

Bearings and scale drawings

Pearson Edexcel GCSE Mathematics 1MA1 • L031

Foundation and Higher • Lesson resources

REACH FOR THE STAR | GCSE MATHEMATICS

Purpose

Interpret three-figure bearings and construct scale drawings with accurate distance and direction.

Vocabulary

Bearing: clockwise angle from north at the starting point, written with three digits. Reverse

bearing: direction back along the same route. Scale: relationship between drawing and real lengths.

Why the method works

Parallel north lines mean reversing a route changes the bearing by 180° , wrapping within 000° to 359° . A bearing of 060° is clockwise from north, not from east. At scale 1 cm:2 km, a 6 km route is drawn 3 cm long. Use the same units when writing a ratio scale.

Method and checking

Mark the start, north arrow and clockwise bearing. Convert distance to drawing length. Draw and label the endpoint. To reverse, add or subtract 180° . Check quadrant and real-distance conversion.

Common errors and next attempt

If a protractor starts at east, mark north before measuring. If reverse bearing is 360–b, use a north-east route and draw its south-west return. If 1:50 000 is read as metres, label both scale lengths in centimetres.