Chhetri Academy

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GCSE MATHS

Geometry and measures

Edexcel 1MA1 | Subtopic collection Topic 42

Arcs and sectors

Foundation tier

Past paper question booklet

5	2015-2022	Foundation
question groups	available papers	tier

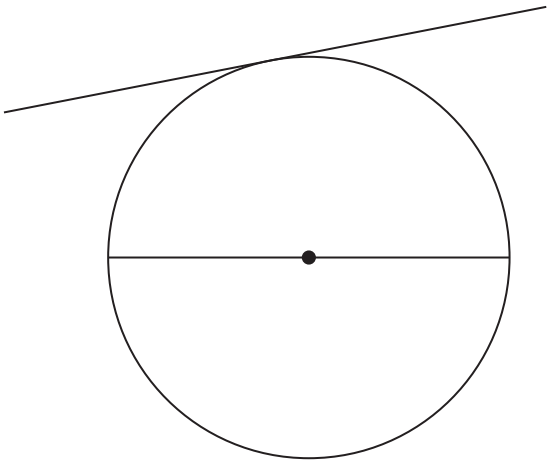
Before you begin

1. Show working and use units where appropriate.
2. Use extra paper if you need more space.
3. Print at actual size (100%) for measurement questions.

Name _____ **Date** _____

Whole questions are retained for context; some parts cover other points. Legacy sources are labelled.

7 The diagram shows a circle and two straight lines.



The straight line inside the circle goes through the centre of the circle.

(a) Write down the mathematical name of this straight line.

.....

(1)

The straight line outside the circle touches the circle at one point.

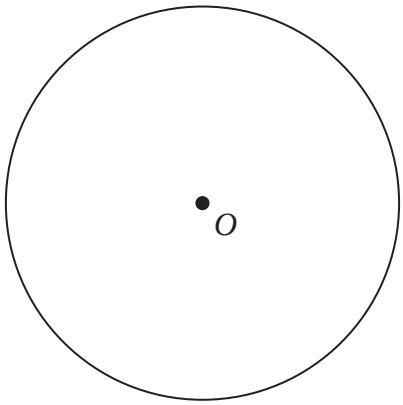
(b) Write down the mathematical name of this straight line.

.....

(1)

Here is a circle centre O.

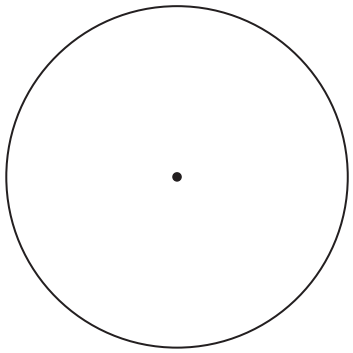
(c) In the circle, draw a sector of the circle.



(1)

(Total for Question 7 is 3 marks)

5 Here is a circle.

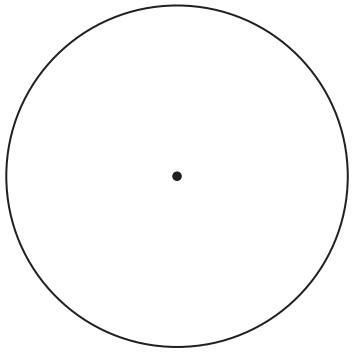


(a) Measure the diameter of the circle.

..... cm

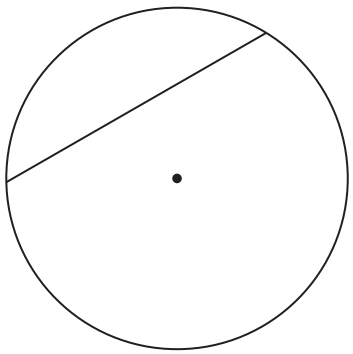
(1)

(b) In the circle below, draw a sector.
Shade your sector.



(1)

(c) Write down the mathematical name of the straight line shown in the diagram below.

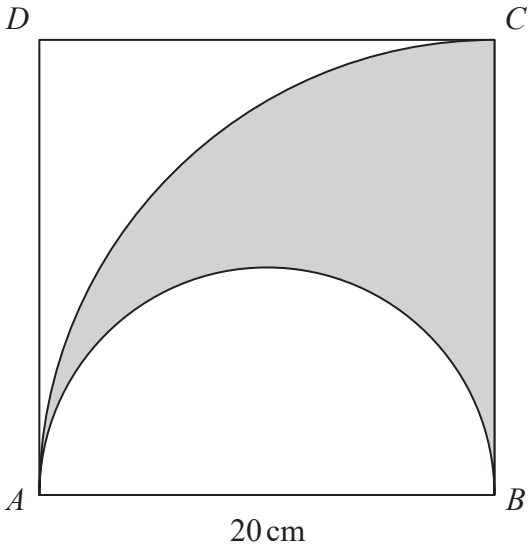


.....

(1)

(Total for Question 5 is 3 marks)

26 The diagram shows a square $ABCD$ with sides of length 20 cm.
It also shows a semicircle and an arc of a circle.

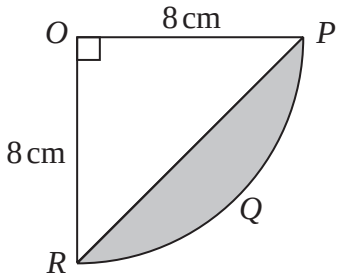


AB is the diameter of the semicircle.
AC is an arc of a circle with centre B.

Show that $\dfrac{\text{area of shaded region}}{\text{area of square}} = \dfrac{\pi}{8}$

(Total for Question 26 is 4 marks)

27 The diagram shows a sector $OPQR$ of a circle, centre O and radius 8 cm.



OPR is a triangle.

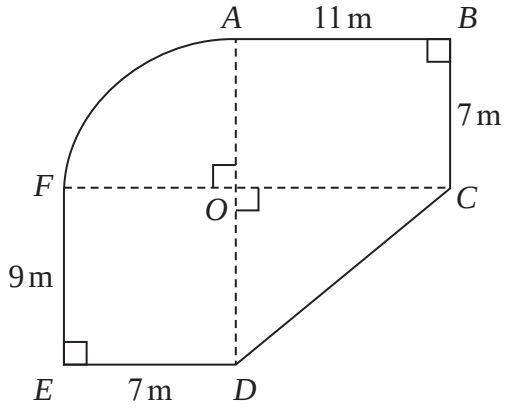
Work out the area of the shaded segment PQR.
Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 27 is 4 marks)

21 The diagram shows a plan of Jason's garden.

ABCO and *DEFO* are rectangles.
CDO is a right-angled triangle.
AFO is a sector of a circle with centre *O* and angle *AOF* = 90°



Jason is going to cover his garden with grass seed.
Each bag of grass seed covers 14 m^2 of garden.
Each bag of grass seed costs £10.95

Work out how much it will cost Jason to buy all the bags of grass seed he needs.

£.....

(Total for Question 21 is 5 marks)