Circles: Area and Circumference

Year 10–11 Maths · Years 10–11 · NCEA Level 1 · 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 = πr^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.

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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/nz**

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