

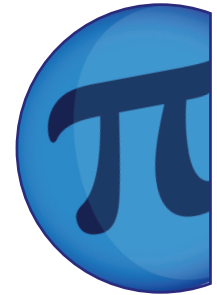


Straight Lines: Bee Lines

NAME:

CLASS:

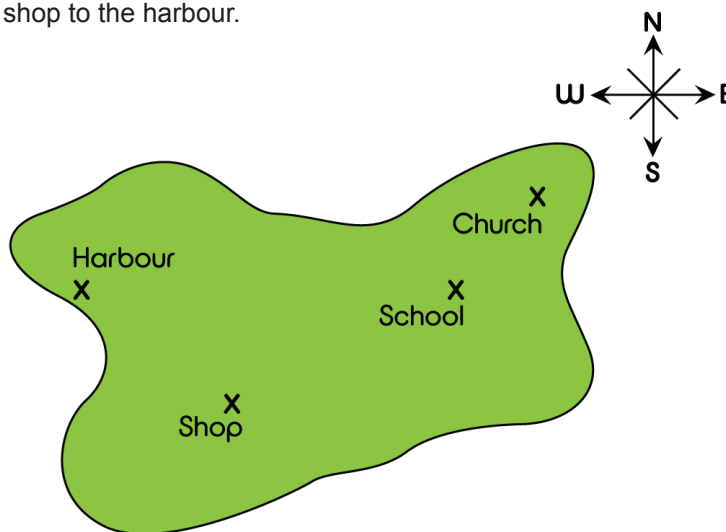
DATE:



Basic

1) Below is a map of an island. Using this map find the following:

- a) the bearing from the harbour to the church.
- b) the bearing from the church to the school.
- c) the bearing from the school to the shop.
- d) the bearing from the shop to the harbour.



2) If 1cm on the map is equivalent to 1km in real terms, find the distances below:

- a) distance from the harbour to the church.
- b) distance from the church to the school.
- c) distance from the school to the shop.
- d) distance from the shop to the harbour.



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Core

1) Shamila decides to walk from home (H) to school (S). She sets off from her house at a bearing of 078° for 550m. She stops at the shop (T) to buy a drink then continues her walk to school for a further 600m at a bearing of 135° .

a) Draw a scale drawing of her walk using the scale $100\text{m} = 1\text{cm}$.

b) What is the bearing of the school from her house?

c) What is the direct distance to school from her house?

2) Two aeroplanes leave A at the same time.

Plane 1 flies on a bearing of 65° to B.

Plane 2 flies on a bearing of 120° to C.

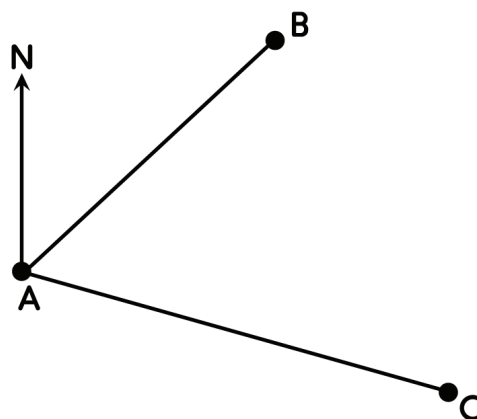
From B, the bearing of Plane 2 at C is 160° .

Calculate:

a) the bearing of A from B.

b) the bearing of A from C.

c) the bearing of C from B.





Straight Lines: Bee Lines

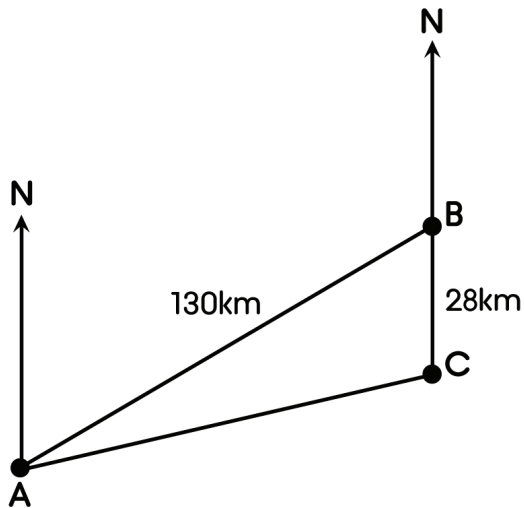
Core

3) A ship sails 130km from port A to port B on a bearing of 065° . It then travels to port C, which is 28km due south of port B.

If the ship sailed direct to port C from port A, calculate:

a) the distance from port A to port C.

b) the bearing at which the ship would sail.



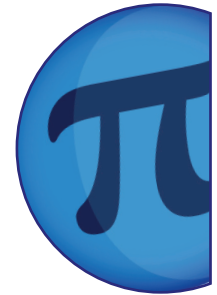


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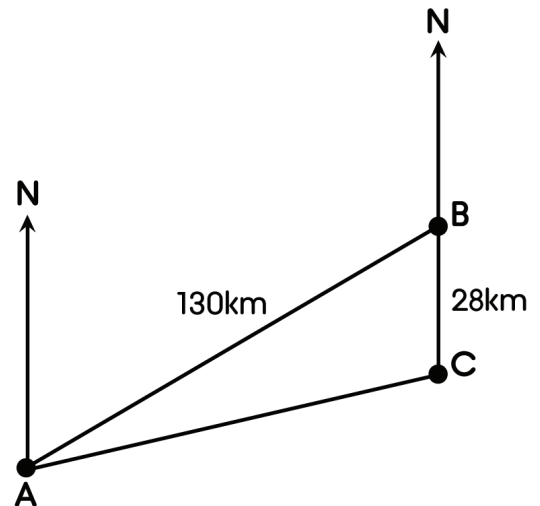
Advanced

1) A ship sails 130km from port A to port B on a bearing of 065° . It then travels to port C, which is 28km due south of port B.

If the ship sailed direct to port C from port A, calculate:

a) the distance from port A to port C.

b) the bearing at which the ship would sail.



2) In the diagram below, plot the positions of the points, A, B, C, D and E relative to the origin O if:

a)

$$\vec{OA} = \begin{pmatrix} 2 \\ 3 \end{pmatrix}$$

b)

$$\vec{OB} = \begin{pmatrix} 5 \\ -2 \end{pmatrix}$$

c)

$$\vec{BC} = \begin{pmatrix} -2 \\ 6 \end{pmatrix}$$

d)

$$\vec{AD} = \begin{pmatrix} 3 \\ -8 \end{pmatrix}$$

e)

$$\vec{EO} = \begin{pmatrix} 6 \\ 6 \end{pmatrix}$$

3) Calculate the magnitude of each of the vectors in question 2.



Straight Lines: Bee Lines

ANSWERS

Basic

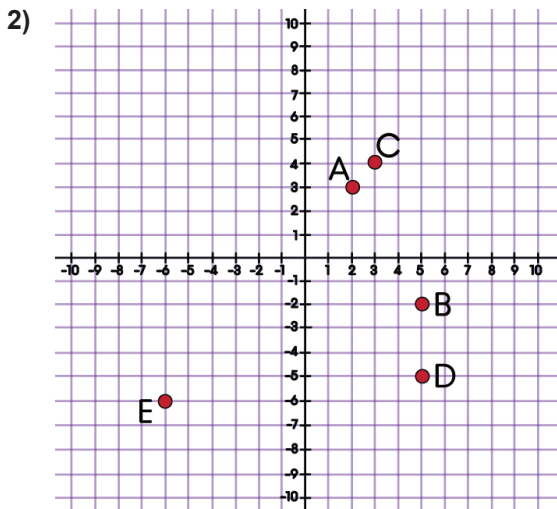
- 1) a) 078 b) 221 c) 243 d) 306
- 2) a) 5.8km b) 1.5km c) 3.1km d) 2.3km

Core

- 1) b) 108° c) 1011m
- 2) a) 245° b) 300° c) 340°
- 3) a) 120.9km b) 077°

Advanced

- 1) a) 120.9km b) 077°



- 3) a) 3.6 b) 5.4 c) 6.3 d) 8.5 e) 8.5