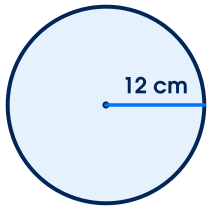
GCSE FOUNDATION · REVISION MAT 5

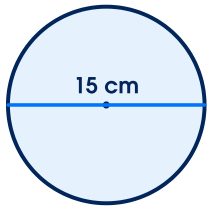
Circumference and area of circles

1 A circle has radius 12 cm.



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

2 A circle has diameter 15 cm.



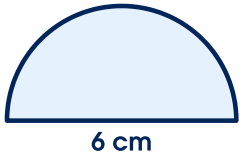
Work out its area.
Give your answer to 1 decimal place.

3 A circle has diameter 18 cm.

Finn works out the area as $\pi \times 18^2 = 1017.9\ cm^2$

Explain the mistake Finn has made.

4 Show that the area of this semicircle is 14.1 cm^2, correct to 1 d.p.



5 A bicycle wheel has a diameter of 55 cm.

How many complete turns does the wheel make when the bicycle travels 120 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 5

Circumference and area of circles

1 $2 \times \pi \times 12 = \mathbf{75.4\ cm}$

2 Radius = 7.5 cm

$\pi \times 7.5^2 = \mathbf{176.7\ cm^2}$

3 Finn used the diameter instead of the radius.

Radius = 9 cm, so area = $\pi \times 9^2 = \mathbf{254.5\ cm^2}$

4 Radius = 3 cm

$\pi \times 3^2 \div 2 = \mathbf{14.1\ cm^2}$ ✓

5 Circumference = $\pi \times 55 = 172.8$ cm

$12\,000 \div 172.8 = 69.4$

69 complete turns

6 Two semicircles make a circle of diameter 70 m: $\pi \times 70 = 219.9$ m

Total = $2 \times 120 + 219.9 = \mathbf{460\ m}$