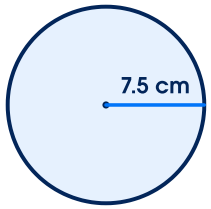
GCSE FOUNDATION · REVISION MAT 4

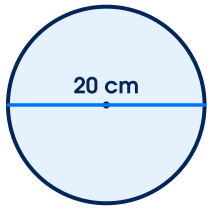
Circumference and area of circles

1 A circle has radius 7.5 cm.



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

2 A circle has diameter 20 cm.



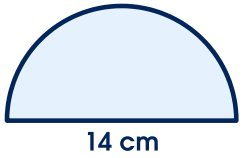
Work out its area.
Give your answer to 1 decimal place.

3 A circle has diameter 6 cm.

Ella works out the area as $\pi \times 6^2 = 113.1$ cm^2

Explain the mistake Ella has made.

4 Show that the area of this semicircle is 77.0 cm^2, correct to 1 d.p.



5 A bicycle wheel has a diameter of 65 cm.

How many complete turns does the wheel make when the bicycle travels 200 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 4

Circumference and area of circles

1 $2 \times \pi \times 7.5 = \mathbf{47.1\ cm}$

2 Radius = 10 cm

$\pi \times 10^2 = \mathbf{314.2\ cm^2}$

3 Ella used the diameter instead of the radius.

Radius = 3 cm, so area = $\pi \times 3^2 = \mathbf{28.3\ cm^2}$

4 Radius = 7 cm

$\pi \times 7^2 \div 2 = \mathbf{77.0\ cm^2}$ ✓

5 Circumference = $\pi \times 65 = 204.2$ cm

$20\,000 \div 204.2 = 97.9$

97 complete turns

6 Two semicircles make a circle of diameter 50 m: $\pi \times 50 = 157.1$ m

Total = $2 \times 90 + 157.1 = \mathbf{337\ m}$

Mr&Mrs MATHS