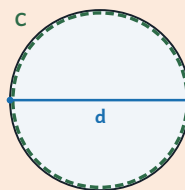


Circumference – measuring round things and meeting π

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

The distance around a circle (its **circumference**) is always a little over **three** times the diameter. The exact ratio is the number we call π (pi), about **3.14**. So $C \approx \pi \times d$ (or $C \approx 2 \times \pi \times r$).

- Diameter **10 cm** → circumference $\approx 3.14 \times 10 = \mathbf{31.4}$ cm.
- Radius **5 cm** (diameter 10 cm) → circumference $\approx \mathbf{31.4}$ cm.
- Bicycle wheel diameter **65 cm** → one full turn rolls about **204 cm** along the ground.



FOR EVERY CIRCLE
 $C \div d \approx 3.14$
 we call this number π (pi)

A CAN OF BEANS HAS DIAMETER 7 CM — HOW FAR AROUND?

- 1 The distance around a circle is its **circumference**: $C \approx \pi \times d$.
- 2 Use $\pi \approx 3.14$: $C \approx 3.14 \times 7$.
- 3 $3.14 \times 7 = \mathbf{21.98}$ — round to **22 cm**.
- 4 One full turn around the can is about **22 cm**.

HOW TO ANSWER TODAY

- **Circumference.** Circumference = $\pi \times$ diameter (or $2 \times \pi \times$ radius). Use $\pi \approx 3.14$. Round to 1 decimal place.
 Diameter 10 cm → $3.14 \times 10 = 31.4$ cm
- **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
- **$C \div d$.** Divide circumference by diameter. The answer is always close to π (about 3.14).
 Diameter 20 cm, circumference 63 cm → $63 \div 20 = 3.15$

WARM-UP

- 1 Saoirse draws a circular logo for the 5th class noticeboard. The logo has a radius of **2 cm**. What is its circumference? (Use $\pi \approx 3.14$ and round to **1** decimal place.)
 A circle has a radius of 2 cm. What is its circumference? (Use $\pi \approx 3.14$, round to 1 dp.)
- 2 Mr Ó Briain draws a big circle on the board for the 5th class Christmas hamper raffle wheel. He draws a straight line that goes all the way across the circle and passes right through the centre. What is the name of this line?
 What is the line that goes all the way across a circle through its centre called?

PRACTICE

- 1 The 5th class are planning a circular herb bed inside the new school polytunnel. The bed will have a radius of **5 cm** marked out in the centre as a small starter ring. Using $\pi \approx 3.14$, what is the circumference of the starter ring in centimetres, rounded to **1** decimal place?
 A circle has a radius of 5 cm. What is its circumference? (Use $\pi \approx 3.14$, round to 1 dp.)

- 2 For a maths investigation, Oisín measures a round biscuit tin lid in 5th class. The lid has a diameter of **8 cm** and a circumference of **25.2 cm**. What is the circumference divided by the diameter, to **2** decimal places?
