

4.1.3 Bearings

Name: _____ Class: _____ Date: _____

KEY WORDS bearing

<!-- Session 2 native-skill companion -->

Objective

Practise bearings within the labelled native lessons. Public original tasks; locally authored answer guidance.

1 Key knowledge and worked examples

■ Measuring angles and three-figure bearings · Foundation

Draw a north line at the starting point, then measure clockwise to the route. Write three digits: east 090° , south 180° , west 270° , north 000° . NE, SE, SW and NW are $045^\circ, 135^\circ, 225^\circ, 315^\circ$. For the reverse bearing add 180° and reduce modulo 360° . Use a ruler for a stated-scale length and the correct protractor scale for a stated angle.

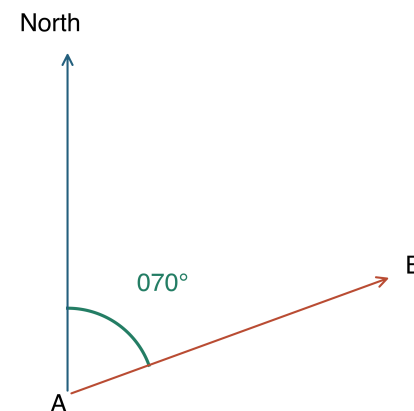
$$b_{\text{reverse}} = (b + 180^\circ) \bmod 360^\circ$$

From A to B the bearing 070° is 70° clockwise from north. From B to A it is $070 + 180 = 250^\circ$. A bearing of 320° reverses to $500 - 360 = 140^\circ$. East is 090° , not 90 without its three-digit form. A route bearing 120° points southeast of the starting point, making 30° below east. On a 1:10000 map, a 3 cm route represents 300 m; to construct bearing 120° , place the protractor centre at the route start, align its zero with north and measure clockwise. Keep the ruler scale and angular direction as separate decisions.

A bearing is measured at the departure point, not the destination. Read clockwise from north rather than the acute angle to the nearest compass axis. The back bearing differs by 180° , even when the diagram is oblique.

AQA G15 includes measured lengths/angles, maps, the eight compass directions and three-figure bearings. State which point supplies north and distinguish a numerical bearing from a measured scale distance.

Clockwise from north at A; reverse bearing at B is 250°



Original native-lesson illustration; labels belong to its worked example.

2 Practice

2.1 (Foundation) Find the reverse bearing of 070° .

2.2 (Foundation) Find the reverse bearing of 320° .

2.3 (Foundation) Give the bearing of southeast in degrees.

3 Exam-style questions

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: The reverse bearing of 070° is 290° .

Solutions

2.1 $070+180=250^\circ$.

2.2 $320+180=500$; subtract 360.

2.3 Southeast is halfway from east 090° to south 180° .

3.1 False. Add 180° modulo 360° : $070^\circ+180^\circ=250^\circ$. A reverse bearing describes the opposite direction.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.