

Capacity – measuring jugs

MODULE 4 · MEASURES — LENGTH, MASS, CAPACITY, AREA, VOLUME

NUMBER

To read a measuring jug, find the **scale line nearest to the surface** of the liquid. Most jugs are marked in **millilitres (ml)** — and **1 000 ml = 1 litre**.

→ If the surface sits halfway between **400** and **500**, it's about **450 ml**.

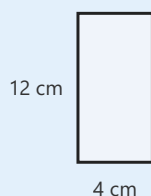
→ **1.5 l** poured into a 2-litre jug fills it to the **1 500 ml** mark — three-quarters of the way up.

HOW TO ANSWER TODAY

- **Area.** Area = length $\times$ width. Write the answer in square units (cm^2 , m^2).
 $5 \text{ m} \times 3 \text{ m} \rightarrow 15 \text{ m}^2$
- **Estimate gap.** Subtract the smaller from the bigger to find how far off the estimate was.
 Estimated 15 cm, real 12.5 cm $\rightarrow$ 2.5 cm off
- **Perimeter.** Perimeter is the distance ALL the way round. Rectangle: (length + width) $\times$ 2.
 $12 \text{ m by } 8 \text{ m} \rightarrow (12 + 8) \times 2 = 40 \text{ m}$

WARM-UP

1



Cian draws a rectangular soccer pitch on a sheet of squared paper for his PE project. The pitch on the page measures **4 cm** by **12 cm**. What is the area of the pitch on the page?

- 2 Cian draws a parallelogram-shaped pitch plan in his copybook for the lunchtime soccer match in the schoolyard. The plan has a base of **4 cm** and a perpendicular height of **8 cm**. What is the area of the parallelogram?

A parallelogram has a base of 4 cm and a perpendicular height of 8 cm. What is its area?

PRACTICE

- 1 Tadhg is painting a banner for the GAA county finals day. He estimates the width of the painted stripe will be **103 cm**, but when he measures it after painting it is **87 cm**. By how much is his estimate off?
 A pupil estimates a length as 103 cm, then measures it as 87 cm. By how much is the estimate off?
- 2 Saoirse maps out a small rectangular planting bed in the school orchard where a new apple tree will go. She measures its area as **30000** cm^2 . Convert this area into m^2 . (**1** m^2 = **10 000** cm^2)

ALWAYS, SOMETIMES, NEVER

Always true, sometimes true, or never true? Write A, S or N.

- | | |
|---|--|
| a. Doubling every side of a cube doubles its volume. <input type="text"/> | d. Volume is measured in cubic units (cm^3 , m^3). <input type="text"/> |
| b. Two cuboids with the same volume have the same shape. <input type="text"/> | e. If a cuboid is $4 \text{ cm} \times 3 \text{ cm} \times 2 \text{ cm}$, its volume is 9 cm^3 . <input type="text"/> |
| c. 1 cm^3 is the same as 1 ml. <input type="text"/> | f. A cuboid and a cube can have the same volume. <input type="text"/> |