# Circles: Area and Circumference

IGCSE Maths · Grades 9–10 · British and American curriculum · About 25 minutes · 8 questions

Name _____ Date _____ Score / 8

**WHAT YOU WILL PRACTISE**

- Calculate the circumference of a circle
- Calculate the area of a circle and a semicircle
- Work backwards from a circumference to a radius

**WORKED EXAMPLE**

A circle has a radius of 3 cm. Find its area to 1 decimal place.

1. Write the formula: area = $\pi r^2$.
2. Substitute the radius: area = $\pi \times 3^2 = \pi \times 9$.
3. Calculate: 28.274…
4. Round to 1 decimal place: 28.3 $cm^2$.

**Answer:** 28.3 $cm^2$

## Questions

Show your working in the space under each question.

**1.** A circle has a radius of 5 cm. Find its circumference to 1 decimal place.

**2.** A circle has a radius of 4 cm. Find its area to 1 decimal place.

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**3.** A circle has a diameter of 12 cm. Find its circumference to 1 decimal place.

**4.** A circle has a diameter of 10 cm. Find its area to 1 decimal place.

**5.** A circle has a radius of 7 m. Find its area. Give your answer in terms of π.

**6.** A circle has a circumference of 62.8 cm. Find its radius to 1 decimal place.

**7.** A semicircle has a diameter of 8 cm. Find its area to 1 decimal place.

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**8.** A wheel has a diameter of 70 cm. How far does it travel in 10 full turns? Give your answer in metres to 1 decimal place.

# Answers: Circles: Area and Circumference

Mark your own work, then go back to any question you got wrong before reading the tutor tip.

| Q | QUESTION | ANSWER |
|---|---|---|
| 1 | A circle has a radius of 5 cm. Find its circumference to 1 decimal place. | **31.4 cm** |
| 2 | A circle has a radius of 4 cm. Find its area to 1 decimal place. | **50.3 cm²** |
| 3 | A circle has a diameter of 12 cm. Find its circumference to 1 decimal place. | **37.7 cm** |
| 4 | A circle has a diameter of 10 cm. Find its area to 1 decimal place. | **78.5 cm²** |
| 5 | A circle has a radius of 7 m. Find its area. Give your answer in terms of π. | **49π m²** |
| 6 | A circle has a circumference of 62.8 cm. Find its radius to 1 decimal place. | **10.0 cm** |
| 7 | A semicircle has a diameter of 8 cm. Find its area to 1 decimal place. | **25.1 cm²** |
| 8 | A wheel has a diameter of 70 cm. How far does it travel in 10 full turns? Give your answer in metres to 1 decimal place. | **22.0 m** |

**TUTOR TIP**

Check whether you have been given the radius or the diameter before you start. Halve the diameter to get the radius for the area formula.

**Stuck on a question? Work through it live with a tutor.**

YFCampus offers one-to-one online Maths tutoring matched to your school curriculum. Book a free trial class at **www.yfcampus.com/kw**

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