



THIRD SPACE
LEARNING

GCSE Exam Questions

Area and Circumference of a
Circle | Geometry & Measure

GCSE Exam Questions: Area and Circumference of a Circle

- 1) (a) What is the value of π correct to 2 decimal places?

- (b) What is the area of a circle with a radius of 4.5cm ?

(1)

Give your answer correct to 2 decimal places.

- (c) What is the area of a circle with a diameter of 4.5cm ?

(2)

Give your answer correct to 2 decimal places.

(3)

(6 marks)

- 2) (a) The circumference of a circle is 45cm . Work out the area of the circle. Give your answer correct to the nearest integer.

(4)

- (b) The diameter of a circle is 15cm . Work out the area of the circle. Give your answer in terms of π .

(4)

(8 marks)

- 3) A square has a side length of 12cm . A circle has a radius of 6cm .

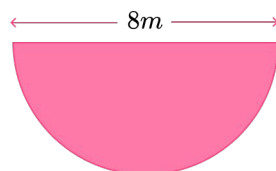
Find the difference between the area of the two shapes.

Give your answer correct to 2 decimal places.

(5 marks)

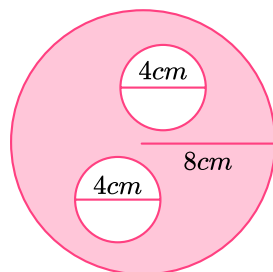
GCSE Exam Questions: Area and Circumference of a Circle

- 4) Find the perimeter of this semi circle. Give your answer correct to 2 decimal places.



(3 marks)

- 5) In the diagram below the large circle has a radius of 8cm . The two smaller circles have a diameter of 4cm each.



- (a) What is the area of one of the smaller circles?
Give your answer correct to one decimal place.

(2)

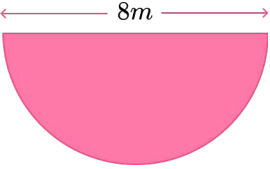
- (b) What is the area of the shaded shape?
Give your answer correct to one decimal place.

(4)
(6 marks)

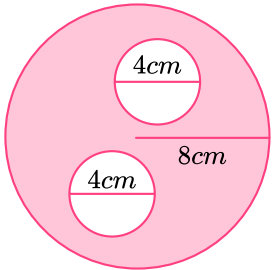
- 6) The area of a circle is 17.3cm^2 . Work out the circumference of the circle. Give your answer correct to the nearest integer.

(5 marks)

GCSE Exam Questions: Area and Circumference of a Circle Answers

	Question	Answer	Marks
1) (a)	What is the value of π correct to 2 decimal places?	(a) 3.14	(1)
(b)	What is the area of a circle with a radius of 4.5 cm? Give your answer correct to 2 decimal places.	(b) $\pi \times 4.5 \times 4.5$ oe 63.62 cm ²	(1) (1)
(c)	What is the area of a circle with a diameter of 4.5 cm? Give your answer correct to 2 decimal places.	(c) $r = 4.5 \div 2 = 2.25$ $\pi \times 2.25 \times 2.25$ oe 15.90 cm ²	(1) (1) (1)
2) (a)	The circumference of a circle is 45cm. Work out the area of the circle. Give your answer correct to the nearest integer.	(a) $45 \div 2\pi$ or 7.16... $\pi \times "7.16..." \times "7.16..."$ ft 161.14... 161 cm ²	(1) (1) (1) (1)
(b)	The diameter of a circle is 15cm. Work out the area of the circle. Give your answer in terms of π	(b) $15 \div 2$ or 7.5 seen $\pi \times 7.5 \times 7.5$ 56.25 or $\frac{225}{4}$ seen 56.25π or $\frac{225\pi}{4}$ oe	(1) (1) (1) (1)
3)	A square has a side length of 12 cm. A circle has a radius of 6 cm. Find the difference between the area of the two shapes. Give your answer correct to 2 decimal places.	Square Area = 144 Circle Area = $\pi \times 6 \times 6$ oe 144 - 36π 30.90266 30.90 cm ²	(1) (1) (1) (1) (1)
4)	Find the perimeter of this semi circle. Give your answer correct to 2 decimal places. 	$(\pi \times 8) \div 2$ oe e.g. 4π seen $4\pi \div 8$ 20.57 m	(1) (1) (1)

GCSE Exam Questions: Area and Circumference of a Circle Answers

	Question	Answer	Marks
5)	<p>In the diagram below the large circle has a radius of 8 cm. The two smaller circles have a diameter of 4 cm each.</p> 		
(a)	<p>What is the area of one of the smaller circles? Give your answer correct to one decimal place.</p>	<p>(a) $\pi \times 2 \times 2$ oe 12.6 cm^2</p>	<p>(1) (1)</p>
(b)	<p>What is the area of the shaded shape? Give your answer correct to one decimal place.</p>	<p>(b) Large circle area = $\pi \times 8 \times 8$ oe e.g 64π $64\pi - (12.6 \times 2)$ oe $175.8619298\dots$ 175.9 cm^2</p>	<p>(1) (1) (1) (1)</p>
6)	<p>The area of a circle is 17.3 cm^2. Work out the circumference of the circle.</p> <p>Give your answer correct to the nearest integer.</p>	<p>$\sqrt{\frac{17.3}{\pi}}$ oe seen $r = 2.3466\dots$ or $d = 4.693\dots$ $\pi \times 2.3466\dots \times 2$ or $\pi \times 4.693\dots$ $14.7\dots$ 15 cm</p>	<p>(1) (1) (1) (1) (1)</p>

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