

GCSE Mathematics

2019 Final Predicted Paper 2 (Calculator)

1MA1

Foundation Tier (1hr 40mins)

Remember: *These questions are just a guide. There are no guarantees that these questions/topics will come up! So, revise all you can before the calculator exams!*

Instructions

- Use **black** ink or ball-point pen.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need*
- You must show all your working
- **Calculators may be used**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated

Information

- The total mark for this paper is **94**.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on time.
- Try to answer every question.

Check your answers if you have time at the end.

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Here are the first four terms in a number sequence.

5 8 11 14

Kasey thinks that the number 34 is in this sequence.

Is Kasey correct?

You must show how you get your answer.

(Total 3 marks)

2. 1 kg = 2.2 pounds
Change 44 pounds to kg.

..... kg

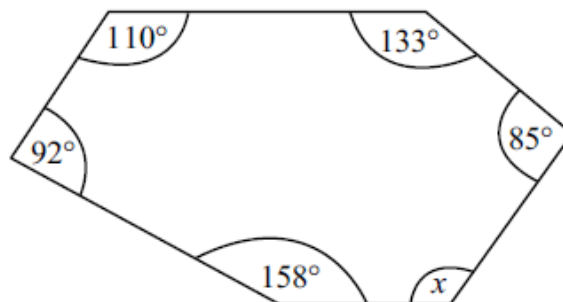
(Total 2 marks)

3. Simplify $3 \times a \times 5 \times b$

.....

(Total 1 mark)

4. Here is a hexagon.



The angles of a hexagon add up to 720°.

Work out the size of the angle marked x .

..... °

(Total 2 marks)

5. There are blue counters and green counters in a bag.
The ratio of blue to green counters is 1:6.
Write down the fraction of blue counters in the bag.

.....

(Total 1 mark)

6. There are 400 counters in a bag.
36% of the counters are yellow.
 $\frac{2}{5}$ of the counters are blue.
The rest of the counters are green.
Work out how many counters are green.

.....

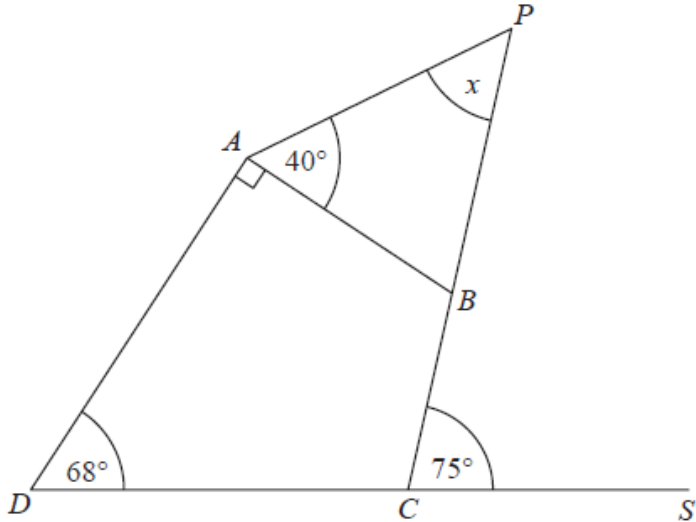
(Total 4 marks)

7. Michael writes down 4 different factors of 60
He adds the 4 factors together.
He gets a number greater than 20 but less than 35
What 4 factors could Michael have written down?

.....

(Total 3 marks)

8.



$ABCD$ is a quadrilateral.
 DCS and PBC are straight lines.

Angle $BAD = 90^\circ$
Angle $ADC = 68^\circ$
Angle $PAB = 40^\circ$
Angle $PCS = 75^\circ$

Work out the size of the angle marked x .
Give reasons for your answer.

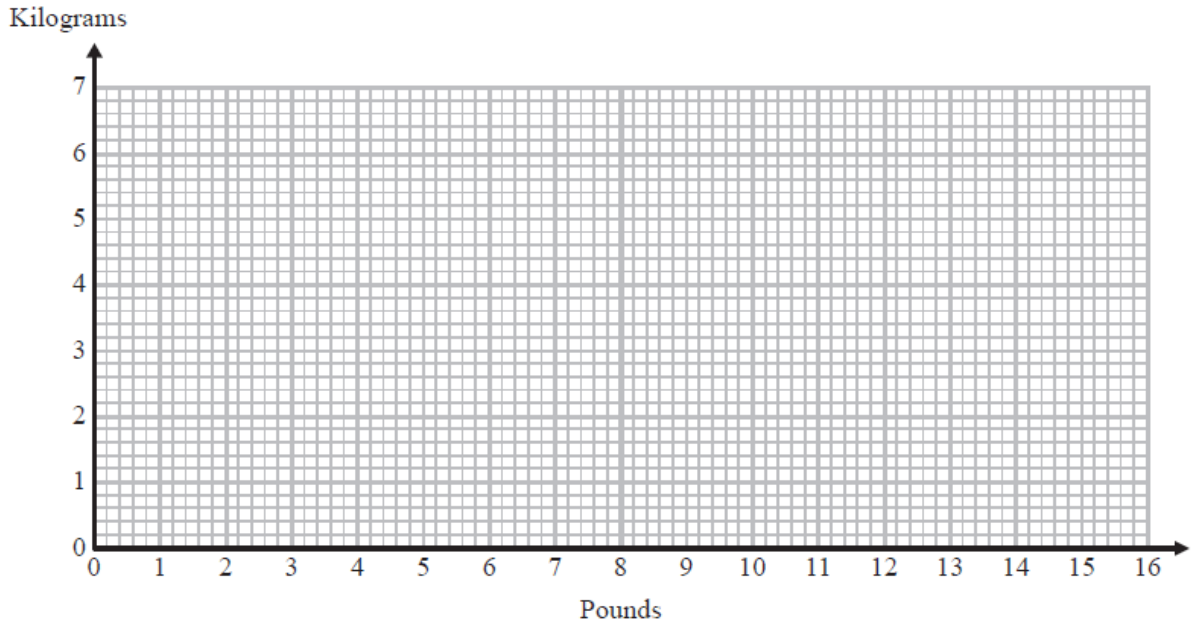
(Total 4 marks)

- 13.** Mary works in a maternity unit.
She weighs the babies.

The table shows some weights in both pounds and kilograms.

pounds	4.4	6.6	8.8	11	13.2	15.4
kilograms	2	3	4	5	6	7

- (a) Use this table to draw a conversion graph to change between pounds and kilograms.



(2)

(b) Change 10 pounds to kilograms.

..... kilograms
(1)

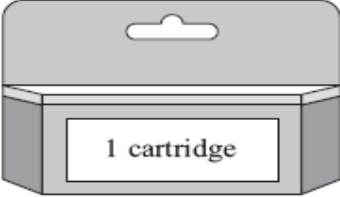
(c) Change 6.5 kilograms to pounds.

..... pounds
(1)

(Total 4 marks)

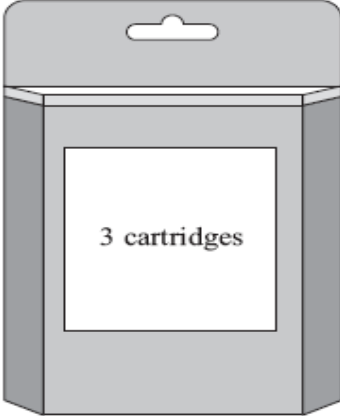
14. George is going to buy exactly 10 ink cartridges.

Ink Cartridges



1 cartridge

£9.39 per cartridge



3 cartridges

£24.30 for a pack of 3 cartridges

Find the difference in cost between the cheapest way and the most expensive way to buy the 10 ink cartridges.

.....

(Total 5 marks)

15 (a) Work out the value of $\frac{10.4}{5.1 - 2.7} + \frac{6.8 - 3.2}{9.5}$

Give your answer as a decimal.

Write down all the figures on your calculator display.

.....

(2)

(b) Give your answer to part (a) correct to 3 significant figures.

.....

(1)

(Total 3 marks)

16 The table shows information about the weights, in kg, of 40 parcels.

Weight of parcel (p kg)	Frequency
$0 < p \leq 1$	19
$1 < p \leq 2$	12
$2 < p \leq 3$	5
$3 < p \leq 4$	2
$4 < p \leq 5$	2

(a) Write down the modal class.

.....
(1)

(b) Work out an estimate for the mean weight of the parcels.

..... kg
(4)

(Total 5 marks)

17 (a) Find the value of $25 - 4g$ when $g = -3$

.....
(2)

(b) Expand and simplify $x(2x + 1) + 3(x - 2) + 7$

.....
(3)

(Total 5 marks)

18 Work out the difference between the largest share and the smallest share when 3450 yen is divided in the ratios 2 : 6 : 7

..... yen

(Total 3 marks)

19 Gopal is paid £20 000 each month.
Jamuna is paid £19 200 each month.

Gopal and Jamuna are both given an increase in their monthly pay.
After the increase, they are both paid the same amount each month.

Gopal was given an increase of 8%

Work out the percentage increase that Jamuna was given.

.....%

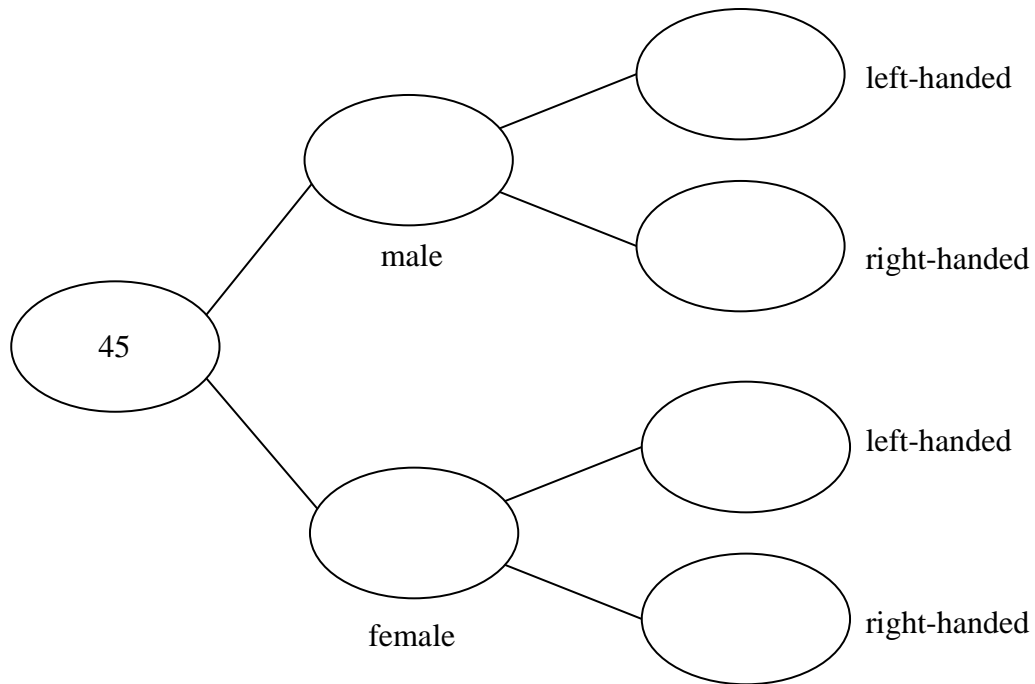
(Total 4 marks)

20 Each worker in a factory is either left-handed or right-handed.

22 of the 45 workers are male.

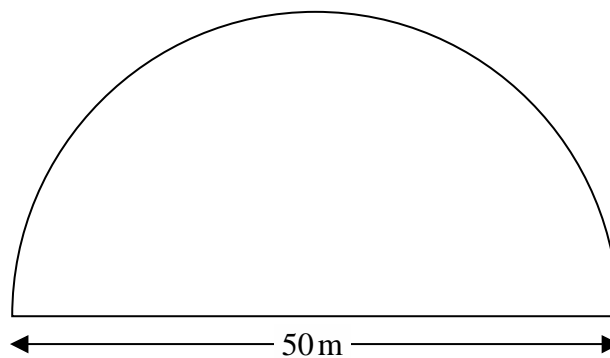
16 of the 34 right-handed workers are female.

Complete the frequency tree for this information.



(Total 3 marks)

21 A farmer has a field in the shape of a semicircle of diameter 50 m.



The farmer asks Jim to build a fence around the edge of the field.
Jim tells him how much it will cost.

Total cost = £29.86 per metre of fence plus £180 for each day's work

Jim takes three days to build the fence.

Work out the total cost.

£.....

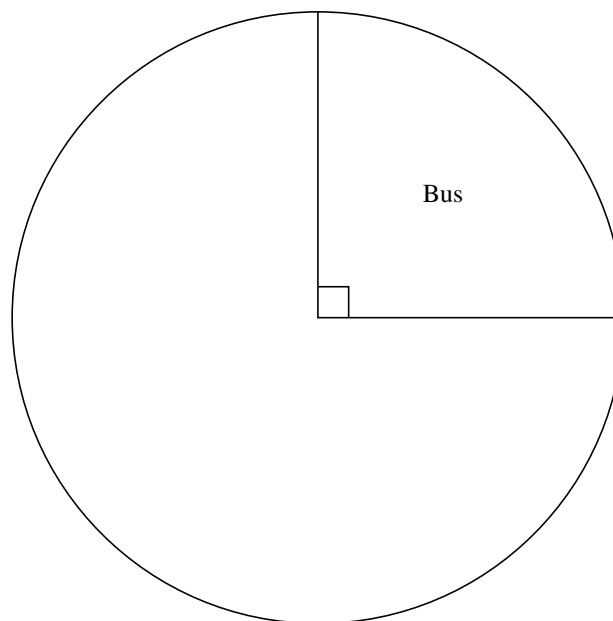
(Total 5 marks)

22 60 students were asked how they get to school.

The table shows the results.

	Bus	Walk	Car	Bicycle
Number of students	15	27	12	6

Complete the pie chart for the information in the table.



(Total 4 marks)

- 23 Hiran invests 20 000 rupees in an account for 3 years at 1.5% per year compound interest.
 Work out the total amount of money in the account at the end of 3 years.
 Give your answer to the nearest rupee.

.....rupees

(Total 3 marks)

24

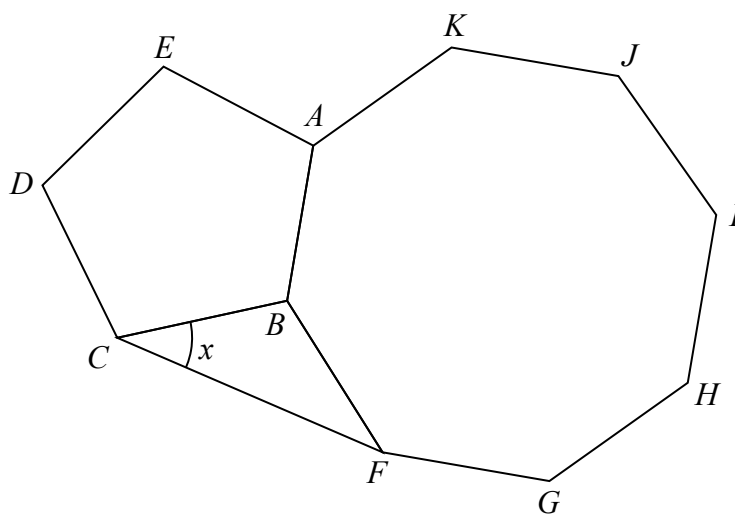


Diagram **NOT** accurately drawn

The diagram shows a regular pentagon, $ABCDE$, a regular octagon, $AFGHIJK$, and an isosceles triangle, BCF .

Work out the size of angle x .

.....°

(Total 4 marks)

25 (a) Simplify $(k^3)^5$

.....

(1)

(b) Simplify fully $\frac{20x^2y^6}{4x^2y^2}$

.....

(2)

(c) Make e the subject of the formula $h = 3e + f$

.....

(2)

(Total 5 marks)