

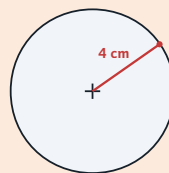
Drawing circles with a compass

MODULE 6 · 2D AND 3D SHAPE, ANGLES, SYMMETRY

SHAPE & SPACE

To draw a circle with a compass: **set** the compass legs to the radius you want, **plant** the sharp point on the centre, **rotate** the pencil arm all the way round — without lifting the point or changing the spread.

- For a **4 cm radius** circle: open the compass to 4 cm against a ruler before you start.
- If the sharp point slips, the curve breaks — keep firm pressure on the centre.
- **Concentric circles** share a centre — re-set the radius and draw again from the same point.



- 1 **Set**
open to the radius
- 2 **Plant**
sharp point on centre
- 3 **Rotate**
round without lifting

DRAW THREE CONCENTRIC CIRCLES (RADII 2 CM, 4 CM, 6 CM)

- 1 Mark a small **cross** on your page — this is the shared centre.
- 2 Set your compass to **2 cm** against a ruler. Plant the point on the cross. Rotate fully without lifting.
- 3 **Re-set** the compass to **4 cm**. Plant on the same cross. Rotate fully.
- 4 **Re-set** the compass to **6 cm**. Plant on the cross. Rotate fully. You now have three rings sharing a centre.

HOW TO ANSWER TODAY

- **Compass drawing.** Set the compass opening to the radius. Hold the point still; sweep the pencil all the way round.
Circle, radius 3.5 cm → open compass to 3.5 cm, draw
- **Parts of a circle.** Centre = middle point. Radius = centre to edge. Diameter = edge through centre to edge. Circumference = the distance round.
Line from centre to edge → radius · All the way round → circumference
- **Radius ↔ diameter.** Diameter = $2 \times \text{radius}$. Radius = $\text{diameter} \div 2$.
Radius 5 cm → diameter 10 cm · Diameter 12 cm → radius 6 cm

WARM-UP

- 1 Niamh is designing a price tag for the corner shop window using her compass at home after school. She needs to draw a circular tag with a radius of **3 cm**. Set your compass against a ruler at **3 cm**, plant the sharp point firmly on the page, and rotate fully without lifting to draw the circle.

Use your compass to draw a circle with radius 3 cm. Set the compass against a ruler, plant the sharp point firmly, and rotate fully without lifting.

- 2 Cara takes a round counter out of the feely bag in the maths corner and traces a straight line on it from one edge to the other, passing through the middle. What is the line that goes all the way across a circle through its centre called?

What is the line that goes all the way across a circle through its centre called?