Circles: flowchart

Planner week 12 · Area or circumference? Follow the arrows

A circle question

Area or circumference?
space inside, or distance round the edge

Inside

AREA: space inside

A circle has a radius of 6 cm. Find the area.

1. Find the **radius** (half the diameter): 6 cm
2. Square it, then × π: $\pi \times 6^2 = \pi \times 36$
3. = 113.09… = **113.1 cm²**

✓ not $(\pi \times r)^2$

Round

CIRCUMFERENCE: round the edge

A circle has a diameter of 8 cm. Find the circumference.

1. Find the **diameter** (2 × radius): 8 cm
2. × π: $\pi \times 8$
3. = 25.13… = **25.1 cm**

✓ round at the end

Is it part of a circle?
a semicircle or a quarter

No → **Round**
to 1 d.p. at the end

Yes

Semicircle: ÷ 2 · quarter: ÷ 4 · perimeter? add the straight edges
Semicircle, diameter 8 cm: 25.13… ÷ 2 + 8 = **20.6 cm**

The big question

Is it the space **inside** (area) or the distance **round** (circumference)?

Then: have I got the **radius** or the **diameter**?

Remember

Area = $\pi \times r^2$
Circumference = $\pi \times d$
$d = 2 \times r$

Watch out

- Using the diameter in $\pi \times r^2$.
- Forgetting to divide for a semicircle.
- Forgetting the straight edge.
- Shaded area: big shape − small shape.