

Write your name here

Surname

Other names

Centre Number

Candidate Number

Pearson Edexcel
Level 1/Level 2 GCSE (9–1)

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Mathematics

Paper 2 (Calculator)

Aiming for 4 *Solutions* **Foundation Tier**

Autumn 2019 Practice Paper
Time: 1 hour 30 minutes

Paper Reference

1MA1/2F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may be used.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.



Information

- The total mark for this paper is 80. There are 44 questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2019 examinations.
- 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 the 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.

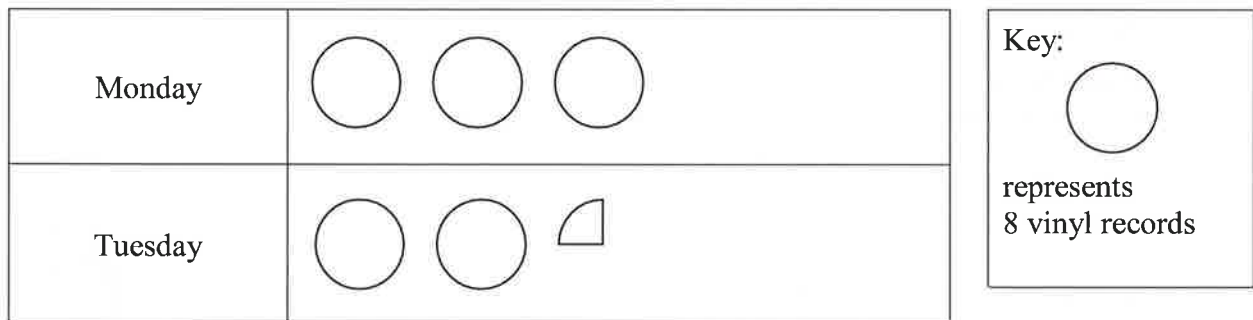
1 Write a number in each box so that each calculation is correct.

(i) $\boxed{129} + 357 = 486$

(ii) $\boxed{80} \times 23 = 1840$

(Total for Question 1 is 2 marks)

2 The pictogram shows information about the number of vinyl records sold in a shop on Monday and on Tuesday.



Write down the number of vinyl records sold

(a) on Monday,

24

(1)

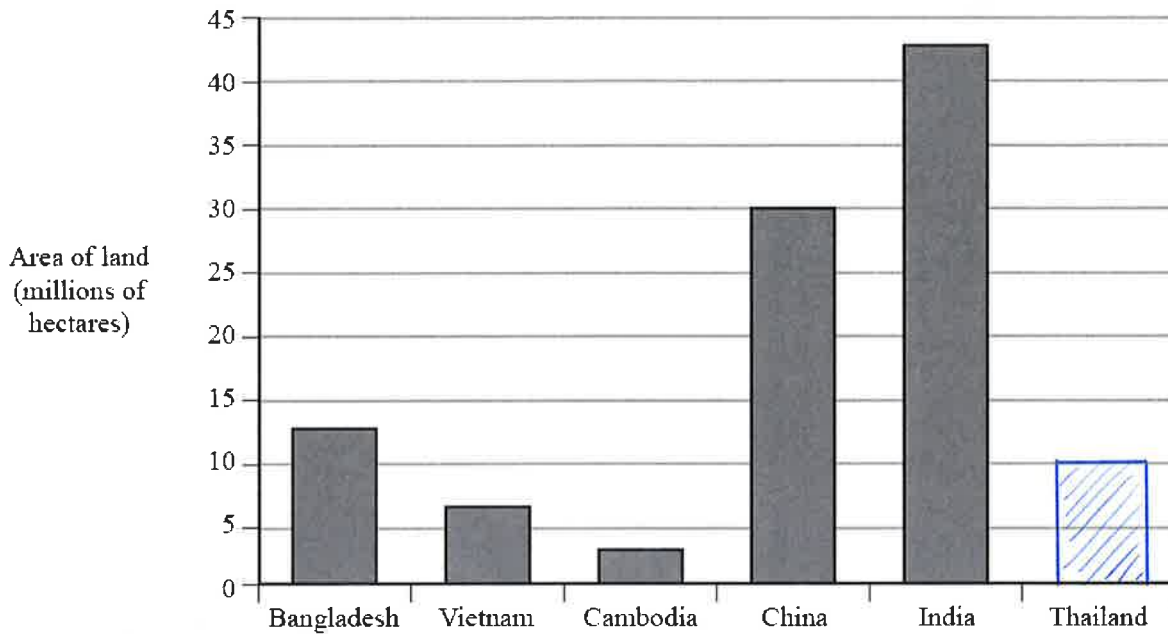
(b) on Tuesday.

17

(1)

(Total for Question 2 is 2 marks)

3 The bar chart gives information about the area, in millions of hectares, of the land used in five countries to grow rice.



(a) In which of these five countries are 7 million hectares of land used to grow rice?

Vietnam
.....
(1)

(b) How many millions of hectares of land are used to grow rice in China?

30
..... millions of hectares
(1)

In Thailand 10 million hectares of land are used to grow rice.

(c) Draw a bar on the bar chart to show this information.

(1)

(Total for Question 3 is 3 marks)

4 Write the following numbers in order of size.
Start with the smallest number.

-3 4 0 -1 2

-3, -1, 0, 2, 4
.....

(Total for Question 4 is 1 mark)

5 Here is part of a train timetable.

Brighton	07 22	07 29	07 32
London	09 00	08 32	08 48

Graham gets to the station in Brighton at 07 15

Work out how many minutes he has to wait until 07 22

..... 7 minutes

(Total for Question 5 is 1 mark)

6 Here are four cards.
Each card has a number on it.
The four cards are arranged to make the number 2745



Show how the cards can be arranged to make the smallest number using all four cards.



(Total for Question 6 is 1 mark)

7 Write down two factors of 15

..... 3, 5

(Total for Question 7 is 1 mark)

8 Dave goes into a cafe and buys 2 cups of coffee and a piece of cake.

Each cup of coffee costs £2.75

The cake costs £2.90

Dave pays with a £10 note.

He thinks he will get more than £1.50 in change.

Is Dave correct?

You must show how you get your answer.

$$2 \times 2.75 + 2.90$$

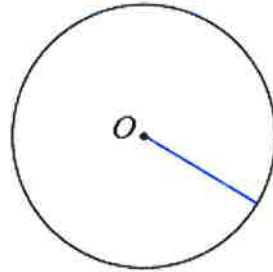
$$5.50 + 2.90 = 8.40$$

$$10 - 8.40 = 1.60, \text{ which is more than } 1.50$$

Dave is correct

(Total for Question 8 is 3 marks)

9 The diagram shows a circle with centre O .



On the diagram, draw a radius of the circle.

(Total for Question 9 is 1 mark)

10 Write 0.25 as a fraction.

$$\frac{1}{4}$$

(Total for Question 10 is 1 mark)

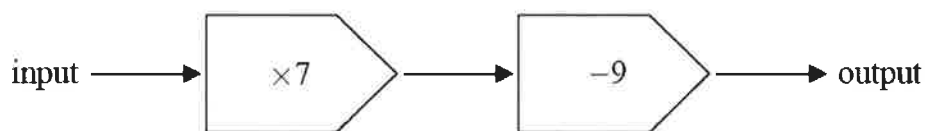
11 Write $\frac{3}{4}$ as a percentage.

$$75$$

.....%

(Total for Question 11 is 1 mark)

12 Here is a number machine.



Work out the output when the input is 8

$$56 - 9$$

$$47$$

(Total for Question 12 is 1 mark)

13 Work out 65% of 720

468

.....
(Total for Question 13 is 2 marks)

14 Write 0.72 as a fraction.
Give your fraction in its simplest form.

$\frac{18}{25}$

.....
(Total for Question 14 is 2 marks)

15 Solve $x - 9 = 14$

$x = 23$

.....
(Total for Question 15 is 1 mark)

16 The table shows the temperature in each of five Canadian cities one day in January.

City	Temperature
Vancouver	6 °C
Edmonton	-8 °C
Yellowknife	-23 °C
Quebec	-20 °C
Ottawa	-5 °C

(a) Work out the difference between the temperature in Vancouver and the temperature in Edmonton.

.....¹⁴ °C
(1)

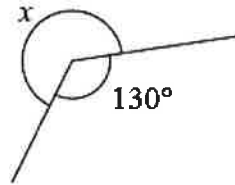
The temperature in Yellowknife is lower than the temperature in Ottawa.

(b) How much lower?

.....¹⁸ °C
(1)

(Total for Question 16 is 2 marks)

17



Work out the size of the angle marked x .

230

.....°
(Total for Question 17 is 1 mark)

18 Simplify $a \times b \times 7$

7ab

.....
(Total for Question 18 is 1 mark)

19 A bag of 11 counters contains

- 3 purple counters
- 2 orange counters
- 6 white counters

A counter is going to be taken at random from the bag.

(a) Find the probability that the counter will be

(i) orange

$$\frac{2}{11}$$

(1)

(ii) not white

$$\frac{5}{11}$$

(1)

(iii) green

$$0$$

(1)

(Total for Question 19 is 3 marks)

20 Four biased coins, A, B, C and D are thrown.

The probability that each coin will land on Heads is shown in the table.

Coin	Probability
A	0.33
B	0.033
C	$\frac{1}{3}$
D	30%

Which coin is least likely to land on Heads?

B

(Total for Question 20 is 1 mark)

21 Here are four cards.

Each card has a number on it.

The four cards are arranged to make the number 2745

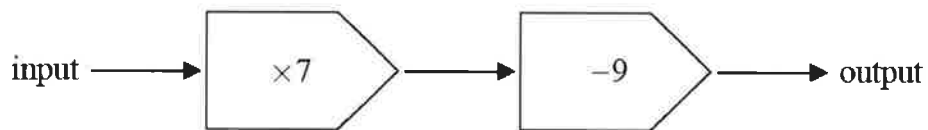


Show how the cards can be arranged to make an even number using all four cards.



(Total for Question 21 is 1 mark)

22 Here is a number machine.



Work out the input when the output is 82

$$\begin{array}{r} 82 + 9 \\ \hline 7 \end{array}$$

13

(Total for Question 22 is 1 mark)

23 The temperature in Quebec one day in January was $-20\text{ }^{\circ}\text{C}$.

The temperature in Winnipeg was $8\text{ }^{\circ}\text{C}$ greater than the temperature in Quebec.

Work out the temperature in Winnipeg.

..... -12 $^{\circ}\text{C}$

(Total for Question 23 is 1 mark)

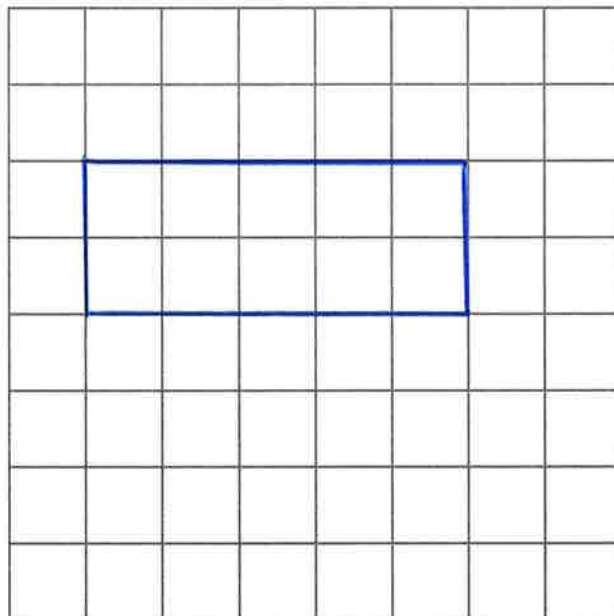
24 Simplify $3e + 7g + 5e - 4g$

..... $8e + 3g$

(Total for Question 24 is 2 marks)

25 Here is a centimetre grid.

On the grid, draw a rectangle with a perimeter of 14 cm.



(Total for Question 25 is 2 marks)

26 Bella buys

4 packets of sandwiches at £2.40 each packet
a bottle of water for £1.20
and 3 packets of crisps.

Bella pays with a £20 note.

She gets £5.75 change.

Each packet of crisps has the same price.

Work out the price of each packet of crisps.

$$(4 \times 2.40) + 1.20 + 3 \text{ crisps} = 20 - 5.75$$

$$10.80 + 3 \text{ crisps} = 14.25$$

$$3 \text{ crisps} = 14.25 - 10.80 = 3.45$$

£ 1.15

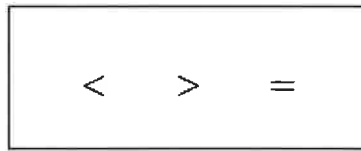
(Total for Question 26 is 3 marks)

27 Write the number two million in figures.

2 000 000

(Total for Question 27 is 1 mark)

28 Here are three symbols.



Write one of these symbols in each box to make four true statements.

14	>	21
$4 + 7$	=	$103 - 92$
2^2	=	2×2
-3	>	-5

(Total for Question 28 is 2 marks)

29 Here is part of a train timetable.

Ipswich	07 22	07 29	07 32
London	09 00	08 32	08 48

Work out how long it will take the 07 22 train to get to London.

1 hour 38 minutes

(Total for Question 29 is 2 marks)

30 $P = 7r + 3q$

Work out the value of P when $r = 5$ and $q = -4$

$$P = 35 - 12$$

23

(Total for Question 30 is 2 marks)

31 Simplify $w^5 \times w^7$

w^{12}

(Total for Question 31 is 1 mark)

32 Write 1.452×10^3 as an ordinary number.

1452

(Total for Question 32 is 1 mark)

33 Write these numbers in order of size.
Start with the smallest number.

0.43	$\frac{9}{20}$	40.5%	$\frac{4}{9}$	0.427
0.43	0.45	0.405	0.444...	0.427

40.5%, 0.427, 0.43, $\frac{4}{9}$, $\frac{9}{20}$

(Total for Question 33 is 2 marks)

34 (a) Simplify $a + a + a + a$

$$4a$$

(1)

(b) Simplify $t^9 \div t^3$

$$t^6$$

(1)

(c) Simplify $y \times y \times y$

$$y^3$$

(1)

(Total for Question 34 is 3 marks)

35 Machine A and machine B both make car parts.

Machine A makes 6 parts every 10 minutes.

Machine B makes 13 parts every 15 minutes.

On Monday

machine A makes parts for 12 hours

machine B makes parts for 10 hours

Work out the total number of parts made by the two machines on Monday.

$$\text{Machine A: } 6 \times 6 \times 12 = 432$$

$$\text{Machine B: } 13 \times 4 \times 10 = 520$$

952

.....
(Total for Question 35 is 4 marks)

36 Lorenzo increases all the prices on his restaurant menu by 8%

Before the increase, the price of a dessert was £4.25

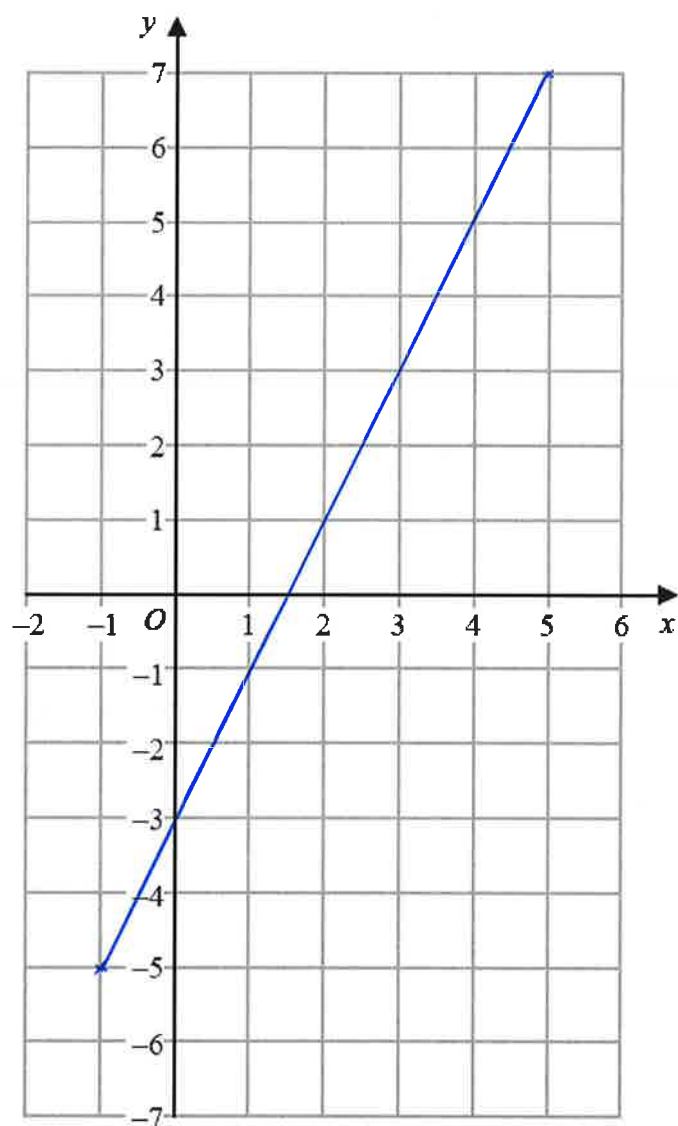
Work out the price of the dessert after the increase.

$$4.25 \times 1.08$$

£ 4.59

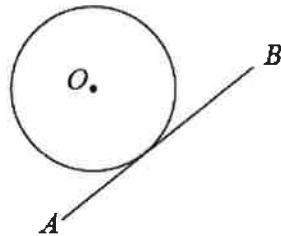
(Total for Question 36 is 3 marks)

37 On the grid, draw the graph of $y = 2x - 3$ for values of x from -1 to 5



(Total for Question 37 is 3 marks)

38 The diagram shows a circle with centre O .



Write down the word from the box that describes the line AB .

sector	segment	tangent	chord	diameter
--------	---------	---------	-------	----------

tangent

(Total for Question 38 is 1 mark)

39 Find the highest common factor (HCF) of 21 and 35

$$21 = 3 \times 7$$
$$35 = 5 \times 7$$

7

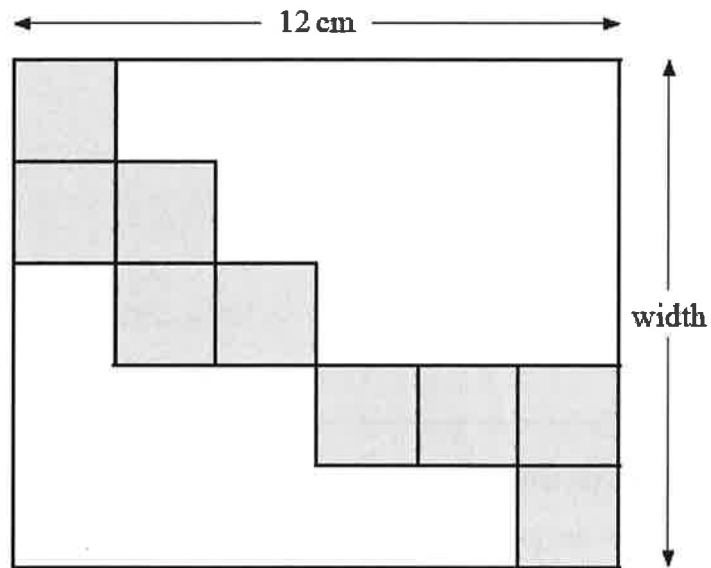
(Total for Question 39 is 1 mark)

40 Factorise $5y + 15$

$5(y + 3)$

(Total for Question 40 is 1 mark)

41 The diagram shows nine identical squares inside a rectangle.



The length of the rectangle is 12 cm.

Work out the width of the rectangle.

$$5 \times 2$$

.....10.....cm

(Total for Question 41 is 3 marks)

- 42 Potatoes cost £2 per kg.
Carrots cost £3 per kg.
Alfred buys p kg of potatoes and c kg of carrots.
The total cost is £ T .
Write down a formula for T in terms of p and c .

$$T = 2p + 3c$$

(Total for Question 42 is 3 marks)

- 43 A garden is in the shape of a rectangle 90 m by 60 m.
Flowers are grown in 40% of the garden.
The rest of the garden is grass.
Work out the area of the garden that is grass.

$$90 \times 60 = 5400$$

$$5400 \times 60\%$$

$$3240 \text{ m}^2$$

(Total for Question 43 is 4 marks)

- 44 Change 1756 grams to kilograms.

$$1.756 \text{ kg}$$

(Total for Question 44 is 1 mark)

TOTAL FOR PAPER IS 80 MARKS