Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel International GCSE (9–1)

Sample assessment material for first teaching September 2024

Time 2 hours

Paper reference **4WM2F/01**

Mathematics A (Modular)

UNIT 2F

Foundation Tier

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.
- Without sufficient working, correct answers may be awarded no marks.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- **Calculators may be used**.
- You must **NOT** write anything on the formulae page.
  Anything you write on the formulae page will gain NO credit.

Information

- The total mark for this unit is 100.
- 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.
- Check your answers if you have time at the end.

Turn over ▶

S81550A

1/1/1/1/1

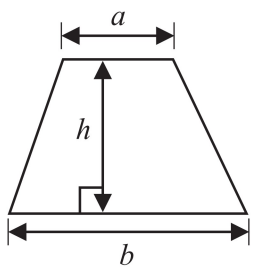
S 8 1 5 5 0 A 0 1 2 8

Pearson

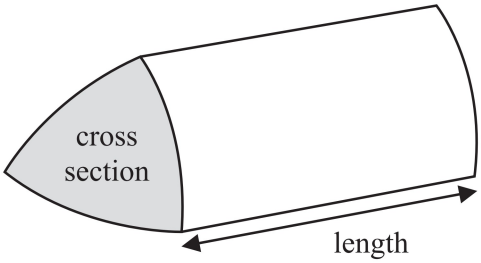
International GCSE Mathematics

Formulae sheet – Foundation Tier

Area of trapezium = $\frac{1}{2}(a + b)h$

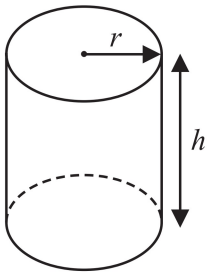


Volume of prism = area of cross section × length



Volume of cylinder = $\pi r^2 h$

Curved surface area of cylinder = $2\pi rh$



Answer ALL TWENTY EIGHT questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1 (a) Simplify $12a + 3a - 7a$

.....

(1)

(b) Simplify $8 \times 3b$

.....

(1)

(c) Solve $\frac{c}{3} = 9$

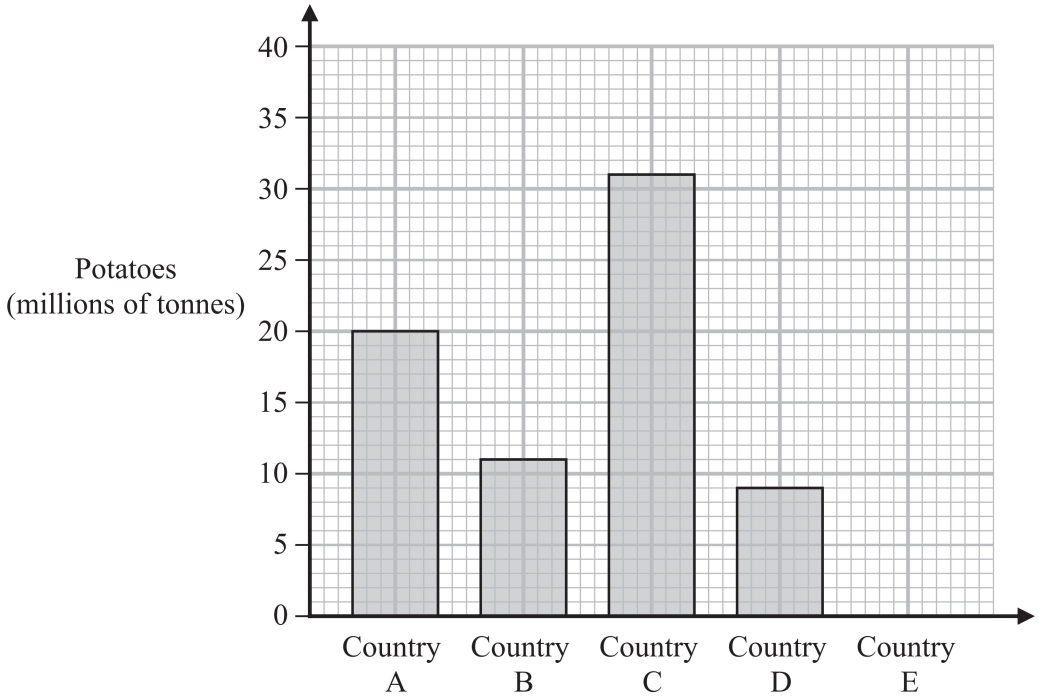
$c =$ .....

(1)

(Total for Question 1 is 3 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

2 The bar chart shows information about the weight, in millions of tonnes, of the potatoes produced by each of four countries in 2016



In 2016, one of these four countries produced 11 million tonnes of potatoes.

(a) Which country?

.....

(1)

In 2016, Country E produced 7 million tonnes of potatoes.

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

(1)

In 2016, the weight of potatoes produced by Country C was greater than the weight of potatoes produced by Country A

(c) How many million tonnes greater?

..... million tonnes

(1)

(Total for Question 2 is 3 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

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

7 13 19 25 31

(a) (i) Write down the next term of the sequence.

.....

(1)

(ii) Explain how you found your answer to part (a)(i)

.....

(1)

The 30th term of the sequence is 181

(b) Work out the 28th term of the sequence.

.....

(1)

Brian says that 96 is a number in the sequence.
Brian is wrong.

(c) Explain why.

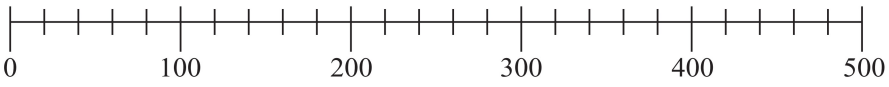
.....

.....

(1)

(Total for Question 3 is 4 marks)

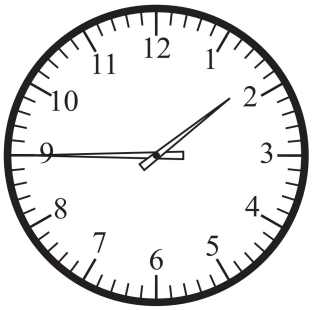
4 Here is a scale.



(a) On the scale, mark with an arrow (↑) the number 360

(1)

Here is a clock face.



(b) Write down the time shown on the clock face.

.....

(1)

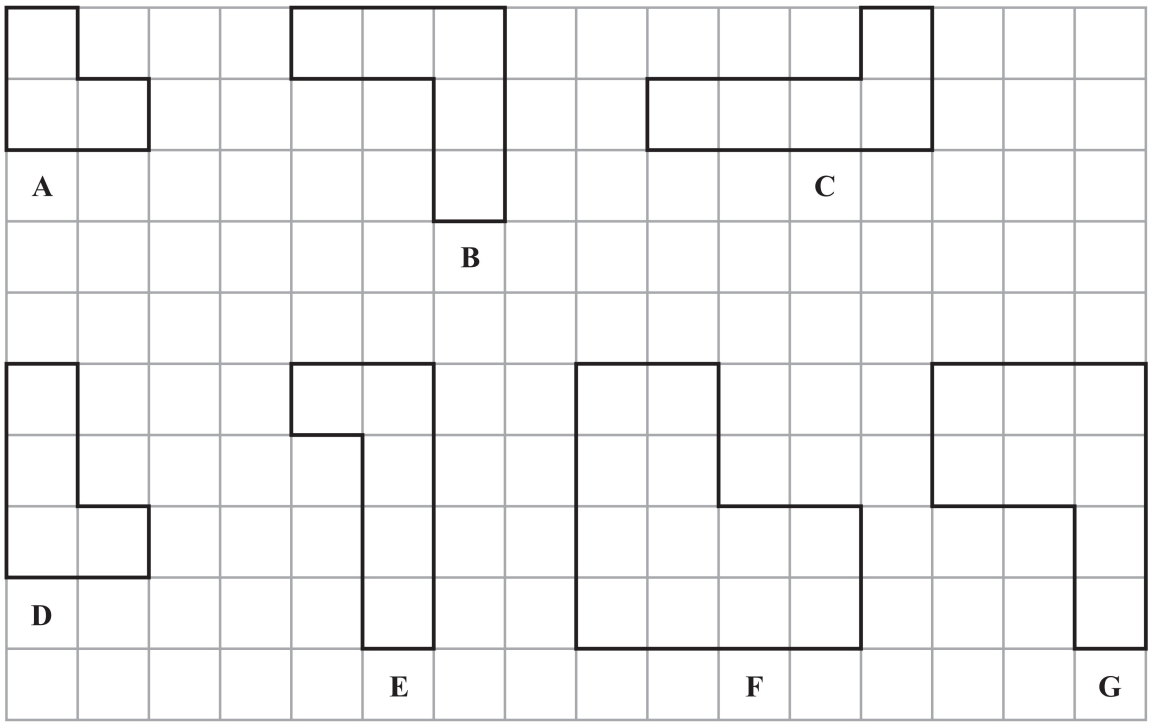
(c) Complete the following sentence by writing a suitable metric unit on the dotted line.

The length of a pen is 14 .....

(1)

(Total for Question 4 is 3 marks)

5 Here are seven shapes on a centimetre grid.



(a) Write down the letters of the two shapes that are congruent.

..... and .....

(1)

One of the shapes is an enlargement, scale factor 2, of shape **A**

(b) Write down the letter of this shape.

.....

(1)

Shape **F** has exactly one line of symmetry.

(c) On shape **F** on the grid, draw this line of symmetry.

(1)

(d) Work out the perimeter of shape **B**

..... cm

(1)

(e) Work out the area of shape **G**

..... cm^2

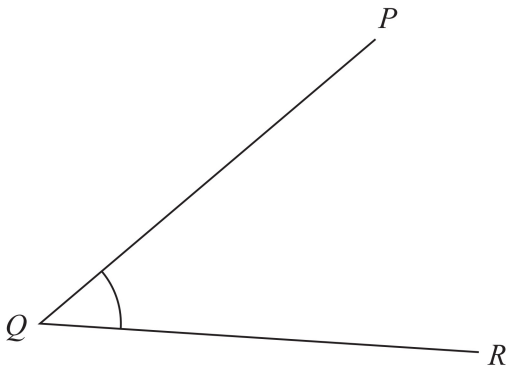
(1)

(Total for Question 5 is 5 marks)

6 (a) In the space below, draw a line of length 6.5 cm

(1)

The diagram shows the straight lines QP and QR



(b) Measure the size of angle PQR

.....°

(1)

(Total for Question 6 is 2 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

7 Aya started watching television at 10 50 am

Aya watched

a comedy programme lasting 45 minutes
a sports programme lasting 1 hour 10 minutes
a history programme

There were no breaks and no advertisements between the programmes.
Aya finished watching television at 2 20 pm

How long did the history programme last?
Give your answer in minutes.

..... minutes
(3)

(Total for Question 7 is 3 marks)

8 Here are two special offers for buying dog food.

Special offer A	**Special offer B**
Normally $1.40 a tin **Special offer** Buy 1 tin, get 1 tin half price	Normally pack of 6 tins for $7.20 **Special offer** 20% off each pack of 6 tins

Mateo buys 24 tins of dog food using special offer **A**
Anna buys 24 tins of dog food using special offer **B**

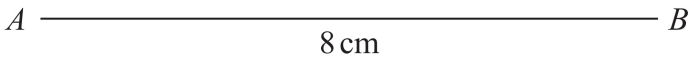
Work out the difference between the amount that Mateo pays and the amount that Anna pays.

$.....

(Total for Question 8 is 4 marks)

9 ABC is a triangle.
$AB = 8$ cm, $AC = 6$ cm and $BC = 9$ cm

Use a ruler and compasses to construct the triangle ABC
The side AB has been drawn for you.
You must show all your construction lines.



(Total for Question 9 is 2 marks)

10 3 cups each contain 200 millilitres of water.
4 jugs each contain x millilitres of water.

Ali pours all the water from the 3 cups and the 4 jugs into a container.
The total amount of water that Ali pours into the container from the 3 cups and 4 jugs is 3.5 litres.

Work out the value of x

$x =$ .....

(Total for Question 10 is 4 marks)

11 Jordan buys 256 notebooks.

He buys the notebooks in packs of 8 notebooks.
Each pack of 8 notebooks costs £2.48

Work out how much the 256 notebooks cost Jordan.

£.....

(Total for Question 11 is 3 marks)

12 (a) Simplify $6p + 2t + p - 3t$

.....

(2)

$A = 8x - 3y$

(b) Work out the value of A when $x = 5$ and $y = 4$

$A =$ .....

(2)

(Total for Question 12 is 4 marks)

13 In 2001, the total number of cars produced in the world was 39.8 million.

In 2006, the total number of cars produced in the world was 10.1 million greater than the total number produced in 2001

(a) Express 10.1 million as a percentage of 39.8 million.
Give your answer correct to one decimal place.

..... %

(2)

In 2011, the total number of cars produced in the world was 59.9 million.

In 2016, the total number of cars produced in the world was 21% greater than the total number produced in 2011

In 2016, the total number of cars produced in the world was N million.

(b) Work out the value of N
Give your answer correct to the nearest whole number.

$N =$ .....

(3)

(Total for Question 13 is 5 marks)

14 Zilin uses this number machine to work out the amount of tax that she has to pay on the money she earns.

When Zilin works n hours the amount of tax she has to pay is £T
Find a formula for T in terms of n

.....

(Total for Question 14 is 3 marks)

15 Karim wants to make some small cakes.

He finds a recipe that says he needs 360 grams of flour to make 15 small cakes.

Karim has 0.85 kg of flour.

Karim works out how much flour he would need to make 38 small cakes, using the information given in the recipe.

Does Karim have enough flour, according to the recipe, to make 38 small cakes?
Show your working clearly.

(Total for Question 15 is 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

16 The table gives information about the number of gold stars won by each of 25 students in class 7T last week.

Number of gold stars	Number of students
0	6
1	5
2	4
3	7
4	3

(a) Work out the mean number of gold stars won.

.....

(3)

A student in class 8R is to be chosen at random.

The probability that this student won at least one gold star last week is 0.39

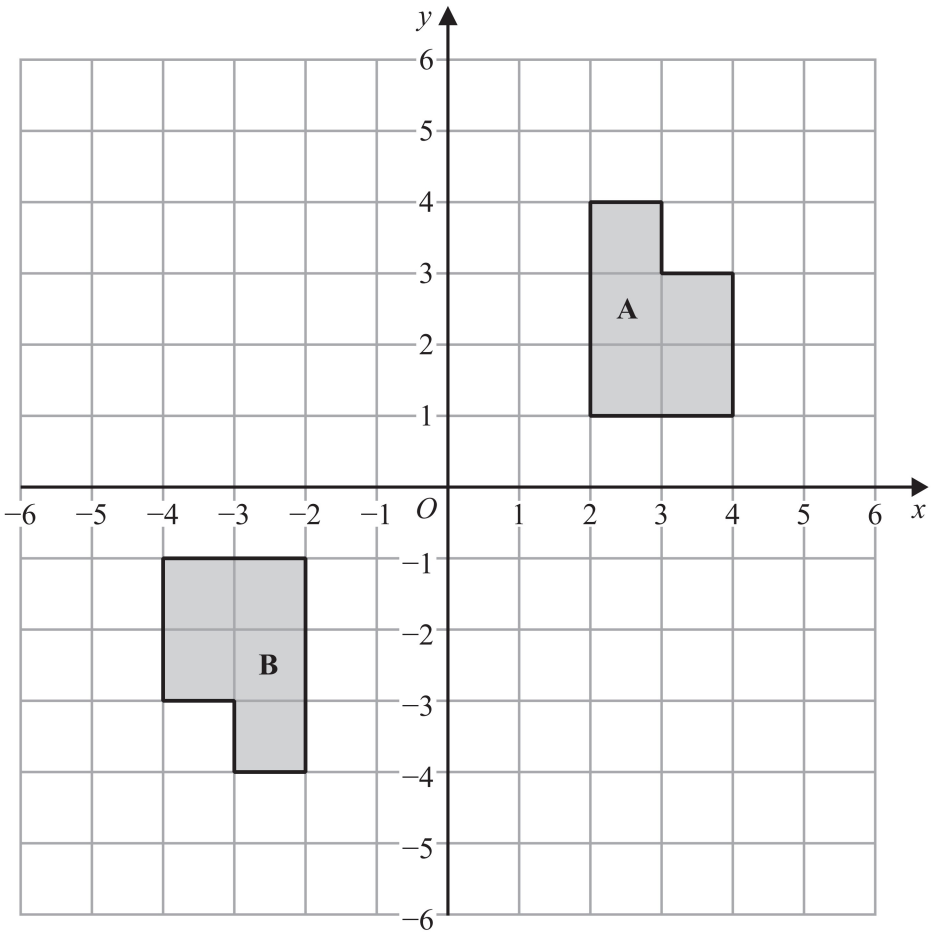
(b) Work out the probability that this student did **not** win at least one gold star last week.

.....

(1)

(Total for Question 16 is 4 marks)

17



(a) Describe fully the single transformation that maps shape **A** onto shape **B**

.....

.....

(2)

(b) On the grid, reflect shape **A** in the line with equation $x = -1$

(2)

(Total for Question 17 is 4 marks)

18 Here are five cards, where x represents a number.

15	7	–2	23	x

The mean of the five numbers is 12

Work out the value of x

$x =$ .....

(Total for Question 18 is 3 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

19 (a) Find the highest common factor (HCF) of 56 and 84
Show your working clearly.

.....

(2)

(b) Find the lowest common multiple (LCM) of 60 and 72
Show your working clearly.

.....

(2)

(Total for Question 19 is 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

20 $\dfrac{2^k}{4^n} = 2^x$

Find an expression for x in terms of k and n

$x =$ .....

(Total for Question 20 is 2 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

21 The diagram shows parts of three regular polygons, **A**, **B** and **C**, meeting at a point.

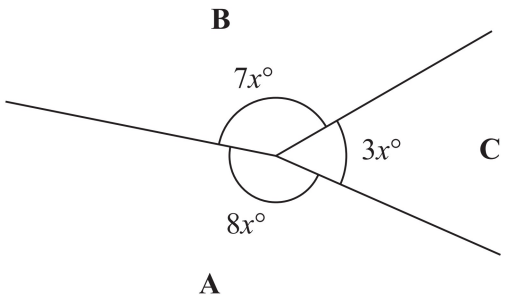


Diagram **NOT** accurately drawn

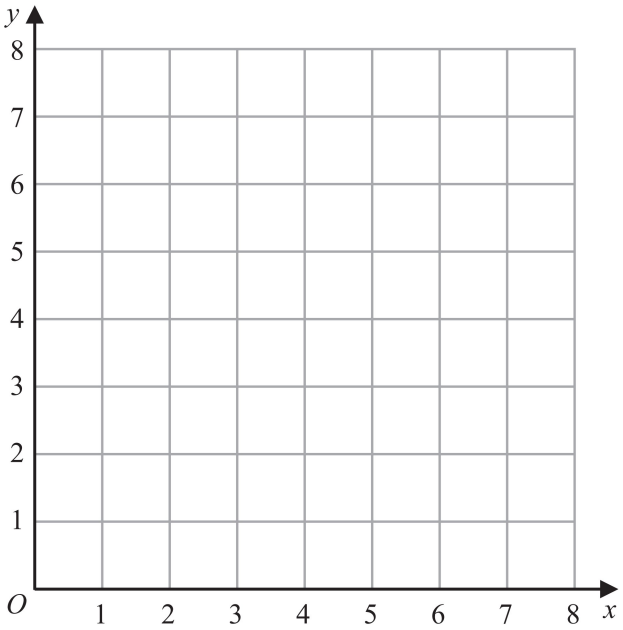
Polygon **B** has n sides.
Work out the value of n

$n =$ .....

(Total for Question 21 is 4 marks)

22 (a) On the grid, draw and label with its equation the straight line with equation

(i) $y = 1$ (ii) $x = 2$ (iii) $x + y = 7$



(3)

(b) Show, by shading on the grid, the region that satisfies **all three** of the inequalities

$y \geqslant 1$ $x \geqslant 2$ $x + y \leqslant 7$

Label the region **R**

(1)

(Total for Question 22 is 4 marks)

23 Here are some integers where $a < b < c < d$

a b c d d d

The mode of the integers is 9
The range of the integers is 4
The median of the integers is 8

Work out the value of a, the value of b, the value of c and the value of d

$a =$ .....

$b =$ .....

$c =$ .....

$d =$ .....

(Total for Question 23 is 3 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

24 A cylinder is placed on the ground.

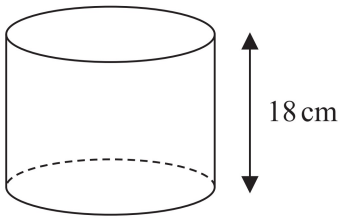


Diagram **NOT** accurately drawn

The height of the cylinder is 18 cm

The force exerted by the cylinder on the ground is 72 newtons.
The pressure on the ground due to the cylinder is 1.4 newtons/cm^2

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

Work out the volume of the cylinder.
Give your answer correct to 3 significant figures.

..... cm^3

(Total for Question 24 is 4 marks)

25 In 2021, the value of Asha's apartment was 634 400 euros.
The value of Asha's apartment had increased by 4% from its value in 2020

(a) Work out the value of Asha's apartment in 2020

..... euros

(3)

Pam bought a boat.

In each year after Pam bought the boat, the value of the boat depreciated by 15%

(b) Work out the total percentage by which the value of the boat had depreciated by the end of the second year after Pam bought the boat.

..... %

(3)

(Total for Question 25 is 6 marks)

---

26 (a) Write 0.000 089 in standard form.

.....

(1)

(b) Write 8.34×10^4 as an ordinary number.

.....

(1)

(Total for Question 23 is 2 marks)

---

27 Payel makes 300 celebration cards so that

$$\begin{matrix}\text{number of}\\ \text{birthday cards}\end{matrix} : \begin{matrix}\text{number of}\\ \text{anniversary cards}\end{matrix} : \begin{matrix}\text{number of}\\ \text{congratulations cards}\end{matrix} = 7 : 5 : 3$$

$\frac{2}{5}$ of the birthday cards have numbers on them.

36% of the anniversary cards have numbers on them.
None of the congratulations cards have numbers on them.

Work out what fraction of the 300 cards have numbers on them.
Give your answer in its simplest form.

.....

(Total for Question 27 is 5 marks)

28 Solve the simultaneous equations

$$7x + 3y = 3$$
$$3x - y = 7$$

Show clear algebraic working.

$x =$ .....

$y =$ .....

(Total for Question 28 is 3 marks)

TOTAL FOR UNIT IS 100 MARKS