Your notes

GCSE Maths: revision notes

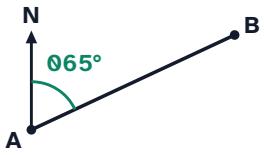
Bearings and scale drawings

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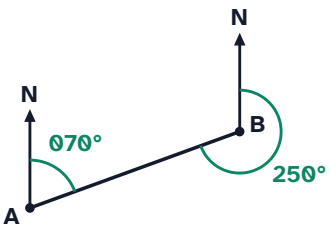
Bearings

- A **bearing** is an angle measured **clockwise** from north. It is always written with three figures, such as 045°, 120° or 300°.
- To measure a **bearing**, put the centre of your protractor on the starting point and measure **clockwise** from the **north line**.



Back bearings

- The **bearing** of A from B differs from the **bearing** of B from A by 180°.
- If the **bearing** is less than 180°, add 180°. If it is more than 180°, subtract 180°. If the **bearing** of B from A is 070°, the **bearing** of A from B is 250°.



Scale drawings and maps

- A map **scale** of 1 : 50 000 means 1 cm on the map is 50 000 cm (500 m) in real life. So 4 cm on the map is 200 000 cm, which is 2 km.
- With a **scale** of 1 cm to 5 km, 3.5 cm on the map represents 17.5 km.
- To go from real life to the map, divide by the **scale**.

Using bearings with other maths

- **North lines** are parallel, so you can use alternate and co-interior angles between them.
- **Bearings** problems often need Pythagoras or trigonometry too.

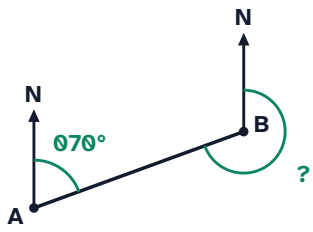
Key terms

Bearing	An angle measured clockwise from north, written with three figures.
North line	A line pointing north, drawn at the point you measure from.
Clockwise	In the direction the hands of a clock move.
Back bearing	The bearing for the return journey, 180° different.
Scale	The ratio between lengths on a drawing or map and real lengths.
Scale drawing	An accurate drawing with all lengths reduced or enlarged by the same scale.

Quick questions

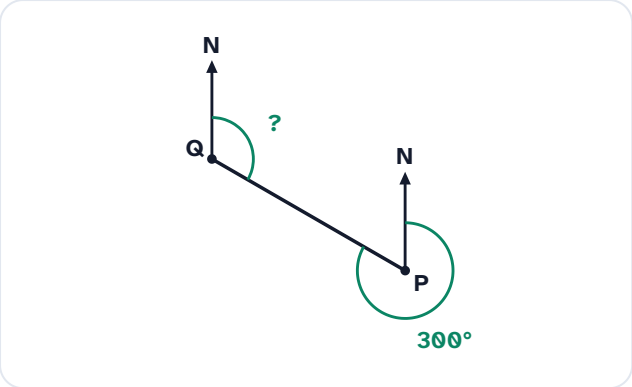
Cover the answers and test yourself: remembering is what makes it stick.

1. In which direction are bearings measured?
2. What is the bearing of due east?
3. What is the bearing of due south?
4. What is the bearing of south-west?
5. How many figures should a bearing have?
6. The bearing of B from A is 070°. What is the bearing of A from B?



Your notes

7. The bearing of Q from P is 300°. What is the bearing of P from Q?



8. A map has a scale of 1 : 50 000. What real distance does 4 cm on the map show?

Answers

1. Clockwise from north
2. 090°
3. 180°
4. 225°
5. Three
6. 250°
7. 120°
8. 2 km

What to do next

Practise 12 questions on this topic

Try 5 exam questions, with mark schemes

Read the lesson, one step at a time

Free revision for GCSE and KS3 at lycolearn.co.uk. Some notes are for one exam board only, and say so in brackets.

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