Write your name here

Surname		Other names

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

Centre Number

Candidate Number

Mathematics
Paper 3 (Calculator)

Aiming for 4

Foundation Tier

Spring 2023 Practice Paper
Time: 1 hour 30 minutes

Paper Reference
1MA1/3F

Total Marks

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

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 34 questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by students achieving Grade 4 in the Summer and November 2022 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 THIRTY FOUR questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Find $\sqrt{1.69}$

....

(Total for Question 1 is 1 mark)

2 Here is a list of numbers.

$$5 \qquad 11 \qquad 18 \qquad 22 \qquad 29$$

From the list, write down a multiple of 3

....

(Total for Question 2 is 1 mark)

3 Work out $\dfrac{1}{4}$ of 28

....

(Total for Question 3 is 1 mark)

4 Write 35% as a fraction.

....

(Total for Question 4 is 1 mark)

5   Write down two factors of 12

....

(Total for Question 5 is 1 mark)

6   Write $\dfrac{4}{5}$ as a decimal.

....

(Total for Question 6 is 1 mark)

7   Sinita wants to make 35 picture frames.
She needs 4 nails for each frame.

Sinita has 3 boxes of nails.
There are 48 nails in each box.

Has Sinita got enough nails to make all 35 frames?
Show how you get your answer.

(Total for Question 7 is 3 marks)

8 The table shows the total number of apples sold and the total number of oranges sold in a shop in each of three weeks.

	Week 1	Week 2	Week 3
Number of apples	86	75	92
Number of oranges	68	80	76

In total for the three weeks, more apples than oranges were sold.
How many more?

....

(Total for Question 8 is 3 marks)

---

9 Four students play a game.
The table shows the number of points each student has.

Student	Ali	Barbara	Calliope	Danesh
Number of points	143	121	45	19

Barbara has more points than Danesh.
(*a*) How many more?

....
(1)

(*b*) Work out the mean number of points.

....
(2)

(Total for Question 9 is 3 marks)

---

10 Write down the value of the 2 in the number 12 345

....

(Total for Question 10 is 1 mark)

---

11 Work out $\dfrac{2.75 \times 14.6}{10 - 1.97}$

....

(Total for Question 11 is 2 marks)

---

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

0.41   0.5   0.46   0.408

....

(Total for Question 12 is 1 mark)

13 208 bars of chocolate were sold from a shop.

$\dfrac{1}{4}$ of these bars of chocolate were large bars.

The rest of the bars of chocolate were small bars.

All the large bars of chocolate were sold for £1 each.
All the small bars of chocolate were sold for 60p each.

Work out the total amount of money for which the 208 bars of chocolate were sold.
Give your answer in pounds.

£..

(Total for Question 13 is 3 marks)

14 Write 60 metres as a fraction of 1000 metres.
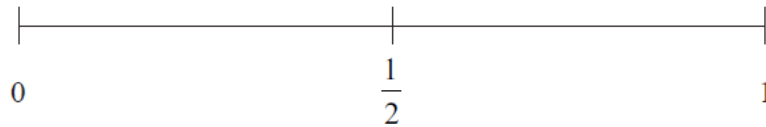Give your answer in its simplest form.

....

(Total for Question 14 is 2 marks)

15 Here is a list of 8 numbers.

$$2 \qquad 2 \qquad 3 \qquad 5 \qquad 6 \qquad 6 \qquad 8 \qquad 9$$

Kim picks at random one of these numbers.

(*a*) On the probability scale below, mark with a cross (×) the probability that Kim picks a number 7

```
├────────────────┼────────────────┤
0               1                1
                ─
                2
```

(1)

(*b*) On the probability scale below, mark with a cross (×) the probability that Kim picks a number greater than 5

(1)

(*c*) Find the probability that Kim picks an even number.

....

(2)

(Total for Question 15 is 4 marks)

16 Here is a cuboid.

5 cm

4 cm

8 cm
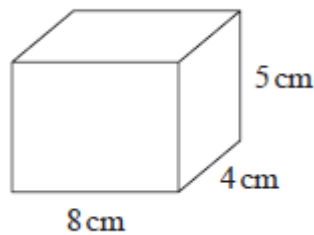
Work out the volume of the cuboid.

.... cm^3

(Total for Question 16 is 2 marks)

17 The graph shows information about the average monthly temperature, in °C, in Amman.
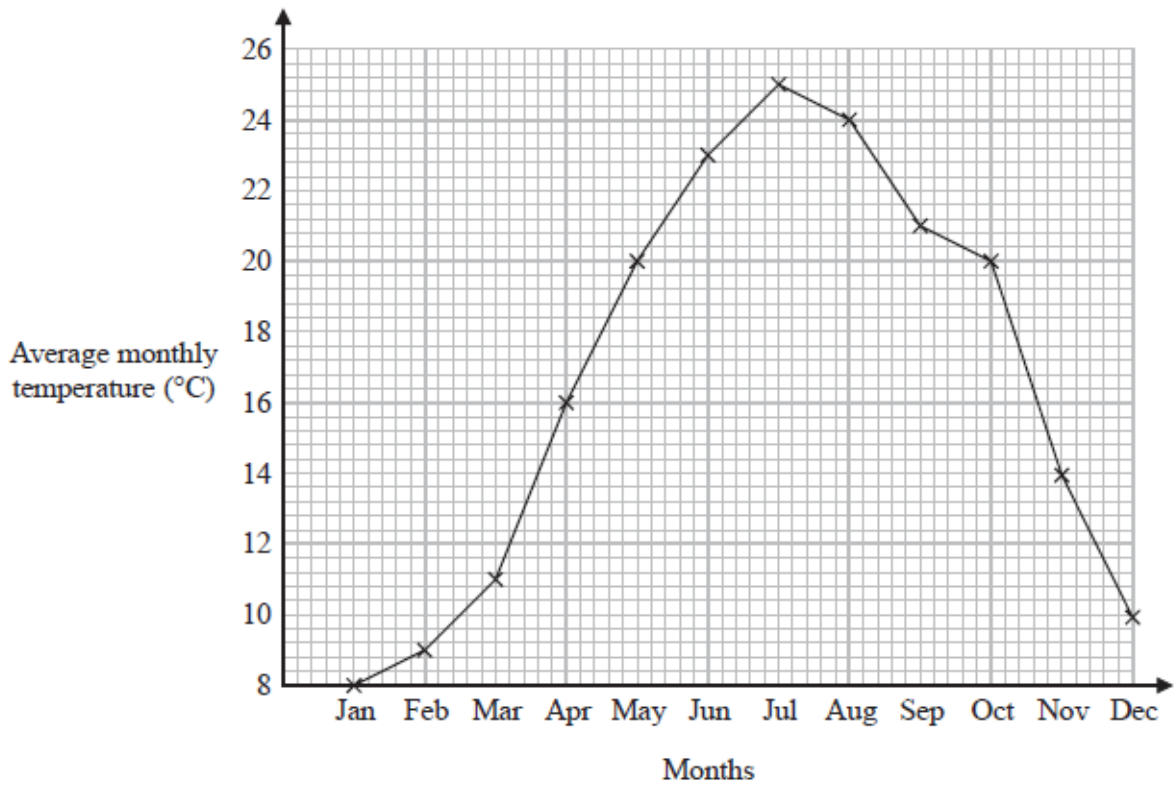
(a) For how many months was the average monthly temperature greater than 16°C?

....
(1)

(b) Write down the two months that had the same average monthly temperature.

.... and ....
(1)

(Total for Question 17 is 2 marks)

---

18 Simplify $2m \times 3$

....

(Total for Question 18 is 1 mark)

---

19 Amol, Gemma and Harry each have a number of sweets.

The number of sweets that Gemma has is 6 times the number of sweets that Amol has.
The number of sweets that Harry has is half the number of sweets that Gemma has.

Write down the ratio

| the number of sweets that Amol has | : | the number of sweets that Gemma has | : | the number of sweets that Harry has |

....

(Total for Question 19 is 2 marks)

---

20 Here are the first five terms of a number sequence.

$$3 \qquad 8 \qquad 13 \qquad 18 \qquad 23$$

(*a*) Write down the next two terms of this sequence.

....

(1)

Jim says that 50 is a term in this sequence.
Jim is wrong.

(*b*) Explain why.

....

....

....

(1)

(Total for Question 20 is 2 marks)

21 Jo is going to buy 15 rolls of wallpaper.

Here is some information about the cost of rolls of wallpaper from each of two shops.

Chic Decor	Style Papers
3 rolls for £36	Pack of 5 rolls normal price £70 12% off the normal price

Jo wants to buy the 15 rolls of wallpaper as cheaply as possible.

Should Jo buy the wallpaper from Chic Decor or from Style Papers?
You must show how you get your answer.

(Total for Question 21 is 4 marks)

22 Here are the first three terms of a sequence.

<div align="center">20   16   13</div>

(i) Write down two numbers that could be the 4th and 5th terms of this sequence.

.... , ...
(1)

(ii) Write down the rule you used to get your numbers.

....

....

....
(1)
(Total for Question 22 is 2 marks)

---

23 There are 400 counters in a box.
The counters are red or yellow or green.

$\frac{3}{8}$ of the counters are red.

82 of the counters are yellow.

What percentage of the counters are green?

....%
(Total for Question 23 is 4 marks)

24 Rob has been asked to divide 120 in the ratio 3 : 5

Here is his working.

$$120 \div 3 = 40 \qquad 120 \div 5 = 24$$
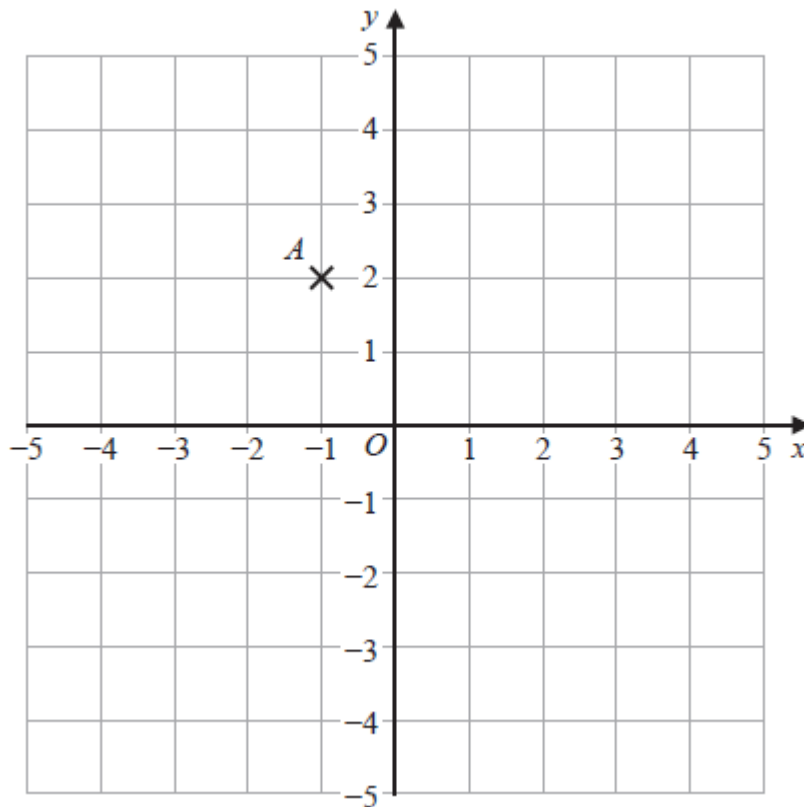
Rob's working is not correct.
Describe what Rob has done wrong.

....

....

(Total for Question 24 is 1 mark)

25

(a) Write down the coordinates of point *A*.

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

(1)

(b) On the grid, mark with a cross (×) the point (1, 4)
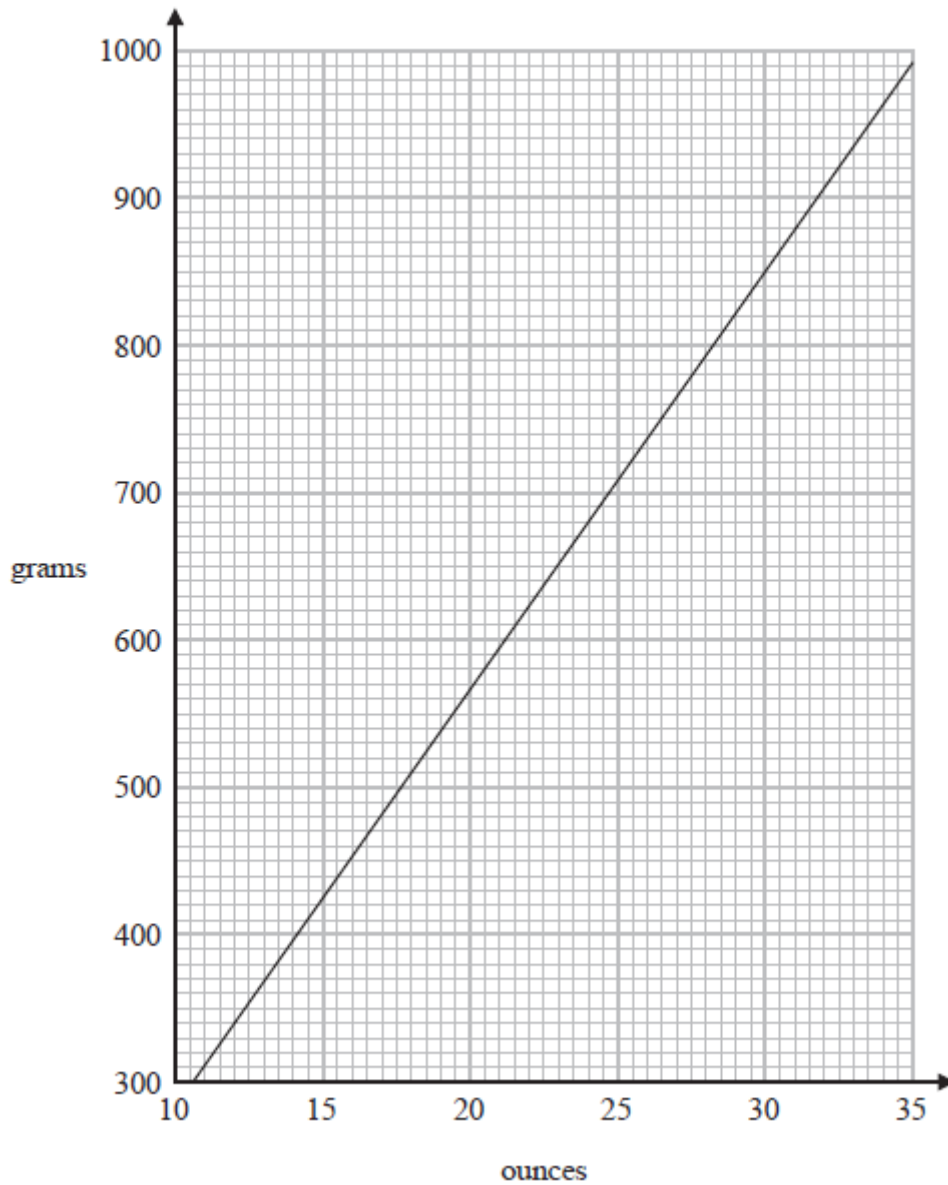Label this point *B*.

(1)

(c) On the grid, draw the line with equation $y = -3$

(1)

(Total for Question 25 is 3 marks)

26 You can use this graph to change between ounces and grams.
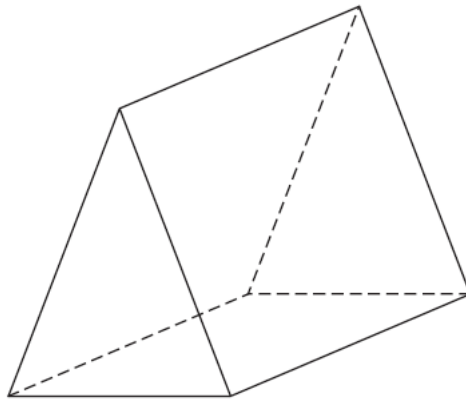

(*a*) Change 850 grams to ounces.

.... ounces

(1)

(*b*) Change 80 ounces to grams.

.... grams

(2)

(Total for Question 26 is 3 marks)

27   The diagram shows a solid triangular prism.

(*a*) Write down the number of faces of the prism.

....
(1)

(*b*) Write down the number of edges of the prism.

....
(1)

(Total for Question 27 is 2 marks)

---

28   (*a*) Expand $3(4 - 2x)$

....
(1)

(*b*) Solve $\dfrac{3y}{4} = 12$

$y =$ ....
(2)

(*c*) Factorise $4p + 6$

....
(1)

(Total for Question 28 is 4 marks)

29 200 students chose one language to study.
Each student chose one language from French or Spanish or German.

Of the 200 students,

    90 are boys and the rest of the students are girls
    70 chose Spanish
    60 of the 104 students who chose French are boys
    18 girls chose German.

Work out how many boys chose Spanish.

....

(Total for Question 29 is 3 marks)

30   2.5 kg of onions and 2 kg of carrots cost a total of £2.36
3 kg of carrots cost £1.74

Stuart has £2
He wants to buy 4 kg of onions.

Does Stuart have enough money to buy 4 kg of onions?
You must show how you get your answer.

(Total for Question 30 is 5 marks)

31 (*a*) Write 87 569 correct to 3 significant figures.

....
(1)

(*b*) Work out $\dfrac{(3.2+3.7)\times 4.9}{5.3-2.8}$

Give your answer as a decimal.

....
(2)

(Total for Question 31 is 3 marks)

32 Here is a list of ingredients for making 10 scones.

> **Ingredients for 10 scones**
>
> 80 g butter
> 350 g self-raising flour
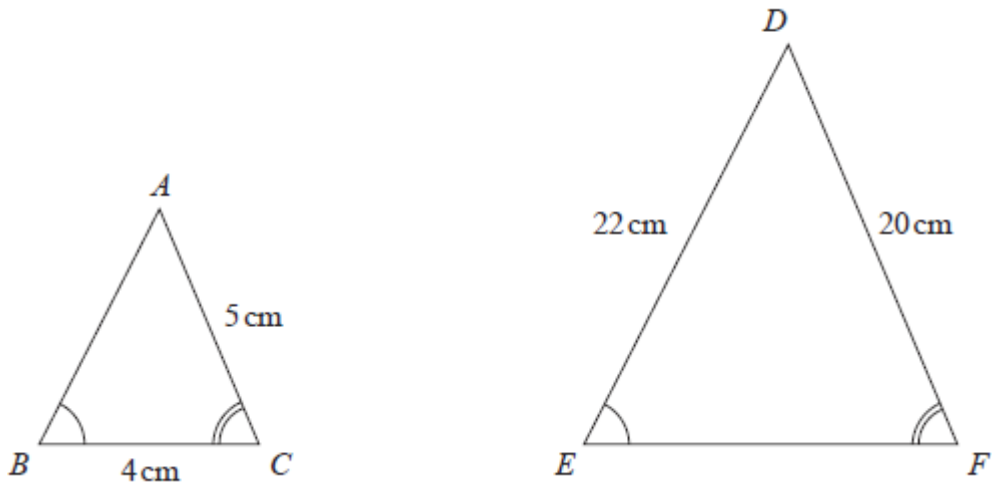> 30 g sugar
> 2 eggs

Martin has

> 100 g butter
> 1 kg self-raising flour
> 50 g sugar
> 4 eggs

Martin wants to make 25 scones.
He has not got enough of some of the ingredients.

Work out how much more of each of these ingredients he needs.

(Total for Question 32 is 4 marks)

33 Triangle *ABC* and triangle *DEF* are similar.

(*a*) Work out the length of *EF*.

.... cm

(2)

(*b*) Work out the length of *AB*.

.... cm

(2)

(Total for Question 33 is 4 marks)

34 Write 19.4949 correct to the nearest whole number.

....

(Total for Question 34 is 1 mark)

TOTAL FOR PAPER IS 80 MARKS

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