

# E6.1 Bearings

## Question Paper

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Level	Core
Topic	E6. Trigonometry
Sub-Topic	E6.1 Bearings
Booklet	Question Paper

**Time Allowed:** 34 minutes

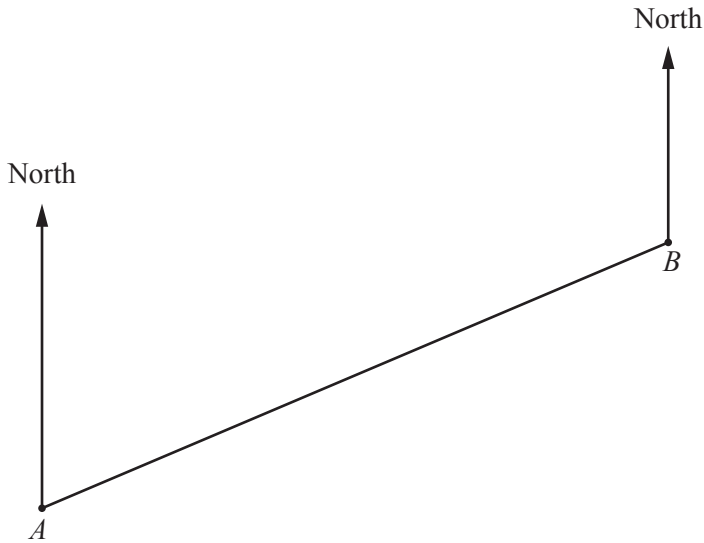
**Score:** /28

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

- 1 (a) The scale drawing shows port *A* and port *B*.  
The scale is 1 centimetre represents 15 kilometres.



Scale: 1 cm to 15 km

A ship sails from port *A* to port *B*.

- (i) Measure the bearing of port *B* from port *A*.

..... [1]

- (ii) Find the actual distance from port *A* to port *B*.

..... km [2]

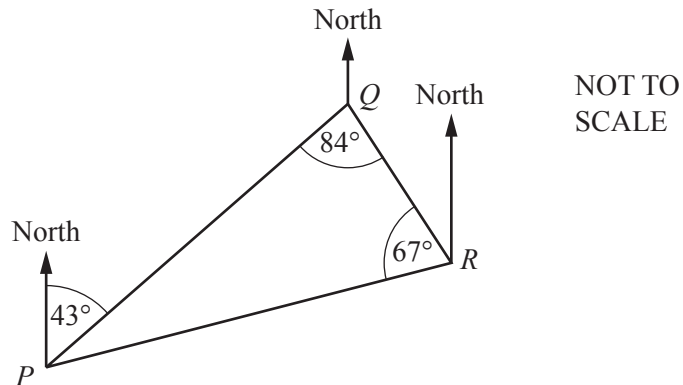
- (iii) The ship then sails from port *B* to port *C*.  
Port *C* is 90 km from port *B* on a bearing of  $146^\circ$ .

On the scale drawing mark the position of port *C*. [2]

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- (b) Another ship sails from port  $P$  to port  $Q$ .  
It then sails from port  $Q$  to port  $R$  before returning to port  $P$ .



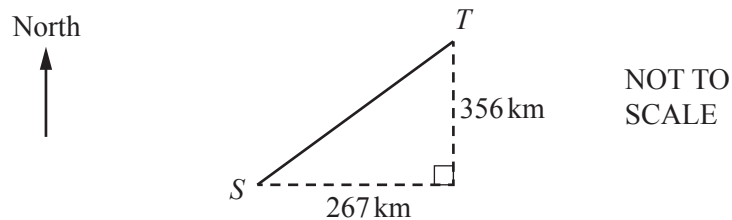
- (i) Find angle  $RPQ$ .

Angle  $RPQ = \dots\dots\dots$  [1]

- (ii) Find the bearing of port  $P$  from port  $R$ .

$\dots\dots\dots$  [2]

- (c)



Port  $T$  is 267 km east and 356 km north of port  $S$ .

Calculate the distance  $ST$ .

$ST = \dots\dots\dots$  km [2]

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2 Burton City is a football team.

(a) Burton City has 1732 supporters who want to travel to the next game.  
The football club hires some buses.  
Each bus seats 52 supporters.

(i) Work out the number of buses needed to take these supporters to the game.

..... [2]

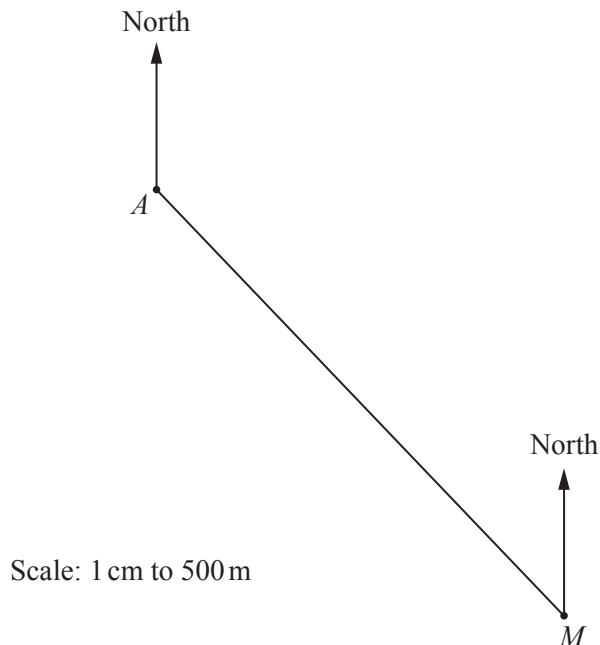
(ii) The cost of the buses will be shared equally amongst these supporters.  
Each bus costs \$198 to hire.

Work out the amount that each supporter must pay.  
Give your answer correct to the nearest 10 cents.

\$ ..... [3]

(b) Adam and Mabel are two supporters.

The scale drawing shows the positions of Adam's home, *A*, and Mabel's home, *M*.  
The scale is 1 centimetre represents 500 metres.



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- (i) Work out the distance in kilometres from  $A$  to  $M$ .

..... km [2]

- (ii) Burton City's football ground is on a bearing of  $105^\circ$  from  $A$  and on a bearing of  $068^\circ$  from  $M$ .

Mark the position of the football ground on the scale drawing. [3]

- (c) Teams are given points for winning or drawing games.

A win is given  $w$  points and a draw is given  $d$  points.

No points are given when the team loses.

- (i) Burton City has 24 points after winning 2 games and drawing 5 games.

Complete the equation.

$$2w + 5d = \dots\dots\dots [1]$$

- (ii) Sowton Rovers is another football team.

Sowton Rovers has 29 points after winning 3 games and drawing 4 games.

Write this information as an equation.

$$\dots\dots\dots = \dots\dots\dots [2]$$

- (iii) Solve your two equations to find the number of points for a win and the number of points for a draw. You must show all your working.

$$w = \dots\dots\dots$$

$$d = \dots\dots\dots [4]$$

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- (iv) Another team, Cranbrook United, has played 12 games.  
It has won 4 games, drawn 5 games and lost 3 games.

Work out the number of points Cranbrook United has after 12 games.

..... [1]