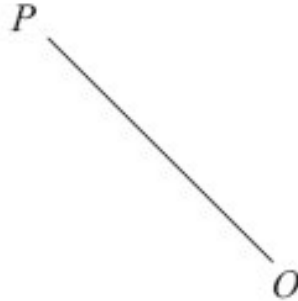# Circles Past Paper Questions

Q1.
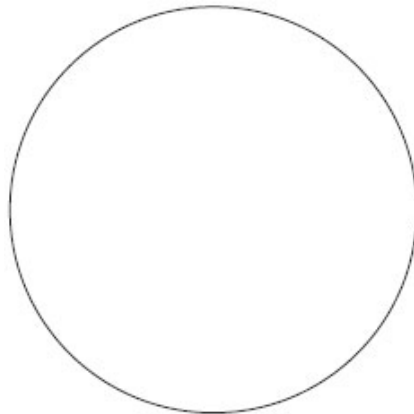
The line *OP* is a radius of a circle, centre *O*.

(a) Draw accurately the circle.

P

O

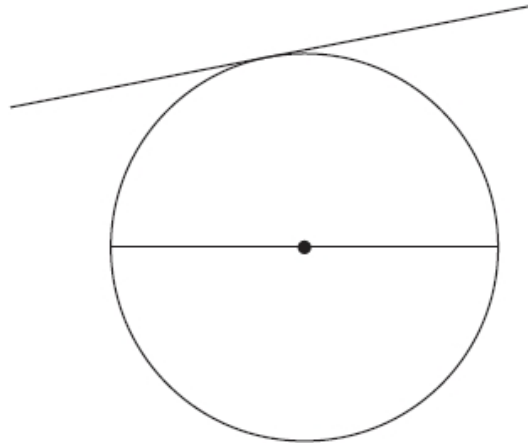**(1)**

(b) On the circle below, draw a chord.

(1)

(Total for Question is 2 marks)

Q2.

The diagram shows a circle and two straight lines.

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

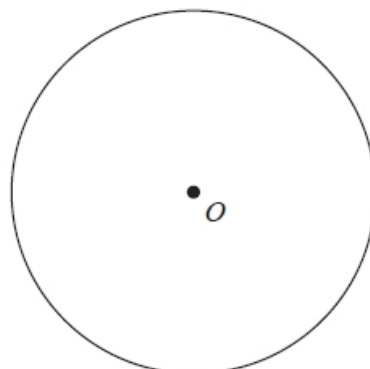(a) Write down the mathematical name of this straight line.

....

(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.
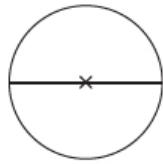
O

(1)
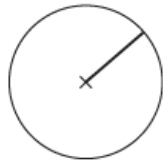
(Total for question = 3 marks

Q3.

Here are four circles and four straight lines.
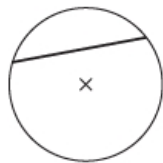Each circle has its centre marked with a cross (✕).

Draw an arrow from each straight line to its mathematical name.
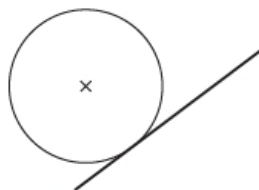

| Radius |

| Chord |

| Tangent |

| Diameter |

(Total for question = 2 marks)

Q4.
A circle has a diameter of 140 cm.

Work out the circumference of the circle.

Give your answer correct to 3 significant figures.

.... cm

(Total for Question is 2 marks)

GCSEMathsRevision.com
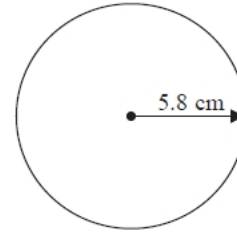
Q5.

This circle has a radius of 5.8 cm.

Work out the area of the circle.
Give your answer to 1 decimal place.

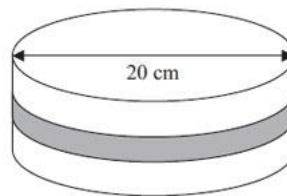.. cm²

(Total for question = 2 marks)

Q6.

Susan has a round cake.
The cake has a diameter of 20 cm.

Diagram **NOT**
accurately drawn

Susan wants to put a ribbon round the cake.
What is the least length of ribbon she can use?

....

(Total for Question is 3 marks)

Q7.

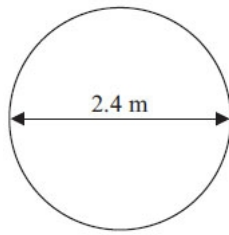* The diagram shows a flower bed in the shape of a circle.

Diagram **NOT** accurately drawn

2.4 m

The flower bed has a diameter of 2.4 m.

Sue is going to put a plastic strip around the edge of the flower bed.
The plastic strip is sold in 2 metre rolls.

How many rolls of plastic strip does Sue need to buy?
You must show all your working.

(Total for Question is 4 marks)

Q8.

The diagram shows a semicircle drawn inside a rectangle.

Diagram **NOT** accurately drawn

4 cm

8 cm

The semicircle has a diameter of 8 cm.
The rectangle is 8 cm by 4 cm.

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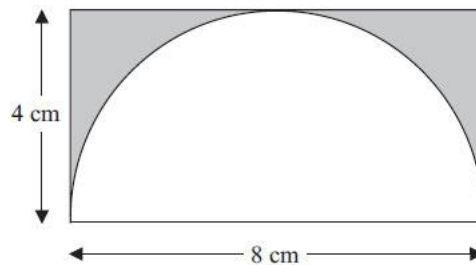Give your answer correct to 3 significant figures.

. . . . cm^2
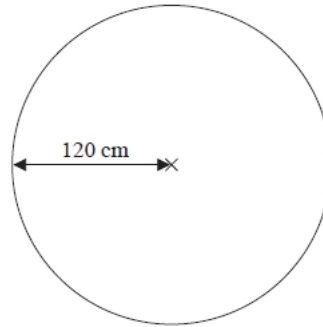
(Total for Question is 4 marks)

Q9.

* The diagram shows the surface of a pond in the shape of a circle.

The circle has a radius of 120 cm.

Mark wants to put 20 fish into the pond.
There needs to be a surface area of 1800 cm^2 for each fish.

Show that the surface of the pond is large enough for Mark to put 20 fish into the pond.

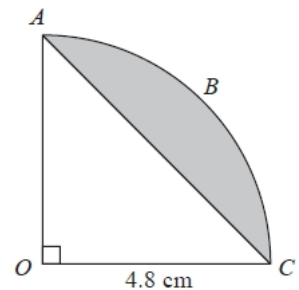Diagram **NOT** accurately drawn

120 cm

(Total for question = 4 marks)

Q10.

The arc *ABC* is a quarter of a circle with centre *O* and radius 4.8 cm.
AC is a chord of the circle.

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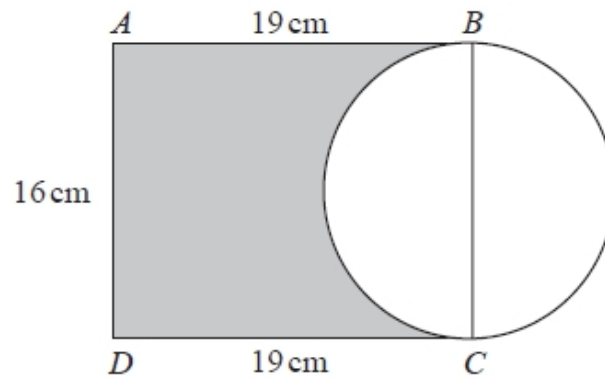Give your answer correct to 3 significant figures.

A

B

O

C

4.8 cm

.... cm^2

(Total for question = 3 marks)

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Q11.

Here is a diagram showing a rectangle, *ABCD*, and a circle.

BC is a diameter of the circle.

Calculate the percentage of the area of the rectangle that is shaded.
Give your answer correct to 1 decimal place.

....%

(Total for question is 4 marks)

Q12.

* Saphia is organising a conference.
People at the conference will sit at circular tables.

Diagram **NOT**
accurately drawn

Each table has a diameter of 140 cm.
Each person needs 60 cm around the circumference of the table.

There are 12 of these tables in the conference room.
A total of 90 people will be at the conference.

Are there enough tables in the conference room?

(Total for Question is 4 marks)

Q13.

* Mr Weaver's garden is in the shape of a rectangle.

In the garden
there is a patio in the shape of a rectangle
and two ponds in the shape of circles with diameter 3.8 m.
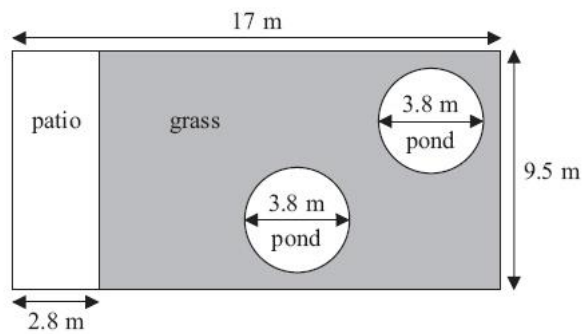
The rest of the garden is grass.

Diagram **NOT**
accurately drawn

Mr Weaver is going to spread fertiliser over all the grass.
One box of fertiliser will cover 25 m^2 of grass.

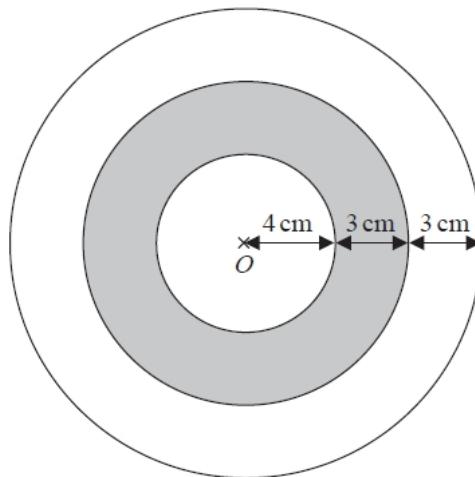How many boxes of fertiliser does Mr Weaver need?
You must show your working.

(Total for Question is 5 marks)

Q14.

The diagram shows a logo made from three circles.

Each circle has centre O.

Daisy says that exactly $\dfrac{1}{3}$ of the logo is shaded.

Is Daisy correct?
You must show all your working.

Q15.

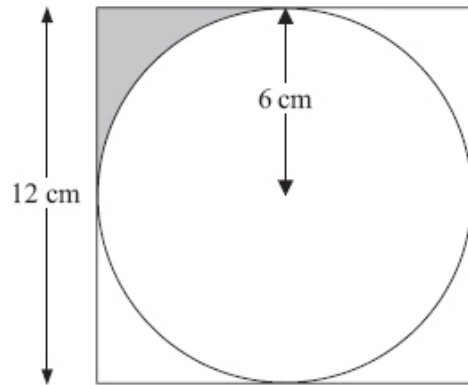The diagram shows a circle drawn inside a square.

6 cm

12 cm

Diagram **NOT**
accurately drawn

The circle has a radius of 6 cm.
The square has a side of length 12 cm.
Work out the shaded area.
Give your answer in terms of π.

....cm²

(Total for Question is 3 marks)