

The full four-quadrant co-ordinate plane

CURRICULUM ALIGNMENT

SHA.SAL.4a describe location on the full co-ordinate plane.

INTERACTIVES Coordinate Grid · challenge, display, explore

WHAT THIS LESSON TEACHES

The origin (0, 0) is where the axes cross at the centre. Points use signs to show which of the four quadrants they are in.

→ On a map of Ireland with the origin at Athlone, (5, 2) is in quadrant I.

→ (-3, 4) is in quadrant II.

MODEL THIS ON THE BOARD

IDENTIFYING THE QUADRANT FOR A POINT

- 1 Look at the signs of the x and y values.
- 2 Both positive means quadrant I.
- 3 x negative and y positive means quadrant II.

ANSWER KEY

Scaffold: visual check on the page

Q1: Quadrant I

Q2: Quadrant II

Q3: on the y-axis (no quadrant)

Q4: IV

a) Never — Reflecting flips the sign of y, so quadrant I goes to IV and II goes to III.

b) Sometimes — It holds in I and III, where both signs match; (-2, 3) in II becomes (3, -2) in IV.

c) Sometimes — (2, 3) and (2, 5) are both in I, but (2, 3) and (2, -3) are in I and IV.

d) Always — I is top right, II top left, III bottom left, IV bottom right.

EXTENSION SHEET · STRETCH ANSWERS

S1: 9 units

S2: (-6, 4) → Q2

S3: 11 units

S4: (8, -4) → Q4

S5: 9 units