Please check the examination details below before entering your candidate information

| Candidate surname | Other names |
|---|---|
| | |

Centre Number | Candidate Number

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

**Time** 1 hour 30 minutes

**Paper reference** **1MA1/1F**

△ ▲

# Mathematics

## PAPER 1 (Non-Calculator)
## Foundation Tier

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, Formulae Sheet (enclosed). 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
- 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.
- Try to answer every question.
- Check your answers if you have time at the end.

*Turn over* ▶

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B:1/1/1/1/

P 6 8 7 2 0 A 0 1 2 4

Pearson

**Answer ALL questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

**1** Write 0.3 as a fraction.

.....

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

**2** Work out $3^2$

.....

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

**3** Work out $20 \div (3 + 2)$

.....

**(Total for Question 3 is 1 mark)**

**4** Write down a factor of 60 that is between 8 and 14

.....

**(Total for Question 4 is 1 mark)**

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**5** Simplify $3 \times w \times 5 \times t$

.....

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

**6** Fay is planning a trip to a theme park for 1 adult and 2 children.

These are the costs for the trip.

| | |
|---|---|
| Total cost of petrol | £23 |
| Tickets to theme park | £33 each adult<br>£24.50 each child |
| Meals | £15 each adult<br>£10 each child |

Fay has £200 to spend.
She pays all the costs.

How much money does she have left?

£.....

**(Total for Question 6 is 4 marks)**

**7** Here is a list of 8 letters.

B C A A A A B A

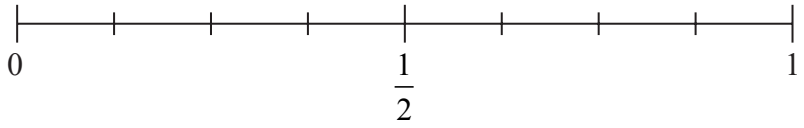
(a) Write down the mode.

.....

**(1)**

One of the 8 letters is going to be picked at random.

(b) (i) On the probability scale, mark with a cross (×) the probability that this letter will be B.




**(1)**

(ii) Find the probability that this letter will be C.

.....

**(1)**

**(Total for Question 7 is 3 marks)**

---

**8** (a) Solve $m - 3 = 4$

$m =$ .....

**(1)**

(b) Solve $3n + n = 24$

$n =$ .....

**(2)**

**(Total for Question 8 is 3 marks)**

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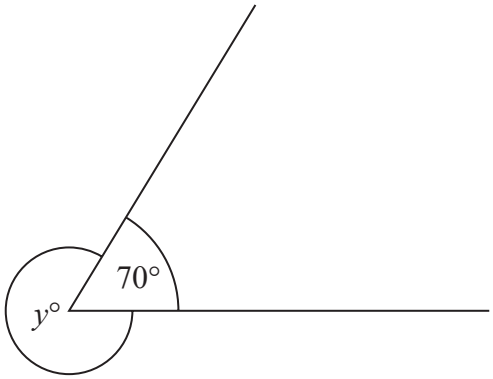
**9**




(a) Find the value of $y$.

$y =$ .....

**(1)**

(b) Give a reason for your answer.

.....

.....

.....

**(1)**

**(Total for Question 9 is 2 marks)**

**10** A shop sells jars of coffee.
Each jar of coffee costs £4

Michael has £23

(a) Work out the greatest number of jars of coffee Michael can buy.

.....

**(2)**

In a sale on Wednesday, jars of coffee are sold at half price.

Michael thinks that he can now buy exactly twice the number of jars of coffee for £23

(b) Is Michael correct?
You must give a reason for your answer.

.....

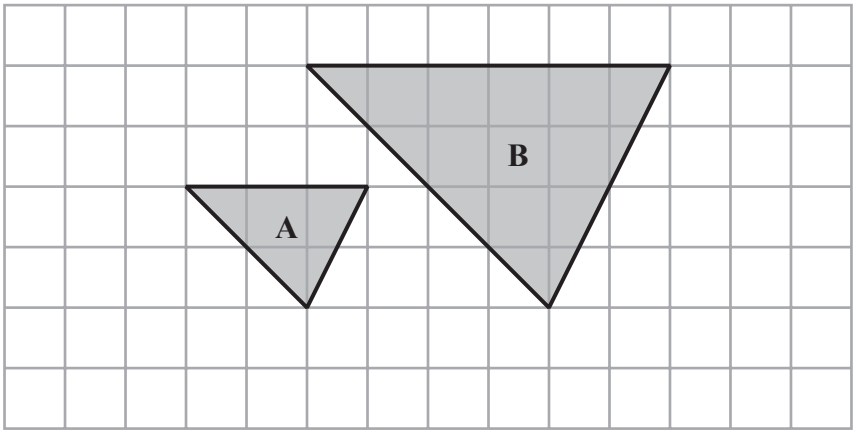
.....

.....

**(1)**

**(Total for Question 10 is 3 marks)**

**11** Here are two triangles on a grid.




Triangle **B** is an enlargement of triangle **A**.

(a) (i) Write down the scale factor of the enlargement.

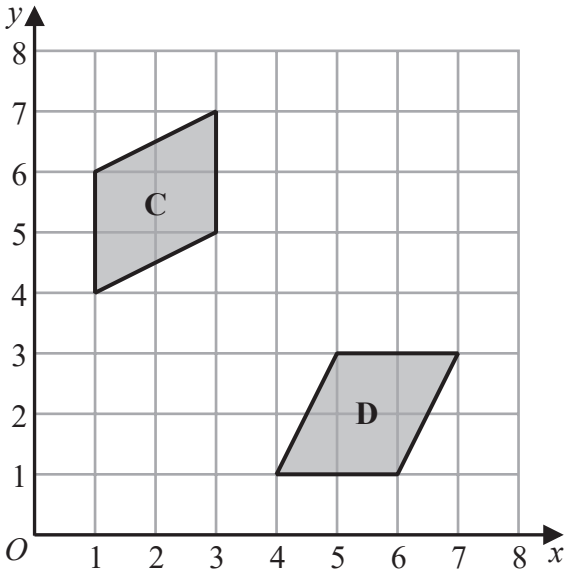
.....

**(1)**

(ii) On the grid, mark with a cross (×) the centre of enlargement.

**(1)**

Here are two parallelograms on a coordinate grid.




Parallelogram **D** is a reflection of parallelogram **C**.

(b) (i) On the grid, draw the mirror line.

**(1)**

(ii) Write down an equation of this mirror line.

.....

**(1)**

**(Total for Question 11 is 4 marks)**

**12** Elena spent 120 minutes at a sports centre.

She played badminton for 50 minutes.

She used the swimming pool for $\frac{1}{6}$ of the 120 minutes.

She used the gym for 20% of the 120 minutes.
She then spent the rest of the 120 minutes in the cafe.

(a) Work out the total time, in minutes, that Elena spent in the cafe.

..... minutes
**(4)**

Elena got to the sports centre at 1.30 pm.
She had asked her friend to meet her in the cafe at 3 pm.

(b) Did Elena get to the cafe by 3 pm?
Give a reason for your answer.

.....

.....

.....

**(1)**

**(Total for Question 12 is 5 marks)**

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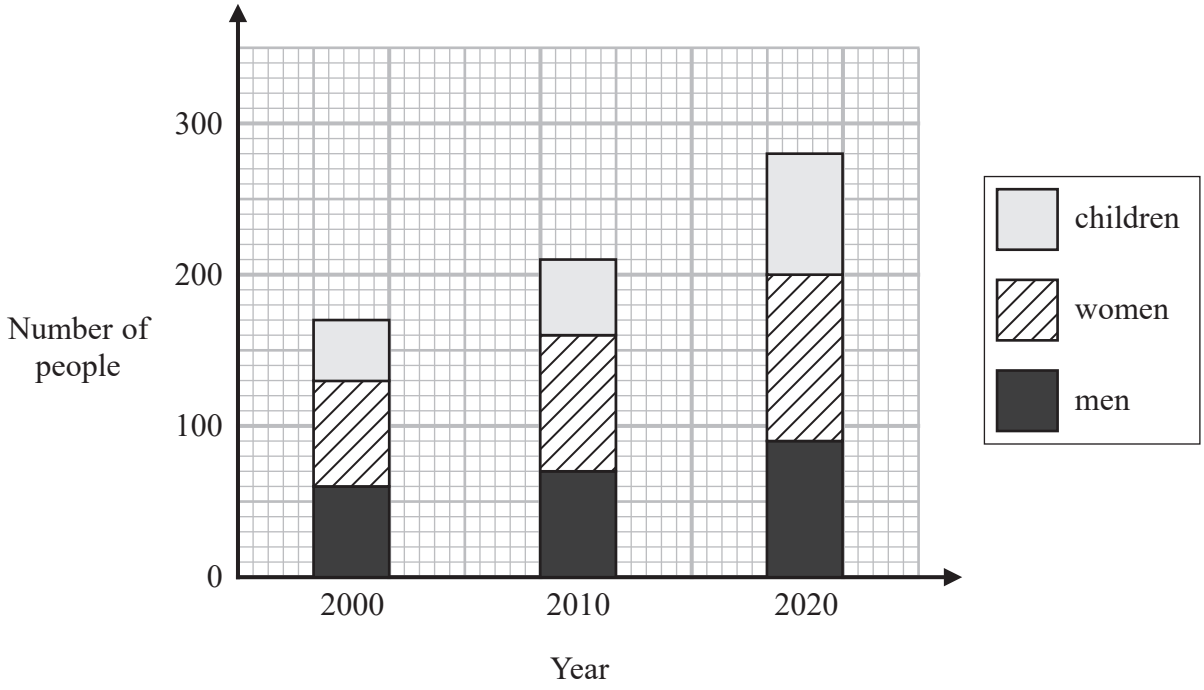
**13** The composite bar chart shows information about the number of people living in a village.




(a) Write down the number of men living in the village in the year 2000

.....

**(1)**

(b) Find the number of children living in the village in the year 2010

.....

**(1)**

For the people living in the village in the year 2020

(c) find the ratio of the number of children to the **total** number of men and women.

.....

**(2)**

**(Total for Question 13 is 4 marks)**

**14** Jenny drives from London to Swindon at an average speed of 54 miles per hour.

She drives for $1\frac{1}{2}$ hours.

(a) Work out the distance from London to Swindon.

..... miles

**(2)**

Aleksy is using a map.

The map has a scale of 1 : 25 000

On the map a road has a length of 6 cm.

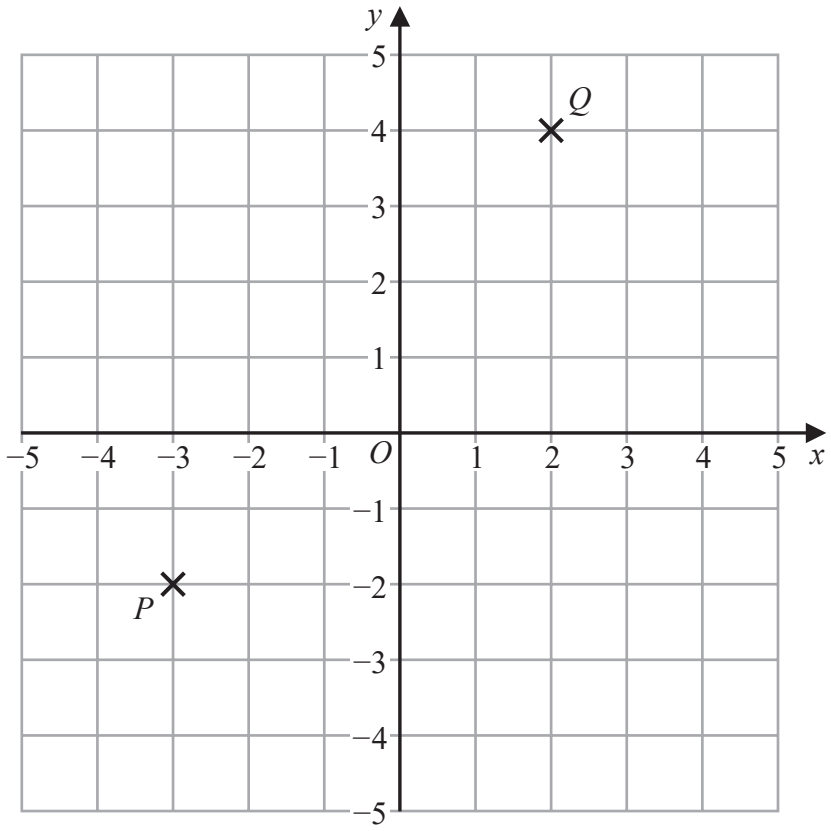
(b) Work out the length, in kilometres, of the real road.

..... kilometres

**(3)**

**(Total for Question 14 is 5 marks)**

**15**

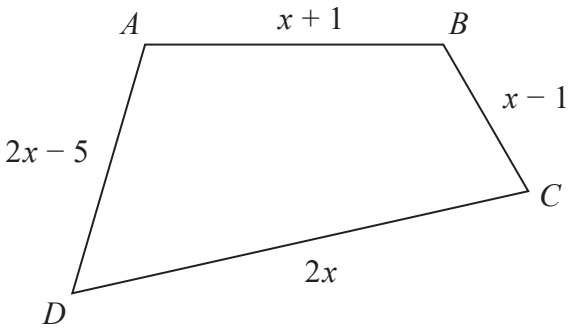



Find the coordinates of the midpoint of $PQ$.

( ..... , ..... )

**(Total for Question 15 is 2 marks)**

**16** Here is a quadrilateral *ABCD*.




All the measurements are in centimetres.

The perimeter of *ABCD* is 52 centimetres.

Work out the length of *DC*.

..... centimetres

**(Total for Question 16 is 4 marks)**

**17** There are only blue counters, green counters, red counters and yellow counters in a bag.

The table shows the number of blue counters in the bag.

| **Colour** | blue | green | red | yellow |
|---|---|---|---|---|
| **Number of counters** | 30 | | | |

There is a total of 100 counters in the bag.

Ashin takes at random a counter from the bag.

(a) Find the probability that the counter is **not** blue.

.....

**(2)**

The ratio of the number of blue counters to the number of green counters is 2 : 3

(b) Work out the number of green counters in the bag.

.....

**(2)**

Bradley says,

"The number of red counters in the bag is the same as the number of yellow counters in the bag."

(c) Can Bradley be correct?
Give a reason for your answer.

.....

.....

.....

**(1)**

**(Total for Question 17 is 5 marks)**

**18** There are 240 cans of drink on a shelf.
Each can contains cola or lemonade or orange.

$$\text{the number of cans of cola} : \text{the number of cans of lemonade} : \text{the number of cans of orange} = 5:3:2$$

$\frac{1}{2}$ of the cans of lemonade and $\frac{1}{12}$ of the cans of orange are removed from the shelf.

Work out the number of cans of cola as a percentage of the total number of cans of drink remaining on the shelf.

.....%

**(Total for Question 18 is 5 marks)**

**19** Write 500 as a product of powers of its prime factors.

.....

**(Total for Question 19 is 3 marks)**

**20** (a) Work out $1\frac{3}{5} + 2\frac{1}{4}$

Give your answer as a mixed number.

.....

**(2)**

(b) Show that $2\frac{2}{3} \div 6 = \frac{4}{9}$

**(2)**

**(Total for Question 20 is 4 marks)**

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**21** Simplify $(2^{-5} \times 2^{8})^{2}$

Give your answer as a power of 2

.....

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

**22** Work out $0.004 \times 0.32$

.....

**(Total for Question 22 is 2 marks)**

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**23** A car factory is going to make four different car models **A**, **B**, **C** and **D**.

80 people are asked which of the four models they would be most likely to buy.

The table shows information about the results.

| Car model | Number of people |
|---|---|
| **A** | 23 |
| **B** | 15 |
| **C** | 30 |
| **D** | 12 |

The factory is going to make 40 000 cars next year.

Work out how many model **B** cars the factory should make next year.

.....

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

**24** Rizwan writes down three numbers $a$, $b$ and $c$

$$a : b = 1 : 3$$
$$b : c = 6 : 5$$

(a) (i) Find $a : b : c$

.....

**(2)**

(ii) Express $a$ as a fraction of the total of the three numbers $a$, $b$ and $c$

.....

**(2)**

Emma writes down three numbers $m$, $n$ and $p$

$$n = 2m$$
$$p = 5n$$

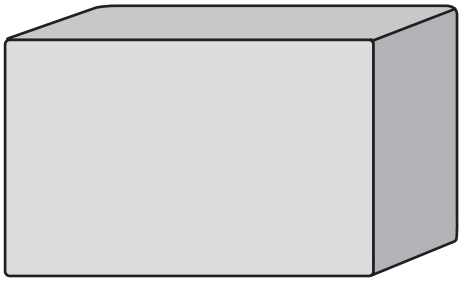
(b) Find $m : p$

.....

**(2)**

**(Total for Question 24 is 6 marks)**

**25**



$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

A storage tank exerts a force of 10 000 newtons on the ground.

The base of the tank in contact with the ground is a 4 m by 2 m rectangle.

Work out the pressure on the ground due to the tank.

..... newtons / $m^2$

**(Total for Question 25 is 2 marks)**

**26** (a) Solve $\frac{5x}{2} + 3 > 18$

.....

**(3)**

(b) Factorise $x^2 + 10x + 9$

.....

**(2)**

**(Total for Question 26 is 5 marks)**

**TOTAL FOR PAPER IS 80 MARKS**

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