Write your name here

| Surname | | Other names | |
|---|---|---|---|

**Pearson Edexcel**
Level 1/Level 2 GCSE (9-1)

Centre Number

Candidate Number

# Mathematics
Paper 1 (Non-Calculator)
Aiming for 4 _Solutions_   **Foundation Tier**

| Autumn 2019 Practice Paper | Paper Reference |
|---|---|
| Time: 1 hour 30 minutes | **1MA1/1F** |

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. 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 not be used.**

## Information

- The total mark for this paper is 80. There are 52 questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2019 examinations
- Questions marked with an asterisk (*) also appear on the Higher Tier paper.
- 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. The bar chart gives information about the population, in millions, of each of five cities.
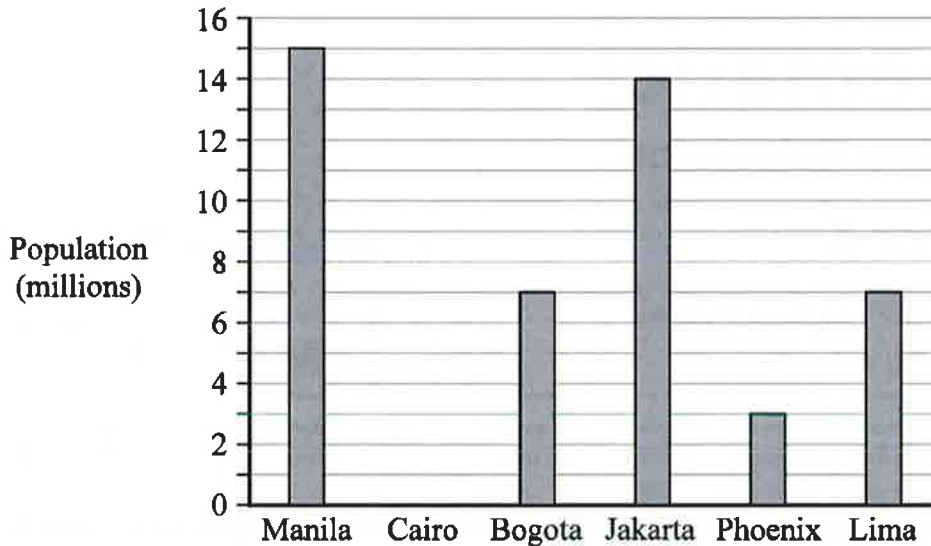


The populations of two cities are equal.

(a) Write down the names of these two cities.

Bogota and Lima

**(1)**

(b) Write down the name of the city with a population of 15 million.

Manila

**(1)**

**(Total for Question 1 is 2 marks)**

2. Write the number 6405 in words.

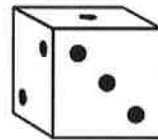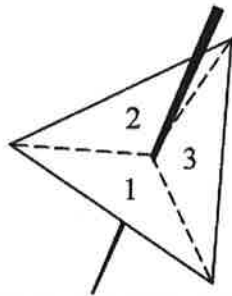Six thousand, four hundred and five

**(Total for Question 2 is 1 mark)**

**3** Write these numbers in order.
Start with the smallest number.

$$3 \qquad -8 \qquad 1 \qquad -5 \qquad 0$$

$-8, -5, 0, 1, 3$
...................................................
**(Total for Question 3 is 1 mark)**

---

**4** In a game, a fair 3-sided spinner is spun once and a fair dice is rolled once.

The spinner can land on 1, 2 or 3
The dice can land on 1, 2, 3, 4, 5 or 6

In the game, the score is found by multiplying the number the spinner lands on by the number the dice lands on.

Complete the table to show all possible scores.
Eleven of the scores have been done for you.

**Dice**

|   |   | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
|   | **1** | 1 | 2 | 3 | 4 | 5 | 6 |
| **Spinner** | **2** | 2 | 4 | 6 | 8 | 10 | 12 |
|   | **3** | 3 | 6 | 9 | 12 | 15 | 18 |

**(Total for Question 4 is 2 marks)**

5    The table gives the surface areas, in square kilometres, of six lakes in Africa.

| Lake | Surface area (square kilometres) |
|---|---|
| Albert | 5299 |
| Malawi | 29 500 |
| Mweru | 5120 |
| Tanganyika | 32 600 |
| Turkana | 6405 |
| Victoria | 68 879 |

Which of these lakes has the least surface area?

Mweru
...........................................................

**(Total for Question 5 is 1 mark)**

6    Solve   $t + t + t = 12$

$t =$   4
...........................................................

**(Total for Question 6 is 1 mark)**

7    Solve   $x - 2 = 6$

$x =$   8
...........................................................

**(Total for Question 7 is 1 mark)**

**8**    Which one of these fractions is equivalent to $\dfrac{4}{5}$?

$$\dfrac{20}{24} \qquad \dfrac{8}{12} \qquad \dfrac{1}{2} \qquad \dfrac{16}{20} \qquad \dfrac{6}{10}$$

$\dfrac{16}{20}$

.................................................................

**(Total for Question 8 is 1 mark)**

**9**    Write 180 minutes in hours.

3

............................................................ hours

**(Total for Question 9 is 1 mark)**

10   In Adam's garden, the flowers are only red or white or yellow or blue.

The chart shows the number of red flowers, the number of white flowers and the number of yellow flowers.
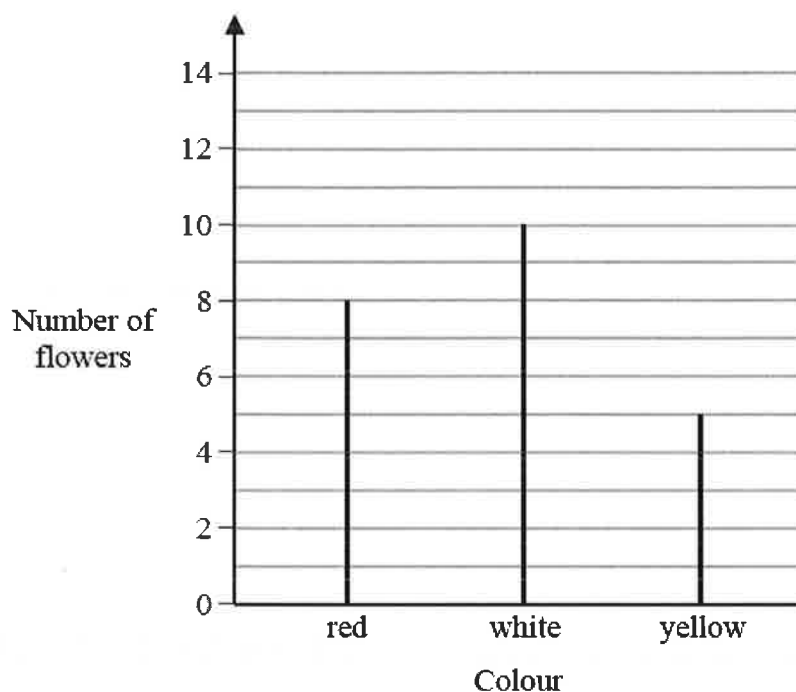


The total number of flowers is 30

Work out the number of blue flowers.

$$30 - (8 + 10 + 5)$$

7
..............................................................

**(Total for Question 10 is 2 marks)**

11   Write 0.73 as a percentage.

73
.............................................................. %

**(Total for Question 11 is 1 mark)**

**12** Work out    $10 \times (3 + 5)$

80

...................................................

**(Total for Question 12 is 1 mark)**

**13** The diagram shows a fair 6-sided spinner.
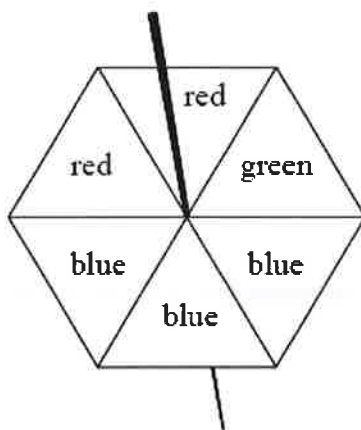


Rami is going to spin the spinner once.

Circle the word in the box below that best describes the likelihood that the spinner will land on green.

| impossible | unlikely | evens | likely | certain |

**(Total for Question 13 is 1 mark)**

**14** Find the number that is exactly halfway between 7 and 15

11

...................................................

**(Total for Question 14 is 1 mark)**

**15** Here are the shoe sizes of 11 people.

7    8    4    4    4    10    5    7    7    4    4

Write down the mode.

4

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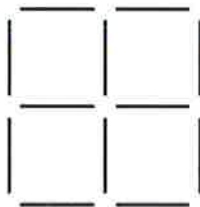
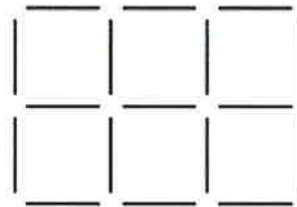**(Total for Question 15 is 1 mark)**

**16** Here is a sequence of patterns made from sticks.
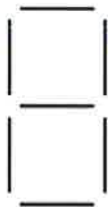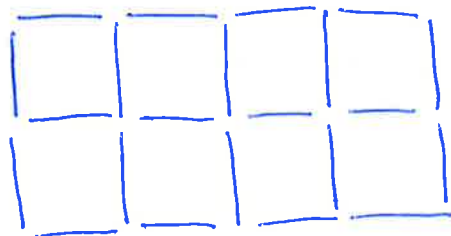


Pattern
number 1

Pattern
number 2

Pattern
number 3

In the space below, draw Pattern number 4



**(Total for Question 16 is 1 mark)**

**17**

| 3    8    16    19    24    51    60    81 |

From the numbers in the box, write down an odd number

3 or 19 or 51 or 81

......................................................................

**(Total for Question 17 is 1 mark)**

18 Harry is planning a holiday for 4 people for 7 days.

Here are the costs for the holiday for **each person**.

| | |
|---|---|
| Travel | £150 |
| Hotel | £50 for each day |
| Spending money | £250 |

Work out the total cost of the holiday for 4 people for 7 days.

150
350
250
——
750        750 × 4

£ 3000

**(Total for Question 18 is 4 marks)**

19 Write $\frac{4}{5}$ as a percentage.

80 %

**(Total for Question 19 is 1 mark)**

**20** Solve $6w + 2 = 20$

$$6w = 18$$

$w = $ ................3........................................

**(Total for Question 20 is 2 marks)**

---

**21** There are only blue cubes, red cubes and yellow cubes in a box.

The table shows the probability of taking at random a blue cube from the box.

| Colour | blue | red | yellow |
|---|---|---|---|
| Probability | 0.2 | 0.4 | 0.4 |

The number of red cubes in the box is the same as the number of yellow cubes in the box.

Complete the table.

**(Total for Question 21 is 2 marks)**

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**22** Simplify $6e \times 2f$

...............12ef...............................

**(Total for Question 22 is 1 mark)**

---

**23** Here are the shoe sizes of 11 people.
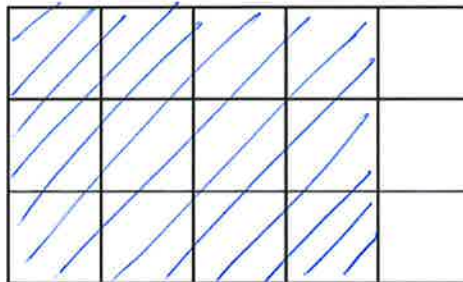
7 8 4 4 4 10 5 7 7 4 4

Work out the range.

$10 - 4$

6

**(Total for Question 23 is 2 marks)**

---

**24** Write $5.7 \times 10^6$ as an ordinary number.

5 700 000

**(Total for Question 24 is 1 mark)**

---

**25** Here is a shape made of squares.
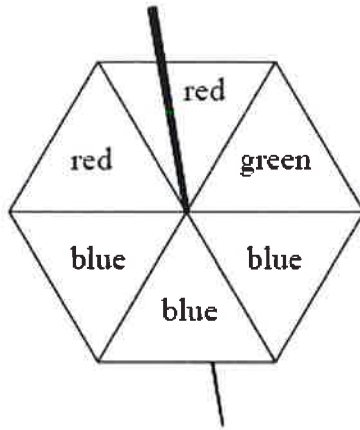


Shade $\dfrac{4}{5}$ of the shape.

**(Total for Question 25 is 1 mark)**

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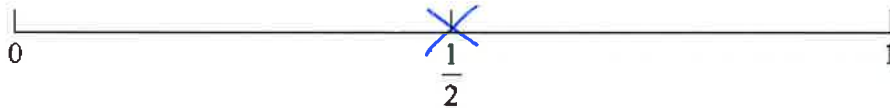**26** Write the number 68 879 correct to the nearest thousand.

69 000

**(Total for Question 26 is 1 mark)**

**27** The diagram shows a fair 6-sided spinner.



Rami is going to spin the spinner once.

On the probability scale below, mark with a cross (×) the probability that the spinner will land on blue.

$$0 \quad\quad\quad \times\ \frac{1}{2} \quad\quad\quad 1$$

**(Total for Question 27 is 1 mark)**

---

**28** $P = 2g + 3h$

Work out the value of $P$ when $g = 7$ and $h = -4$

$P = 14 - 12$

2

**(Total for Question 28 is 2 marks)**

---

**29** Complete the following statement by writing a number on the dotted line.

1 kilometre = .......1000....... metres.

**(Total for Question 29 is 1 mark)**

---

**30** Simplify $5m + 7k - 2m + k$

$$3m + 8k$$

**(Total for Question 30 is 2 marks)**

**31** Solve $5y + 3 = 14$

$$5y = 11$$

$y =$ $\dfrac{11}{5}$ or $2.2$

**(Total for Question 31 is 2 marks)**

**32** Write these fractions in order of size.
Start with the smallest fraction.

$$\dfrac{7}{10} \qquad \dfrac{4}{5} \qquad \dfrac{1}{2} \qquad \dfrac{29}{40}$$

$$\dfrac{28}{40} \qquad \dfrac{32}{40} \qquad \dfrac{20}{40} \qquad \dfrac{29}{40}$$

$$\dfrac{20}{40} , \dfrac{28}{40} , \dfrac{29}{40} , \dfrac{32}{40} \qquad\qquad \dfrac{1}{2} , \dfrac{7}{10} , \dfrac{29}{40} , \dfrac{4}{5}$$
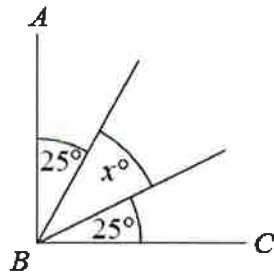
**(Total for Question 32 is 2 marks)**

**33** Write down the name of a polygon with 8 sides.

octagon

**(Total for Question 33 is 1 mark)**

**34** *AB* and *BC* are perpendicular lines.



Find the value of *x*.

$90 - 50$

$x =$ .......40.......

**(Total for Question 34 is 2 marks)**

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**35** Deon needs 50 g of sugar to make 15 biscuits.

She also needs

three times as much flour as sugar
two times as much butter as sugar

Deon is going to make 60 biscuits.

Work out the amount of flour she needs.

$150g \times 4$

.......600....... g

**(Total for Question 35 is 3 marks)**

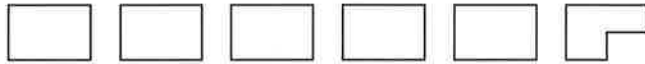36    Here are the shoe sizes of 11 people.

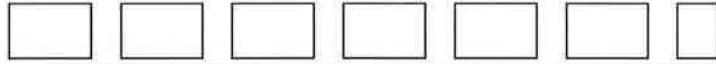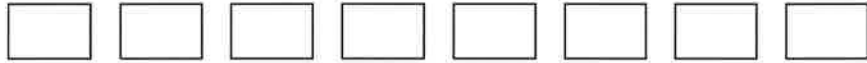7    8    4    4    4    10    5    7    7    4    4

Find the median.

5

**(Total for Question 36 is 2 marks)**

37    The pictogram gives information about the number of emails Sami sent on each of five days last week.

| Monday | |
|---|---|
| Tuesday | |
| Wednesday | |
| Thursday | |
| Friday | |

represents 8 emails

Work out the mean number of emails Sami sent on these 5 days.

$$\frac{36 + 46 + 52 + 50 + 64}{5} = \frac{248}{5}$$

49.6

**(Total for Question 37 is 4 marks)**

**38** Write down the value of $\sqrt{64}$

.................................... 8

**(Total for Question 38 is 1 mark)**

**39** Work out the value of $5^3$

.................................... 125

**(Total for Question 39 is 1 mark)**

**40** Complete the following statement by writing a number on the dotted line.

A pentagon has ..................... 5 ..................... sides.

**(Total for Question 40 is 1 mark)**

**41** In Mansfield, there are 90 badminton clubs and 60 football clubs.

Find the ratio of the number of badminton clubs to the number of football clubs.
Give your ratio in its simplest form.

90 : 60

.................................... 3 : 2

**(Total for Question 41 is 2 marks)**

**42**  Ruth left her home and walked to the library.
She got to the library at 10 30 am.
She stayed at the library for 50 minutes.
Then she walked home.

Ruth took $1\frac{1}{4}$ hours to walk home.

At what time did Ruth get home?

10 30 + 0 50 + 1 15   =

.................................12 35 pm.............................

**(Total for Question 42 is 2 marks)**

**43** There are 40 students in a class.
Each student walks to school or cycles to school or gets the bus to school.

There are 22 girls in the class.
9 of the girls walk to school.
7 of the boys cycle to school.
6 of the 10 students who get the bus to school are boys.

Find the number of these students who walk to school.

| | Walk | Cycle | Bus | Total |
|---|---|---|---|---|
| Girls | 9 | | | 22 |
| Boys | 5 | 7 | 6 | 18 |
| Total | 14 | | 10 | 40 |

........................**14**........................

**(Total for Question 43 is 4 marks)**

**44** Work out $74 \times 58$

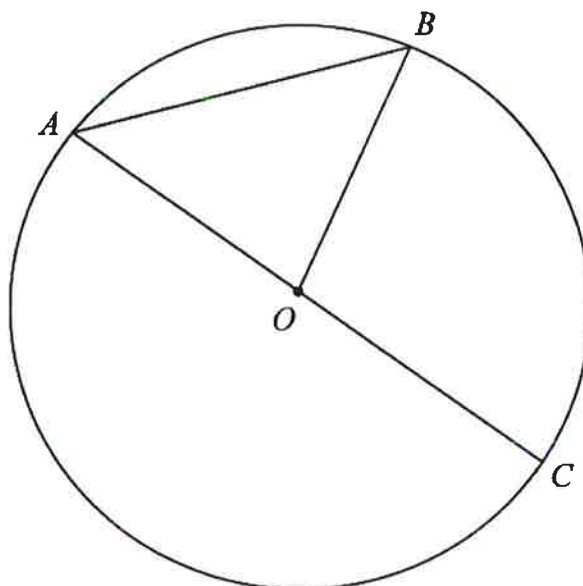$$\begin{array}{r} 74 \\ \times\ 58 \\ \hline 592 \\ 3700 \end{array}$$

4292

...............................................................

**(Total for Question 44 is 2 marks)**

**45** Expand $5(2m - 3)$

$10m - 15$

...............................................................

**(Total for Question 45 is 1 mark)**

**46** $A$, $B$ and $C$ are points on a circle, centre $O$.
$AOC$ is a straight line.



Write down the mathematical name for the line $AC$.

*diameter*

**(Total for Question 46 is 1 mark)**

**47** Work out $\dfrac{1}{5}$ of 70

14

**(Total for Question 47 is 1 mark)**

**48** Complete the following statement by writing a number on the dotted line.

The size of each angle in an equilateral triangle is .............. 60 .............. °

**(Total for Question 48 is 1 mark)**

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

2.5      2.85      2.082      2.28      2.805

2.082, 2.28, 2.5, 2.805, 2.85
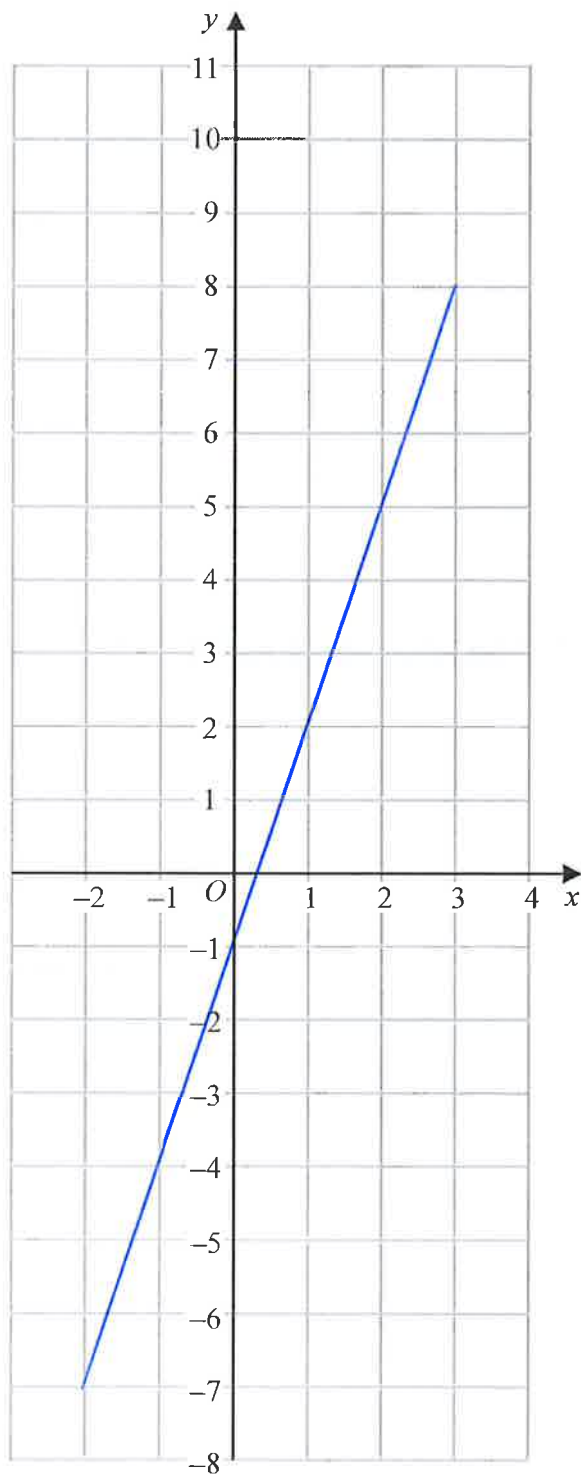
**(Total for Question 49 is 1 mark)**

**50** Simplify    $e^9 \div e^5$

.......................................................

**(Total for Question 50 is 1 mark)**

**51** Write down a prime number that is between 20 and 30

.......................................................

**(Total for Question 51 is 1 mark)**

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



**(Total for Question 52 is 3 marks)**

**TOTAL FOR PAPER IS 80 MARKS**