Guidance for tutors

Outcome	SA5	Student can consistently:	Draw and solve problems involving bearings.

How the topic is examined	• Examined through test paper questions.
	• Questions are equally likely to appear on calculator and non-calculator papers.
	• Questions may ask students
	  ○ To draw a bearing (usually within a scale drawing)
	  ○ To measure and calculate a bearing
	  ○ To work out a back-bearing
	• Often bearings are part of problems involving trigonometry.		

Prior knowledge	• Students should be confident with:
	  ○ Using a protractor.
	  ○ Scale drawing.
	• In addition questions involving this topic can have links to:
	  ○ Trigonometry (SPT2, SPT3)		

Suggested tuition approaches	• Bearings are one way of describing direction.
	• Bearings are usually given as a 3 figure bearings and bearings are always measured clockwise from north.
	• To draw a given bearing of A from B
	  ○ Draw a north line from B
	  ○ With your protractor measure the angle given from North,
	  ○ Draw a line at this angle and this will show the required bearing.		

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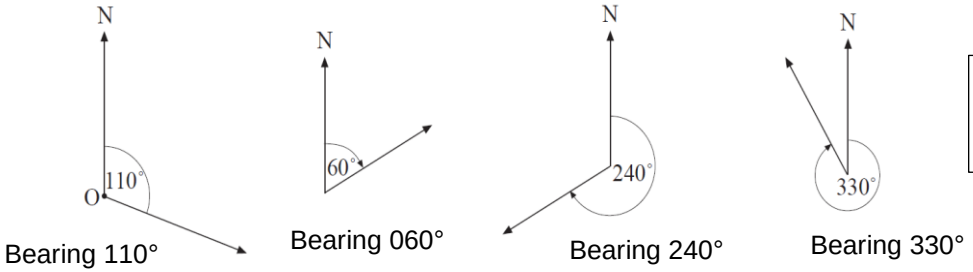

Bearing 110° Bearing 060° Bearing 240° Bearing 330°

The diagram shows different bearings. Notice that the 60° angle is given as a bearing of 060°

- Students may be asked to measure a given bearing as opposed to drawing this. Again the bearing must be measured clockwise from north.
- Bearings usually are part of questions that require scale drawing.
- The bearing of A from B is measured from B and not from A.
- The bearing of A from B is not the same as the bearing of B from A.
- If you look at the 060° and 240° in the diagram above, you will see that they are opposite of one another. The 240° is a back bearing of the 060°.

Common errors and misconceptions

- Accuracy when measuring and drawing. Students can be out 2° either way.
- The bearing of A from B is measured from B and not from A. Often students measure it from A.
- The bearing of A from B is not the same as the bearing of B from A.

Suggested resources

- Questions
  - http://www.cimt.org.uk/projects/mepres/book8/bk8_11.pdf (pp 197 - 200)
  - https://corbettmaths.files.wordpress.com/2013/02/bearings-exercise-26-pdf.pdf
  - https://corbettmaths.files.wordpress.com/2013/02/bearings-pdf1.pdf
- Past GCSE Questions
  - https://keshgcsemaths.files.wordpress.com/2013/11/77_bearings.pdf
- Video tutorial
  - http://corbettmaths.com/2013/03/27/bearings/