

# Bearings, Scale Drawing & Constructions

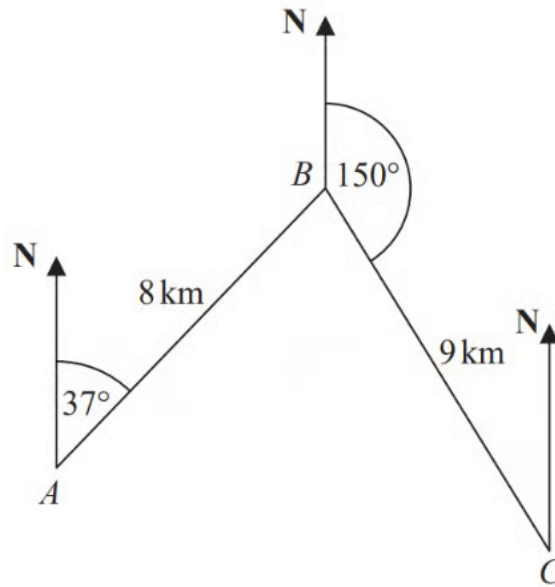
## Question Paper

Course	Edexcel IGCSE Maths
Section	4. Geometry & Trigonometry
Topic	Bearings, Scale Drawing & Constructions
Difficulty	Hard

**Time allowed:** 70  
**Score:** /54  
**Percentage:** /100

### Question 1

The diagram shows the positions of three towns, Acton ( $A$ ), Barston ( $B$ ) and Chorlton ( $C$ ).



Barston is 8 km from Acton on a bearing of  $037^\circ$ .  
Chorlton is 9 km from Barston on a bearing of  $150^\circ$ .

Find the bearing of Chorlton from Acton.  
Give your answer correct to 1 decimal place.  
You must show all your working.

[5 marks]

### Question 2

The diagram shows the positions of three ships,  $A$ ,  $B$  and  $C$ .

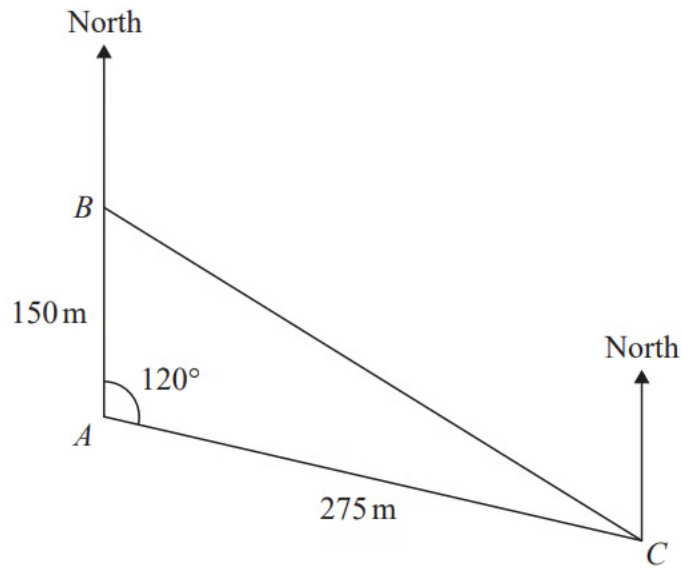


Diagram **NOT**  
accurately drawn

Ship  $B$  is due north of ship  $A$ .

The bearing of ship  $C$  from ship  $A$  is  $120^\circ$

Calculate the bearing of ship  $C$  from ship  $B$ .

Give your answer correct to the nearest degree.

[5 marks]

**Question 3**

$A$ ,  $B$  and  $C$  are three towns.

The bearing of  $B$  from  $A$  is  $105^\circ$

The bearing of  $C$  from  $B$  is  $230^\circ$

The distance of  $C$  from  $A$  is 180 km.

The distance of  $C$  from  $B$  is 95 km.

Calculate the distance of  $B$  from  $A$ .

Give your answer correct to 3 significant figures.

.....km

**[5 marks]**

**Question 4**

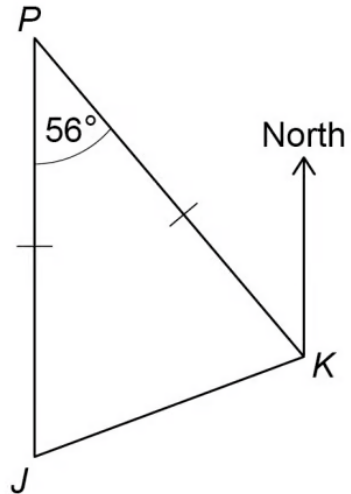
*J* and *K* are ships.

*P* is a port.

*J* is due South of *P*.

Angle *JKP* =  $56^\circ$

$JP = KP$



Not drawn accurately

Work out the bearing of *J* from *K*.

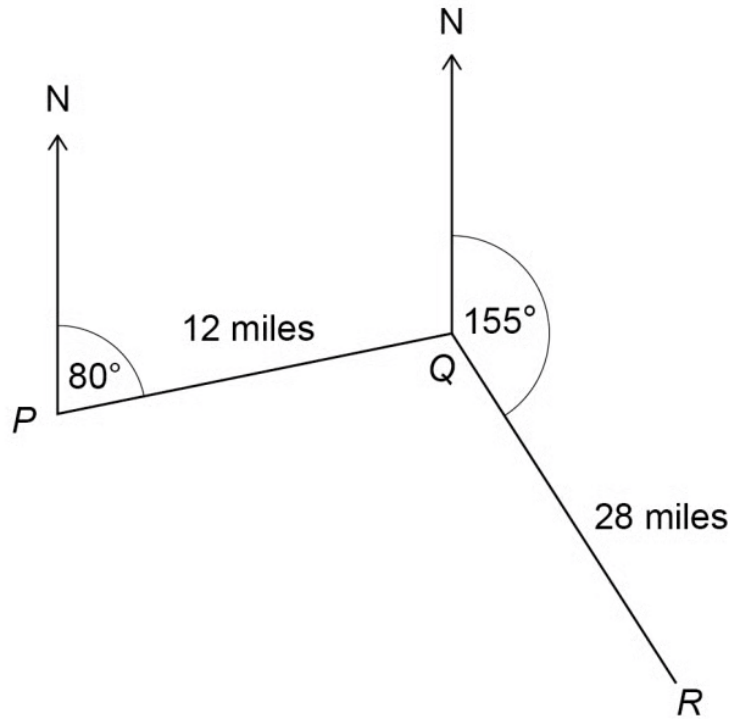
[3 marks]

**Question 5**

A ship sails from  $P$  to  $Q$  and then from  $Q$  to  $R$ .

$Q$  is 12 miles from  $P$ , on a bearing of  $080^\circ$

$R$  is 28 miles from  $Q$ , on a bearing of  $155^\circ$



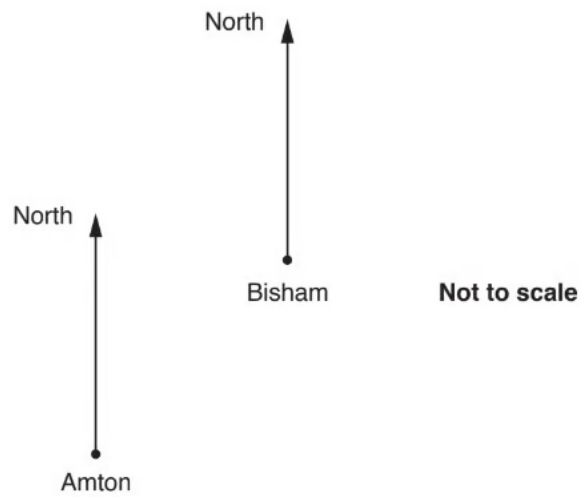
Not drawn accurately

Work out the direct distance from  $P$  to  $R$ .

[4 marks]

### Question 6

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



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

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

Calculate the 3-figure bearing of Amton from Bisham.

[4 marks]

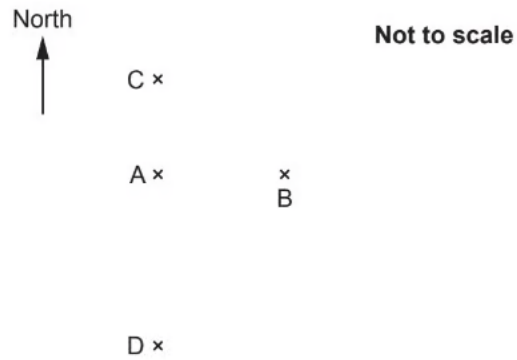
### Question 7a

A, B, C and D are four towns.

B is 25 kilometres due East of A.

C is 25 kilometres due North of A.

D is 45 kilometres due South of A.



Work out the bearing of B from C.

[2 marks]

### Question 7b

Calculate the bearing of D from B.

[4 marks]



**Question 8**

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.

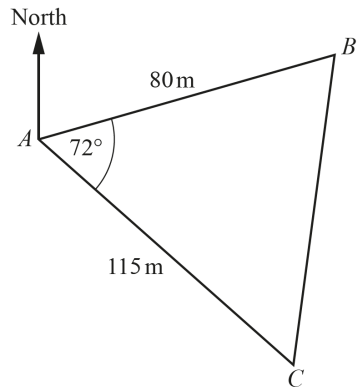
..... cm [1]

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

[2]

**[3 marks]**

**Question 9a**



NOT TO  
SCALE

The diagram shows the positions of three points *A*, *B* and *C* in a field.

Show that *BC* is 118.1 m, correct to 1 decimal place.

[3 marks]

**Question 9b**

Calculate angle *ABC*.

Angle *ABC* = .....

[3 marks]

**Question 9c**

The bearing of  $C$  from  $A$  is  $147^\circ$ .

Find the bearing of

i)

$A$  from  $B$ ,

[3]

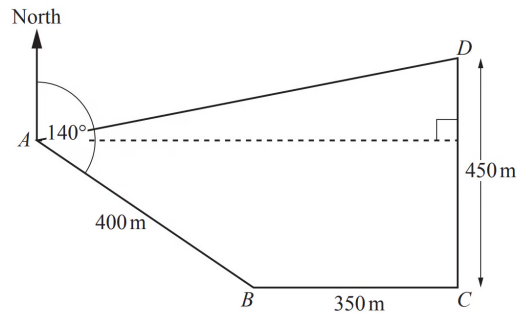
ii)

$B$  from  $C$ .

[2]

**[5 marks]**

Question 10

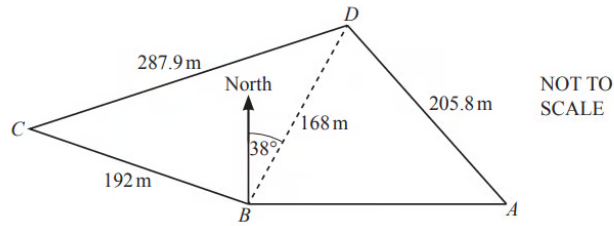


The diagram shows a field  $ABCD$ .  
The bearing of  $B$  from  $A$  is  $140^\circ$ .  
 $C$  is due east of  $B$  and  $D$  is due north of  $C$ .  
 $AB = 400\text{m}$ ,  $BC = 350\text{m}$  and  $CD = 450\text{m}$ .

Find the bearing of  $D$  from  $B$ .

[2 marks]

**Question 11**



The diagram shows a field, ABCD, on horizontal ground.  
 $BC = 192$  m,  $CD = 287.9$  m,  $BD = 168$  m and  $AD = 205.8$  m.

Angle  $CBD = 106^\circ$ .

i)  
 The bearing of  $D$  from  $B$  is  $038^\circ$ .

Find the bearing of  $C$  from  $B$ .

[1]

ii)  
 $A$  is **due east** of  $B$ .

Calculate the bearing of  $D$  from  $A$ .

[5]

[6 marks]

