Perimeter, area or volume: flowchart

Planner weeks 4 and 12 · Distance round, space inside or 3-D? Follow the arrows

Perimeter, area or volume

What are you finding?
read the question: what is it asking for?

Round · Inside · 3-D

PERIMETER: distance round

A shape made of rectangles: sides 6, 7, 10 and 5 cm are given.

1. Find the missing sides: 10 − 6 = 4, 7 − 5 = 2
2. Go round and add: 6 + 2 + 4 + 5 + 10 + 7
3. = **34 cm**

✓ tick each side as you add it

AREA: space inside

A trapezium has parallel sides 10 m and 16 m, height 7 m.

1. Trapezium: $\frac{1}{2} \times (a + b) \times h$
2. $\frac{1}{2} \times (10 + 16) \times 7 = 13 \times 7$
3. = **91 m²**

✓ rectangle, triangle, parallelogram, trapezium

VOLUME: 3-D space

A prism 25 cm long. Its cross-section is a triangle, base 5 cm, height 12 cm.

1. Cross-section: $\frac{1}{2} \times 5 \times 12 = 30$ cm²
2. × the length: 30 × 25
3. = **750 cm³**

✓ cuboid: length × width × height

Is there a circle in the shape?

No → **Units**
cm, cm² or cm³

Yes → **Use the Circles flowchart**
area = π × r² · circumference = π × d

The big question

Is it the distance **round** the edge, the space **inside**, or a **3-D** shape?

Perimeter → cm · Area → cm² · Volume → cm³

Watch out

- Multiplying sides for perimeter (that is area).
- Forgetting the ½ for a triangle or trapezium.
- Using a slanted side as the height.
- Compound shapes: split up, then add.
- Mixing mm and cm.