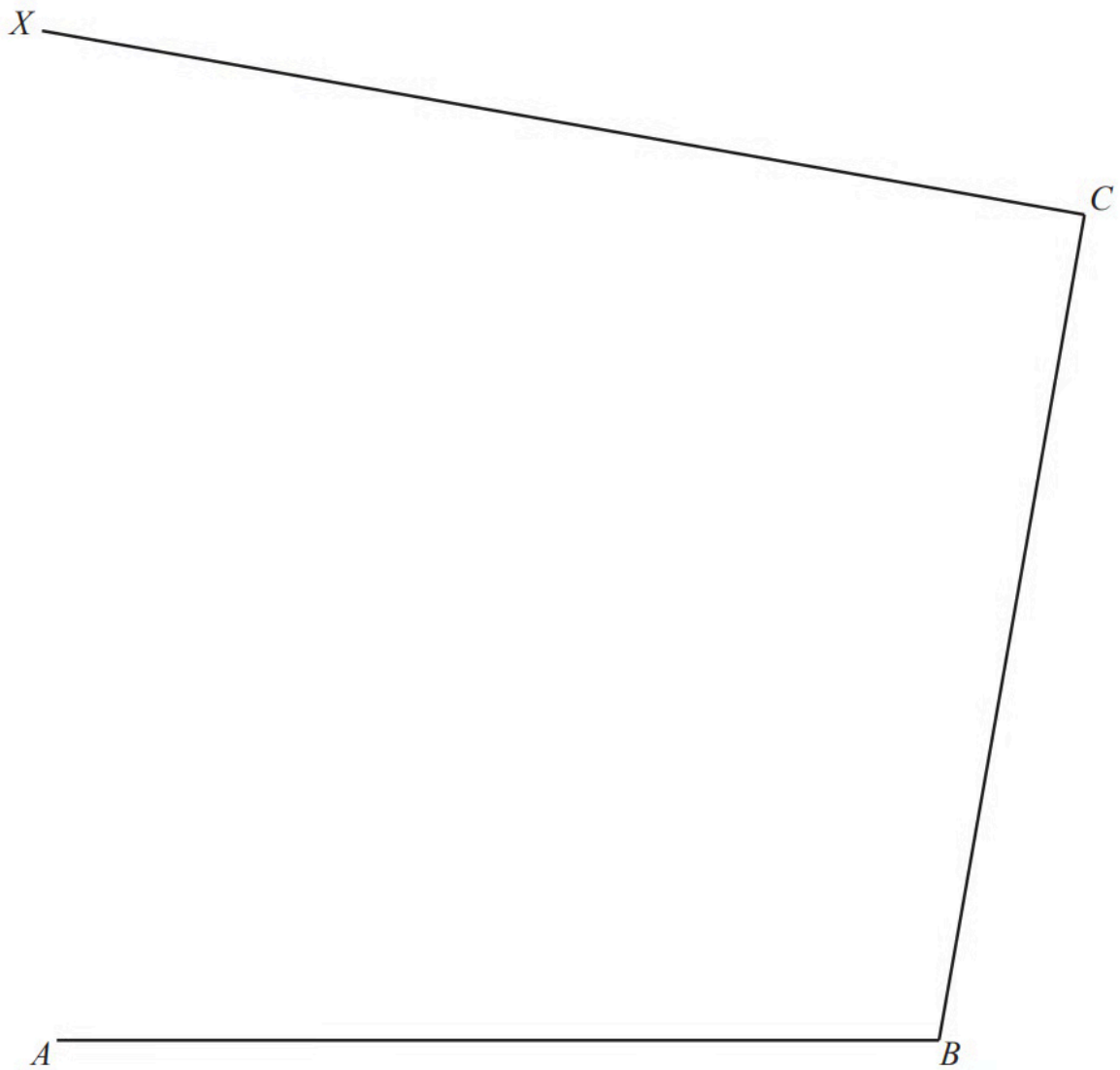
4 The bearing of Alexandria from Paris is 128° .

Calculate the bearing of Paris from Alexandria.

(2 marks)

5 (a) The diagram shows an incomplete scale drawing of a market place, $ABCD$, where D is on CX .

The scale is 1 centimetre represents 5 metres.



Scale : 1 cm to 5 m

D lies on CX such that angle $DAB = 75^\circ$.

On the diagram, draw the line AD and mark the position of D .

(2 marks)

(b) Find the actual length of the side BC of the market place.

..... m

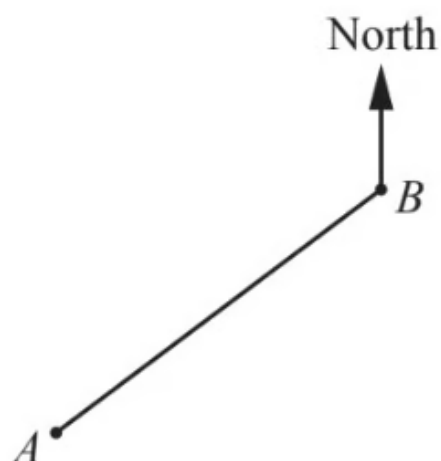
(2 marks)

(c) Write the scale of the drawing in the form $1 : n$.

1 :

(1 mark)

6



NOT TO
SCALE

The bearing of A from B is 227° .

Find the bearing of B from A .

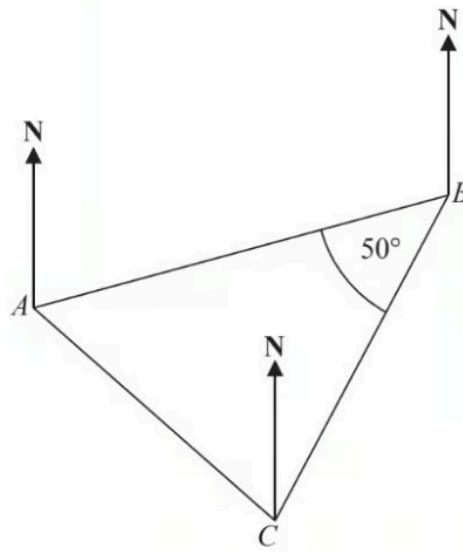
(2 marks)

7 A and B are two towns on a map.
The bearing of A from B is 140° .

Work out the bearing of B from A .

(2 marks)

- 8 The diagram shows the positions of three points, A , B and C , on a map.



The bearing of B from A is 070° .

Angle ABC is 50° .

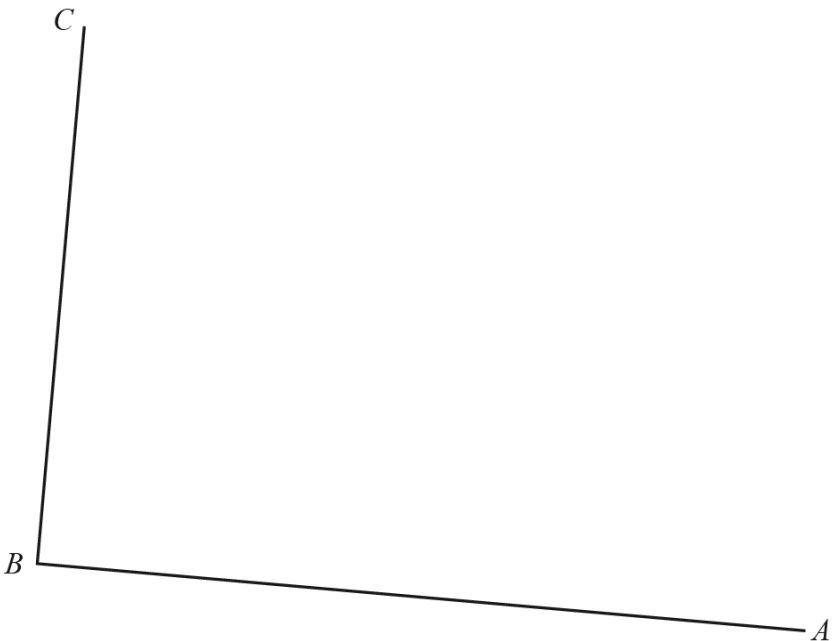
$AB = CB$

Work out the bearing of C from A .

(3 marks)

Hard Questions

- 1 The scale drawing shows two boundaries, AB and BC , of a field $ABCD$.
The scale of the drawing is 1 cm represents 8 m.



Scale: 1 cm to 8 m

The boundaries CD and AD of the field are each 72 m long.

- i) Work out the length of CD and AD on the scale drawing.

..... cm [1]

- ii) **Using a ruler and compasses only**, complete accurately the scale drawing of the field.

[2]

(3 marks)

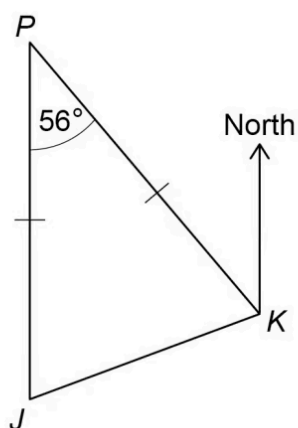
2 J and K are ships.

P is a port.

J is due South of P .

Angle $JPK = 56^\circ$

$JP = KP$

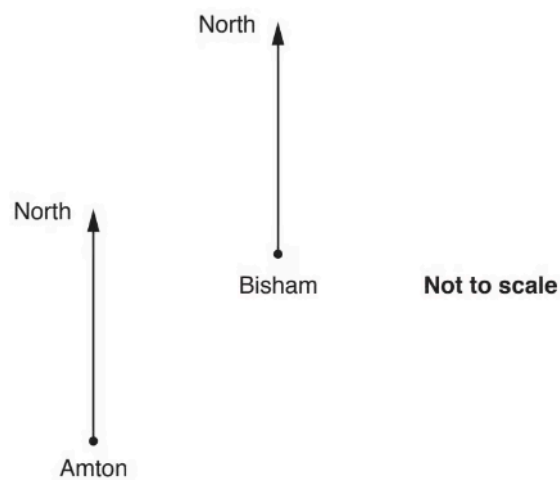


Not drawn
accurately

Work out the bearing of J from K .

(3 marks)

3 The diagram shows the positions of two towns, Amton and Bisham.



The bearing of Bisham from Amton is b° .

The bearing of Amton from Bisham is $6b^\circ$.

Calculate the 3-figure bearing of Amton from Bisham.

(4 marks)