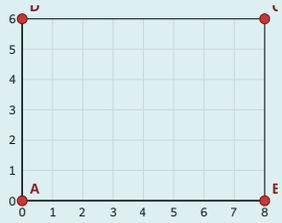
Lesson 88

Scale drawings and scale maps — small drawings of big things

MODULE 7 · DATA, CHANCE AND THE CO-ORDINATE PLANE DATA & CHANCE

A **scale** tells us how many real units one paper unit stands for. A **1:100** scale means 1 cm on the page represents 100 cm (= 1 m) in real life. To convert: multiply the paper measurement by the scale's right-hand number.



- → **1:100** plan, line **5 cm** long → real length = 5 × 100 = **500 cm = 5 m**.
- → **1:50,000** OS map, two points **3 cm** apart → real distance = 3 × 50,000 = 150,000 cm = **1.5 km**.
- → Drawing a room **8 m × 6 m** at **1:100** → paper rectangle **8 cm × 6 cm** (the ABCD grid above).

CLASSROOM IS 8 M × 6 M — DRAW IT AT 1:100 SCALE

1. **1:100** means 1 cm on paper = 100 cm (1 m) in real life.
2. 8 m → paper length = 8 × 1 cm = **8 cm**.
3. 6 m → paper width = 6 × 1 cm = **6 cm**.
4. Draw the rectangle **8 cm × 6 cm**. Label the scale (1:100) above it.

HOW TO ANSWER TODAY

- **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 → real 5 × 100 = 500 cm = 5 m
- **Mean (average).** Add ALL the numbers. Divide by HOW MANY there are.
  Mean of 2, 5, 6, 9 → (2+5+6+9) ÷ 4 = 22 ÷ 4 = 5.5

WARM-UP

1. 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?

2. Oisín draws a scale plan of his classroom for a maths project at a scale of **1:10**. The teacher's desk measures **12 cm** on his drawing. What is the real length of the desk in centimetres?

   > A scale drawing is drawn at 1:10. A line on the drawing measures 12 cm. What is the real length?

PRACTICE

1. Cian's 5th class is planning a school tour to Glendalough and Mr O'Brien sketches the visitor centre on a plan drawn at a scale of **1:50**. The front wall of the centre measures **9 cm** on his plan. What is the real length of the wall in centimetres?

   > A scale drawing is drawn at 1:50. A line on the drawing measures 9 cm. What is the real length?

2. Aoife's class is designing a scale drawing of the new SuperValu car park at a scale of **1:200**. On her drawing, the length of the car park measures **15 cm**. What is the real length of the car park in centimetres?