MME

GCSE MATHEMATICS
AQA | Edexcel | OCR | WJEC

Circles - Area and Circumference

Please write clearly in block capitals

Forename:
Surname:

Materials

For this paper you must have:
*   mathematical instruments

You *can* use a calculator.

Instructions

*   Use black ink or black ball-point pen. Draw diagrams in pencil.
*   Fill in the boxes at the top of this page.
*   Answer all questions.
*   You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
*   Do all rough work in this book. Cross through any work you do not want to be marked.

Information

*   The marks for questions are shown in brackets.
*   You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.
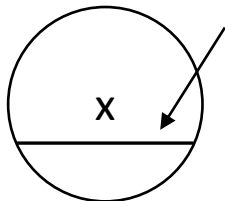
Advice

*   In all calculations, show clearly how you work out your answer.

1   Below shows different parts of a circle indicated by an arrow.

X indicates the centre of the circle.

Match each part of a circle with the correct name.
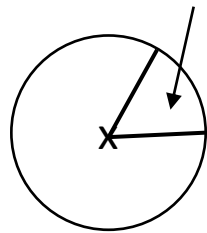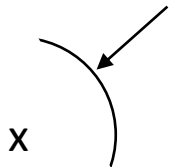
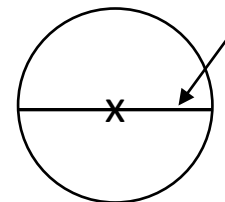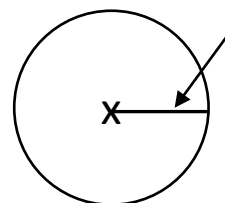One has been done for you.

[5 marks]
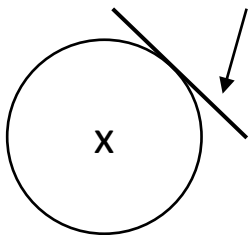
Arc

Chord

Sector

Radius

Diameter

Tangent

Turn over for next question

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5

2   Consider the following circle with centre at X and radius of 3.7 m.
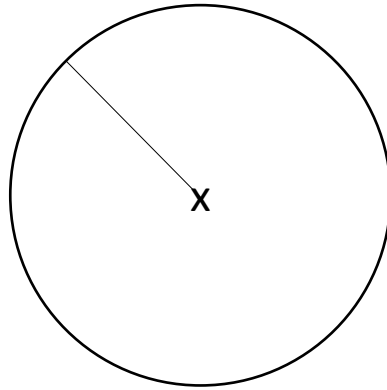
Not drawn
accurately

2(a)   Find the diameter of this circle.

[1 mark]

_____

_____

Answer   _____

2(b)   Find the circumference of this circle to 2 decimal places.
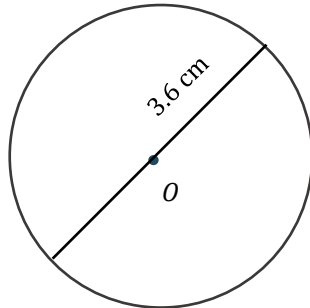
[2 marks]

_____

_____

_____

Answer   _____

GCSE Maths Revision Guide

⊘ GCSE Maths Course 9-1 Revision Guide

⊘ Exam Questions Included

⊘ All exam boards - AQA, OCR, Edexcel, WJEC

⊘ Suitable for higher and foundation tiers

Get it at **mme.la/guide** or scan the barcode

3   The circle below has centre O and radius $3.6\ \text{cm}$

Not drawn
accurately

3.6 cm

O

3(a)   Find the circumference of the circle, giving your answer in terms of π.

[2 marks]

_____

_____

Answer   _____

3(b)   Find the area of the circle.

Give your answer to 1 decimal place.

[2 marks]

_____

_____

_____

Answer   _____ cm^2

Turn over for next question

4

Turn over ►

4   The semi-circle below has centre O and a radius of 8 cm

Not drawn
accurately

O 8 cm

Find the perimeter of the semi-circle.

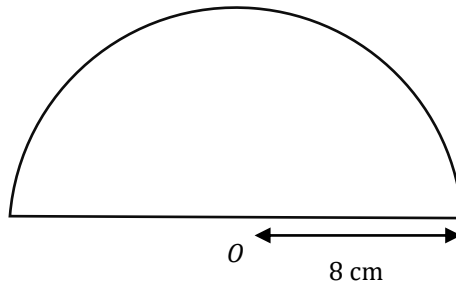Give your answer to 1 decimal place.
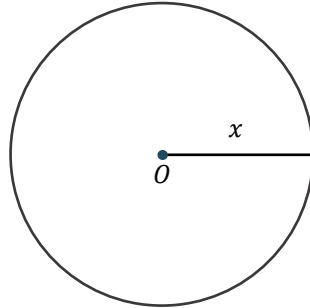
[3 marks]

Answer _____

Turn over for next question

3

Turn over ▶

5   The circle below has centre O and a radius of x cm

Not drawn
accurately

The area of the circle is 150 cm^2

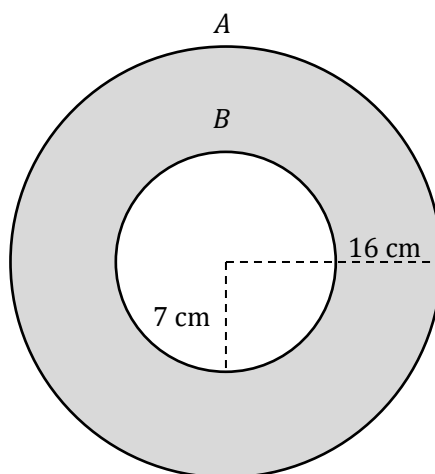Find the value of x.

Give your answer to 1 decimal place.

[3 marks]

_____

_____

_____

_____

Answer   _____

Turn over for next question

3

6   Circle A has a radius of 16 cm

Circle B has a radius of 7 cm

Calculate the area between the two circles.

A

B

Not drawn accurately

16 cm

7 cm

6(a)   Calculate the area of circle A, giving your answer in terms of π.

[1 mark]

Answer _____ cm^2

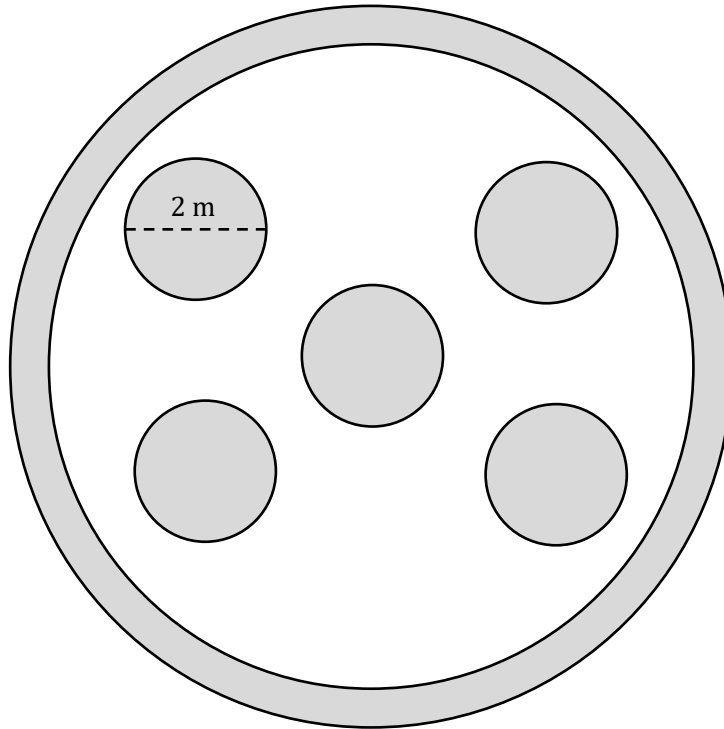**6(b)**   Calculate the shaded area.

Give your answer to 1 decimal place.

[2 marks]

Answer _____ cm^2

Turn over for next question

3

Turn over ▶

7   The largest circle in the diagram below has a radius of 10 m

The radius of the white circle is 7 m

Each small grey circle has a diameter of 2 m

Not drawn accurately

2 m

What percentage of the area in the diagram is shaded?

[4 marks]

_____

_____

_____

_____

Answer _____ %

Turn over for next question

4

Turn over ▶

8   A set of circles have radii in the ratio $1 : 2 : 3 : 5$

What is the ratio of their areas?

Give your answer in its simplest terms.
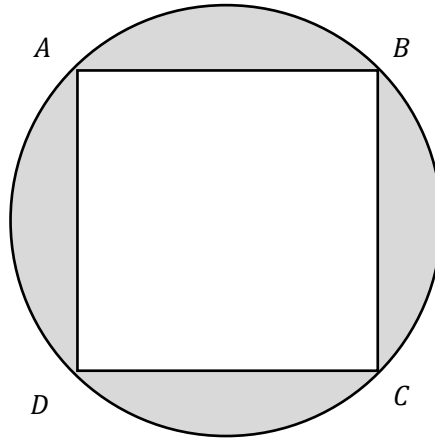
[2 marks]

Answer _____

2

Turn over ►

9 The diagram below shows a square inside a circle.

The vertices of the square touch the circumference of the circle.

The radius of the circle below is 6 cm

A B Not drawn accurately

D C

9(a) Calculate the area of the square, $ABCD$

[3 marks]

Answer _____ cm^2

9(b) Calculate the shaded area between the circle and the square.

Give your answer in terms of π

[2 marks]

Answer _____ cm^2

End of Questions

5

END