

# GCSE Mathematics

# F/H

## Circumference & Area of Circles

Foundation | Grades 4-6

| Total Marks | Time   | Questions |
|-------------|--------|-----------|
| 49          | 49 min | 20        |

### Instructions:

- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

© Teachably. This resource may not be copied or distributed without permission.

### Want help from an expert maths tutor?

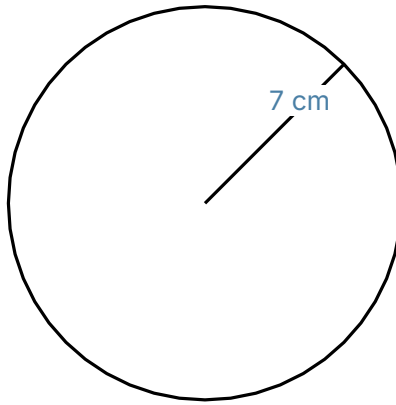
Book a free GCSE Maths consultation with our team at Teachably. Visit [teachably.co.uk/book-call](https://teachably.co.uk/book-call) to get started.

**Edexcel-style questions****Q1** 

Grade 4

Edexcel style

The circle shown has radius 7 cm. Find its circumference, leaving your answer in terms of  $\pi$ .



*Diagram NOT accurately drawn*

---

---

---

---

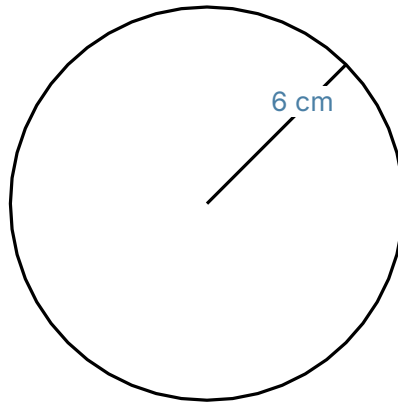
Answer \_\_\_\_\_

**Q2** 

Grade 4

Edexcel style

The circle shown has radius 6 cm. Find its area, leaving your answer in terms of  $\pi$ .



*Diagram NOT accurately drawn*

---

---

---

---

Answer \_\_\_\_\_

teachably

**[2 marks]****Q3** 

Grade 5

Edexcel style

A circle has a circumference of  $20\pi$  cm. Find the radius of the circle.

---

---

---

---

Answer \_\_\_\_\_

teachably

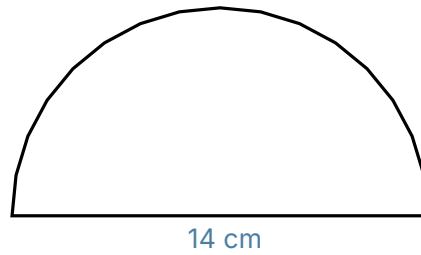
**[2 marks]**

**Q4** 

Grade 5

Edexcel style

The diagram shows a semicircle with diameter 14 cm. Find its perimeter. Use  $\pi = 3.14$ .



*Diagram NOT accurately drawn*

---

---

---

---

---

Answer \_\_\_\_\_

**Q5** 

Grade 6

Edexcel style

The diagram shows a ring formed by two concentric circles, with outer radius 8 cm and inner radius 5 cm. Find the area of the shaded ring, leaving your answer in terms of  $\pi$ .

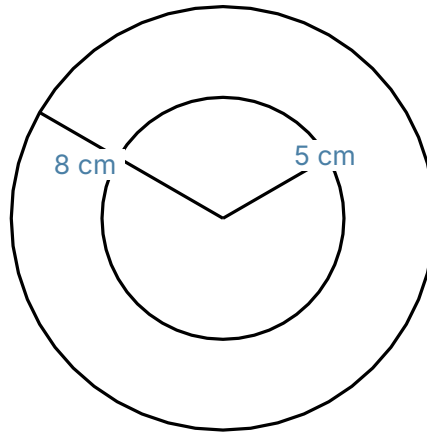


Diagram NOT accurately drawn

---

---

---

---

---

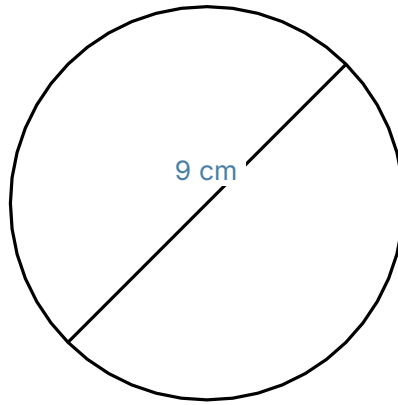
Answer \_\_\_\_\_

**AQA-style questions****Q6** 

Grade 4

AQA style

The circle shown has diameter 9 cm. Find its circumference, leaving your answer in terms of  $\pi$ .



*Diagram NOT accurately drawn*

---

---

---

---

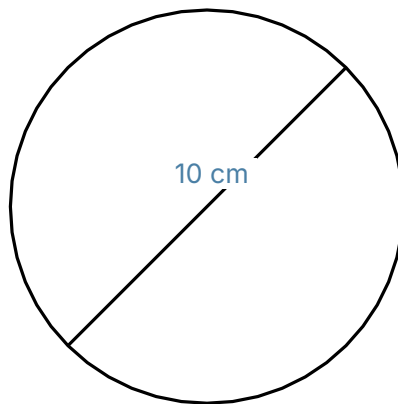
Answer \_\_\_\_\_

**Q7** 

Grade 5

AQA style

The circle shown has diameter 10 cm. Find its area, leaving your answer in terms of  $\pi$ .



*Diagram NOT accurately drawn*

---

---

---

---

Answer \_\_\_\_\_

teachably

**[3 marks]****Q8** 

Grade 5

AQA style

A circle has a circumference of 37.68 cm. Find the diameter of the circle. Use  $\pi = 3.14$ .

---

---

---

Answer \_\_\_\_\_

teachably

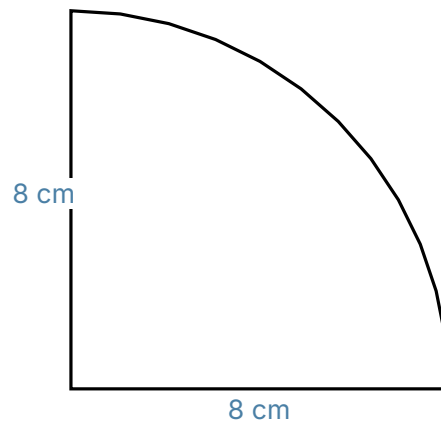
**[2 marks]**

**Q9** 

Grade 5

AQA style

The diagram shows a quarter circle with radius 8 cm. Find its perimeter. Use  $\pi = 3.14$ .



*Diagram NOT accurately drawn*

---

---

---

---

---

Answer \_\_\_\_\_

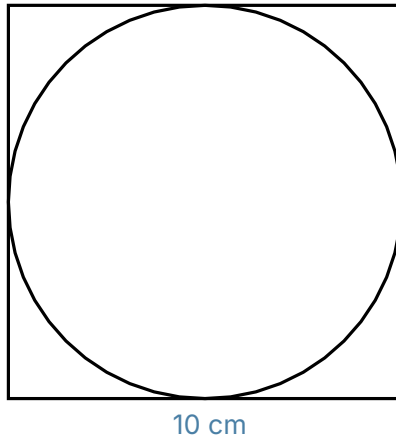
**teachably****[3 marks]**

**Q10** 

Grade 6

AQA style

The diagram shows a circle inscribed in a square of side 10 cm, touching all four sides. Find the area of the shaded region inside the square but outside the circle. Use  $\pi = 3.14$ .



*Diagram NOT accurately drawn*

---

---

---

---

---

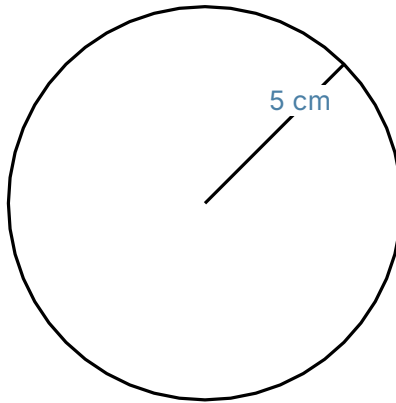
Answer \_\_\_\_\_

**OCR-style questions****Q11** 

Grade 4

OCR style

The circle shown has radius 5 cm. Find its circumference. Use  $\pi = 3.14$ .



*Diagram NOT accurately drawn*

---

---

---

---

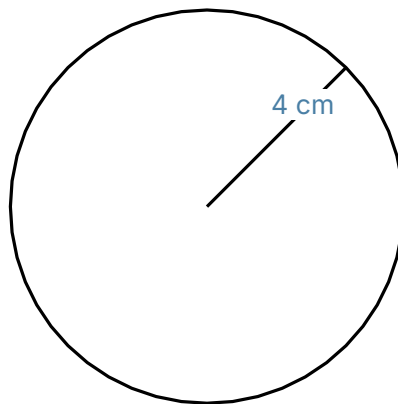
Answer \_\_\_\_\_

**Q12** 

Grade 4

OCR style

The circle shown has radius 4 cm. Find its area. Use  $\pi = 3.14$ .



*Diagram NOT accurately drawn*

---

---

---

---

Answer \_\_\_\_\_

teachably

[2 marks]

**Q13** 

Grade 5

OCR style

A circle has an area of  $49\pi \text{ cm}^2$ . Find the radius of the circle.

---

---

---

---

Answer \_\_\_\_\_

teachably

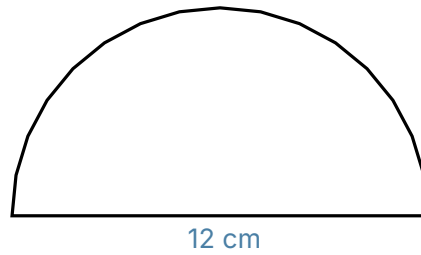
[2 marks]

**Q14** 

Grade 6

OCR style

The diagram shows a semicircle with diameter 12 cm. Find its area. Use  $\pi = 3.14$ .



*Diagram NOT accurately drawn*

---

---

---

---

---

Answer \_\_\_\_\_

**teachably****[3 marks]**

**Q15** 

Grade 6

OCR style

The diagram shows a sector of a circle with radius 9 cm and angle  $120^\circ$ . Find the area of the sector and the length of the arc, both leaving your answer in terms of  $\pi$ .

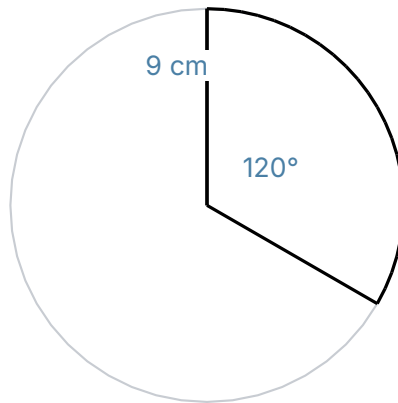


Diagram NOT accurately drawn

---

---

---

---

---

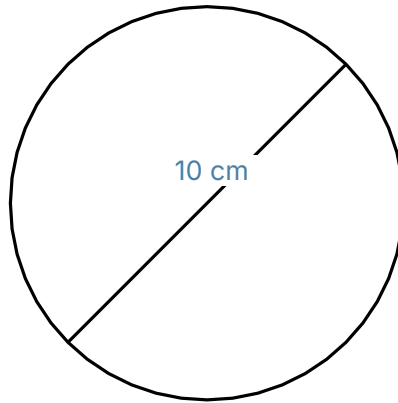
Answer \_\_\_\_\_

**Teachably-style questions****Q16** 

Grade 4

Teachably style

The circle shown has diameter 10 cm. Find its circumference. Use  $\pi = 3.14$ .



*Diagram NOT accurately drawn*

---

---

---

---

Answer \_\_\_\_\_

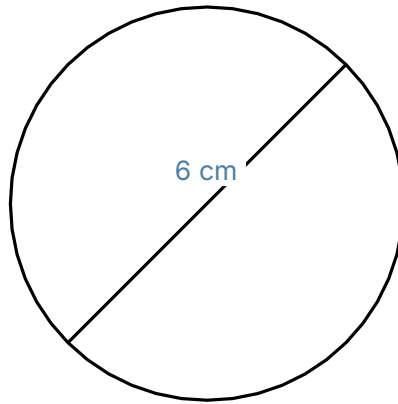
**teachably****[2 marks]**

**Q17** 

Grade 5

Teachably style

The circle shown has diameter 6 cm. Find its area. Use  $\pi = 3.14$ .



*Diagram NOT accurately drawn*

---

---

---

---

Answer \_\_\_\_\_

teachably

**[3 marks]****Q18** 

Grade 5

Teachably style

A circle has an area of  $78.5 \text{ cm}^2$ . Find the radius of the circle. Use  $\pi = 3.14$ .

---

---

---

Answer \_\_\_\_\_

teachably

**[2 marks]**

**Q19** 

Grade 6

Teachably style

The diagram shows a quarter circle with radius 10 cm. Find its area. Use  $\pi = 3.14$ .

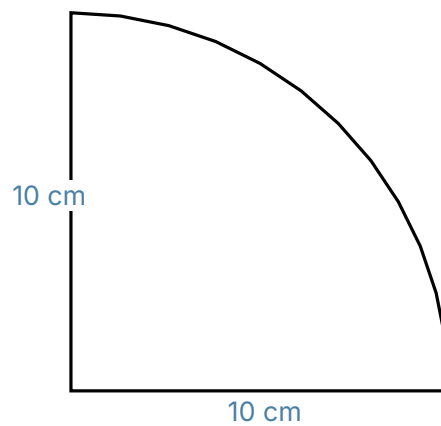


Diagram NOT accurately drawn

Answer \_\_\_\_\_

teachably

**[2 marks]****Q20** 

Grade 6

Teachably style

A wheel has a diameter of 70 cm. It makes 100 complete revolutions. Find the distance travelled, in metres. Use  $\pi = 3.14$ .

Answer \_\_\_\_\_

teachably

**[3 marks]****END OF PAPER**

**Want help from an expert maths tutor?**

Book a free GCSE Maths consultation with our team at Teachably. Visit [teachably.co.uk/book-call](https://teachably.co.uk/book-call) to get started.