# Radius, diameter, circumference and the meaning of pi

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

**1.** A circle has radius 7 cm. Find its diameter. [1 mark]

2 × 7 = 14 cm.

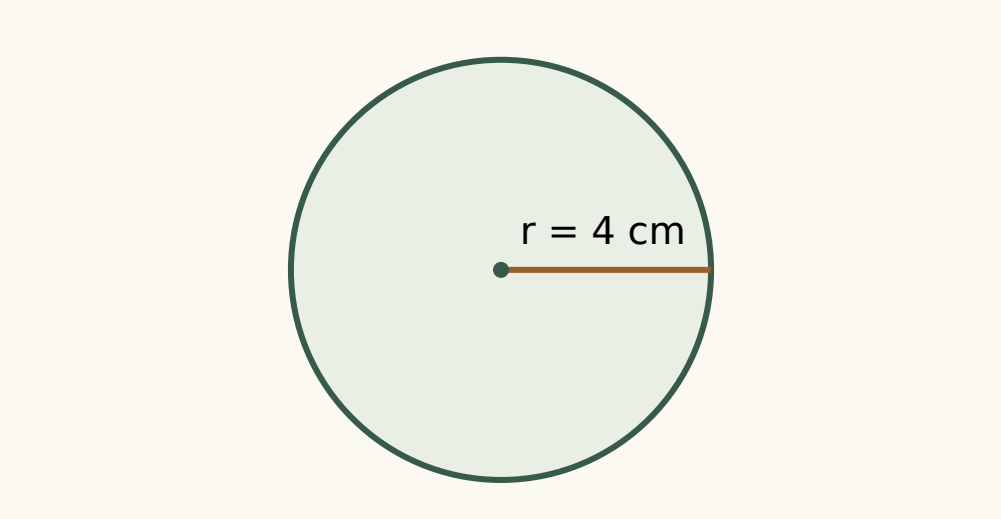
**Answer:** 14 cm

**2.** A circle has diameter 9 m. Find its radius. [1 mark]

9 ÷ 2 = 4.5 m.

**Answer:** 4.5 m

**3.** Find the exact circumference of a circle of radius 4 cm. [2 marks]




Diameter = 8 cm.

C = π × 8.

**Answer:** 8$\pi$ cm

**4.** A wheel has diameter 20 cm. Using π ≈ 3.14, find the distance travelled in one complete turn without slipping. [2 marks]

One turn travels one circumference.

3.14 × 20 = 62.8 cm.

**Answer:** 62.8 cm

**5.** A circle has circumference 24π cm. Find its diameter and radius. [2 marks]

Divide C by π to find d = 24 cm.

Halve the diameter to find r = 12 cm.

**Answer:** Diameter 24 cm; radius 12 cm

**6.** A semicircle has diameter 10 cm. Find its complete perimeter, including the straight edge, exactly. [3 marks]

Full circumference would be 10π cm.

The curved half is 5π cm.

Add the straight diameter of 10 cm.

**Answer:** $(5\pi + 10)$ cm