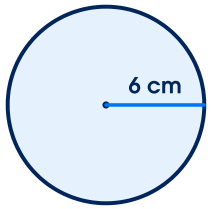
GCSE FOUNDATION · REVISION MAT 1

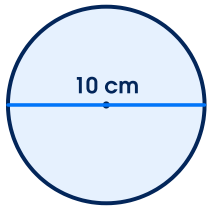
# Circumference and area of circles

**1** A circle has radius 6 cm.




Work out its circumference.
Give your answer to 1 decimal place.

**2** A circle has diameter 10 cm.



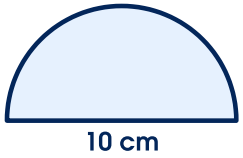

Work out its area.
Give your answer to 1 decimal place.

**3** A circle has diameter 12 cm.

Ben works out the area as $\pi \times 12^2 = 452.4\ cm^2$

Explain the mistake Ben has made.

**4** Show that the area of this semicircle is 39.3 $cm^2$, correct to 1 d.p.




**5** A bicycle wheel has a diameter of 60 cm.

How many complete turns does the wheel make when the bicycle travels 100 m?

**6** A running track is a rectangle with a semicircle at each end.




Work out the distance once round the track.
Give your answer to the nearest metre.

ANSWERS · REVISION MAT 1

# Circumference and area of circles

**1** $2 \times \pi \times 6 = \mathbf{37.7\ cm}$

**2** Radius = 5 cm

$\pi \times 5^2 = \mathbf{78.5\ cm^2}$

**3** Ben used the diameter instead of the radius.

Radius = 6 cm, so area = $\pi \times 6^2 = \mathbf{113.1\ cm^2}$

**4** Radius = 5 cm

$\pi \times 5^2 \div 2 = \mathbf{39.3\ cm^2}$ ✓

**5** Circumference = $\pi \times 60 = 188.5$ cm

$10\,000 \div 188.5 = 53.1$

**53 complete turns**

**6** Two semicircles make a circle of diameter 40 m: $\pi \times 40 = 125.7$ m

Total = $2 \times 80 + 125.7 = \mathbf{286\ m}$

Mr&Mrs MATHS