

Creating simple scale drawings

MODULE 8 · LOCATION, TRANSFORMATIONS AND SCALE REVIEW

A **scale drawing** shrinks real measurements by a fixed ratio so they fit on paper. Divide real lengths by the scale to draw them.

→ At 1 : 50, a 5 m wall is drawn 10 cm long ($500 \text{ cm} \div 50$).

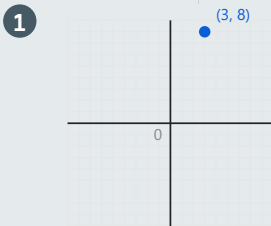
DRAW A 6 M WALL AT A SCALE OF 1 : 50

- 1 6 m = 600 cm real.
- 2 Divide by the scale: $600 \div 50 = 12 \text{ cm}$ on paper.

HOW TO ANSWER TODAY

- **Quadrants.** Q1 is top-right; numbering goes ANTICLOCKWISE. A point on an axis is on the axis, not in a quadrant.
 $(3, 5) \rightarrow \text{Q1} \cdot (-2, 1) \rightarrow \text{Q2} \cdot (0, 4) \rightarrow \text{on the y-axis}$
- **Scale drawing.** Scale 1:N means 1 unit on the drawing = N units in real life. Multiply the drawing length by N.
 Scale 1:100, drawing 5 cm $\rightarrow$ real $5 \times 100 = 500 \text{ cm} = 5 \text{ m}$
- **Distance on an axis.** If the two points share x or y, subtract the OTHER coordinates. Answer is in units.
 $(2, 5)$ and $(2, 9)$ share $x=2 \rightarrow 9 - 5 = 4$ units

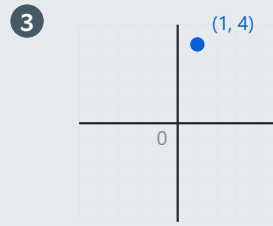
WARM-UP



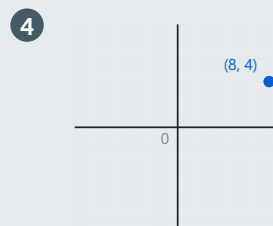
Saoirse draws a plan of the school yard on grid paper, with the flagpole at the origin. She marks the basketball hoop at the point (3, 8). Which quadrant of the grid contains the basketball hoop?

- 2 Cian draws a scale plan of the 5th-class classroom for his project, using a scale of 1:10. On the plan, the teacher's desk measures 10 cm long. What is the real length of the desk in centimetres?

A scale drawing is drawn at 1:10. A line on the drawing measures 10 cm. What is the real length?



Mr Ó Briain has set up a treasure hunt across the school yard using a coordinate grid chalked on the ground. The first clue Saoirse finds points to the spot at (1, 4). Which quadrant of the grid contains the point (1, 4)?



During PE in the school yard, Tadhg's 5th class marks out a coordinate grid with chalk and places cones at different points. Tadhg's cone sits at the point (8, 4) on the grid. Which quadrant contains his cone?