Write your name here

Surname	Other names

Pearson Edexcel
International GCSE

Centre Number | | | | | |

Candidate Number | | | | |

Mathematics A

Level 1/2
Paper 1F

Foundation Tier

Specimen Paper
Time: 2 hours

Paper Reference
4MA1/1F

You must have:
Ruler graduated in centimetres and millimetres, protractor, 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 paper 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 ▶

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1/1/1/1/

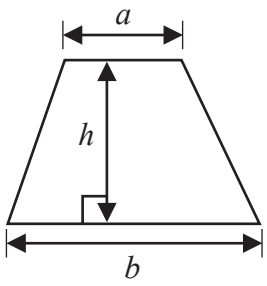
S 5 6 2 8 1 A 0 1 2 4

Pearson

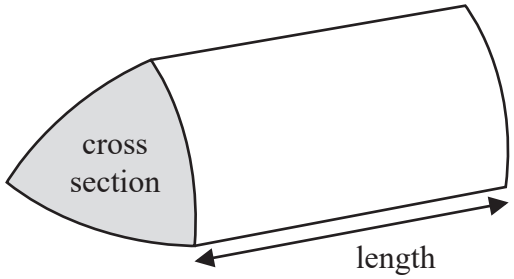
International GCSE Mathematics

Formulae sheet – Foundation Tier

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

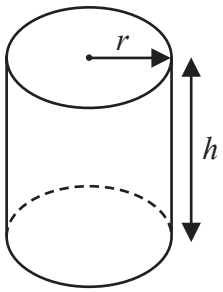


Volume of prism = area of cross section × length



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

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



Answer ALL TWENTY THREE questions.

Write your answers in the spaces provided.

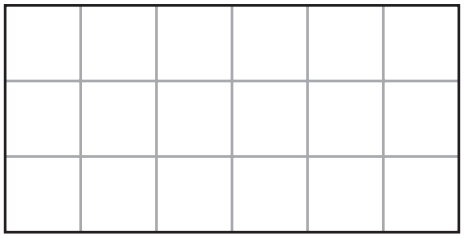
You must write down all the stages in your working.

1 (a) Write $\frac{12}{15}$ as a fraction in its simplest form.

.....

(1)

(b) Shade $\frac{1}{6}$ of the shape below.



(1)

(c) Write $\frac{1}{5}$ as a decimal.

.....

(1)

(d) Write $\frac{7}{10}$ as a percentage.

..... %

(1)

(Total for Question 1 is 4 marks)

2 The pictogram shows information about the number of goals scored by each of five hockey teams in March.

Eagles	
Rovers	
United	
City	
Blues	

The total number of goals scored in March by the five hockey teams was 152

How many goals did City score in March?

.....

(Total for Question 2 is 4 marks)

3 (a) Simplify $4x + 9x - 5x$

.....

(1)

(b) Simplify $6m \times 4p$

.....

(1)

(c) Solve $8t = 40$

$t =$ .....

(1)

(Total for Question 3 is 3 marks)

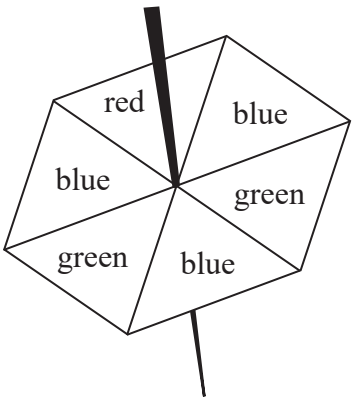
4 Ramla has **two** full 1.5 litre bottles of water.
She wants to fill as many glasses as possible with water from the bottles.
Each glass can hold 180 millilitres of water.

How many glasses can Ramla completely fill?

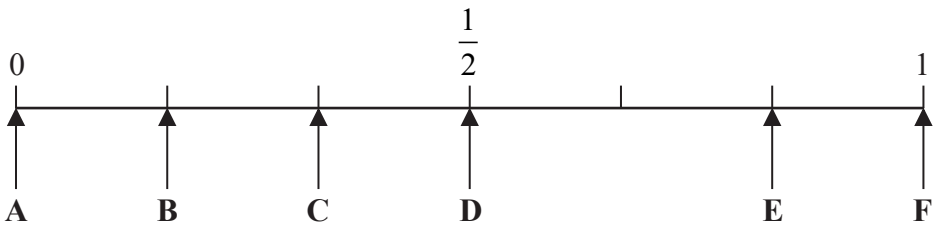
.....

(Total for Question 4 is 3 marks)

5 Hassam has a fair 6-sided spinner.



The spinner can land on red, on green or on blue.



Hassam spins his spinner once.

From the diagram above, write down the letter of the arrow that points to the probability that the spinner lands on

(a) (i) blue,

.....

(ii) green,

.....

(iii) purple.

.....

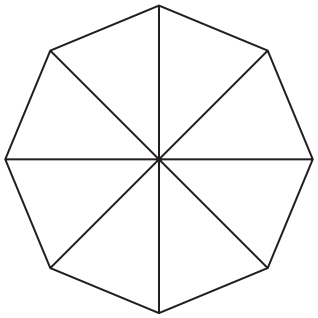
(3)

Jake is making a different spinner.
His spinner is a fair 8-sided spinner.
He uses the colours black (B), white (W), yellow (Y) and pink (P).

For Jake's spinner, when he spins the spinner once

- the probability that the spinner will land on black is **equal** to the probability that the spinner will land on white
- the probability that the spinner will land on yellow is **twice** the probability that the spinner will land on pink

(b) On the diagram below, use the letters B, W, Y and P to show how Jake should colour his spinner.

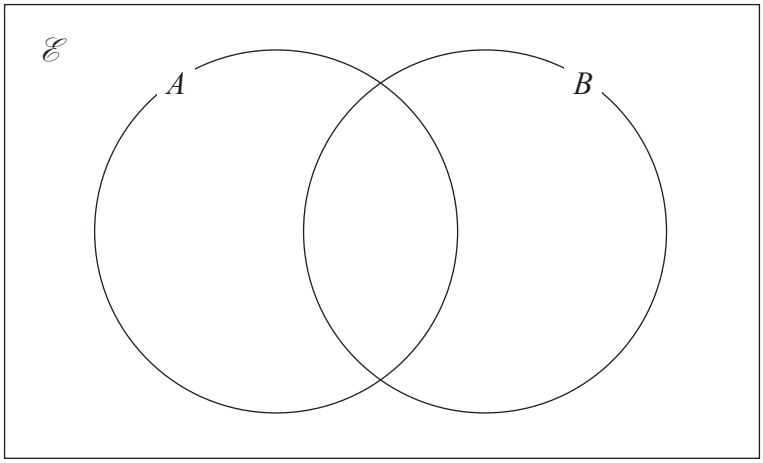


(2)

(Total for Question 5 is 5 marks)

6 $\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$
$A = \{1, 2, 3, 4, 6, 12\}$
$B = \{2, 3, 5, 7, 11\}$

(a) Complete the Venn diagram to show this information.



(3)

(b) List the members of the set

(i) $A \cap B$

.....

(ii) B'

.....

(2)

(Total for Question 6 is 5 marks)

7 The table shows information about the number of eggs in each of 40 birds' nests.

Number of eggs	Frequency
0	5
1	14
2	11
3	6
4	3
5	1

(a) Write down the mode.

.....

(1)

(b) Find the median.

.....

(2)

(c) Work out the total number of eggs.

.....

(2)

One of these nests is chosen at random.

(d) Find the probability that there are more than 2 eggs in the nest.

.....

(2)

(Total for Question 7 is 7 marks)

8 Here is a cuboid.

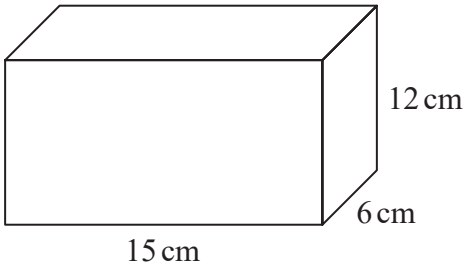


Diagram **NOT** accurately drawn

(a) Work out the volume of the cuboid.

..... cm^3

(2)

(b) (i) How many vertices has a cuboid?

.....

(ii) How many edges has a cuboid?

.....

(2)

(Total for Question 8 is 4 marks)

9 $T = 3c + 7d$

(a) Work out the value of T when $c = 9$ and $d = -2$

.....

(2)

$P = 3a^2 + g^3$

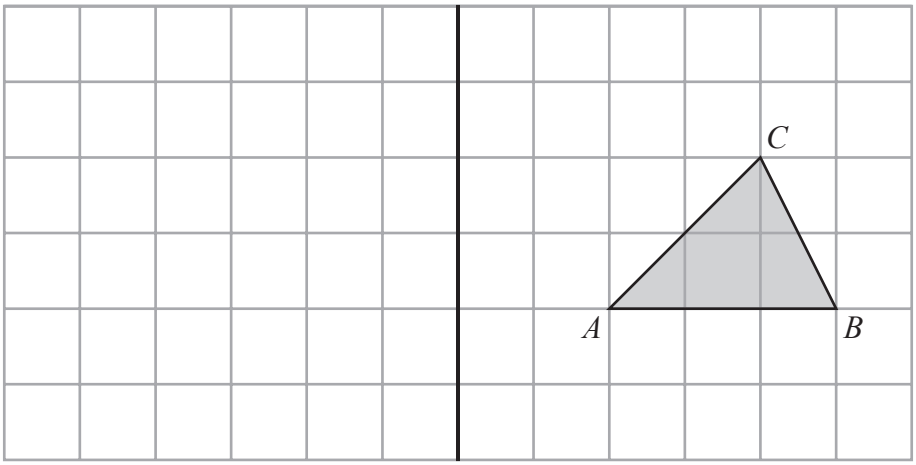
(b) Work out the value of P when $a = -4$ and $g = 2$

.....

(2)

(Total for Question 9 is 4 marks)

10 Triangle ABC is drawn on a centimetre grid.



mirror line

(a) Reflect triangle ABC in the mirror line.

(2)

In triangle ABC

$AB = 3$ cm and angle $CAB = 45°$

Triangle ABC is enlarged by scale factor 5

(b) For the enlarged triangle, write down

(i) the length of the side that corresponds to AB

..... cm

(ii) the size of the angle that corresponds to angle CAB

..... °

(2)

(Total for Question 10 is 4 marks)

11 Jenna travelled from London to Edinburgh by coach.
The coach left London at 21 10 on Monday.
The coach arrived in Edinburgh at 06 45 on Tuesday.

(a) How long did the coach take to travel from London to Edinburgh?
Give your answer in hours and minutes.

..... hours ..... minutes

(2)

A bus travelled a distance of 493 km from Paris to Zurich.

The bus took $11\frac{1}{4}$ hours to travel from Paris to Zurich.

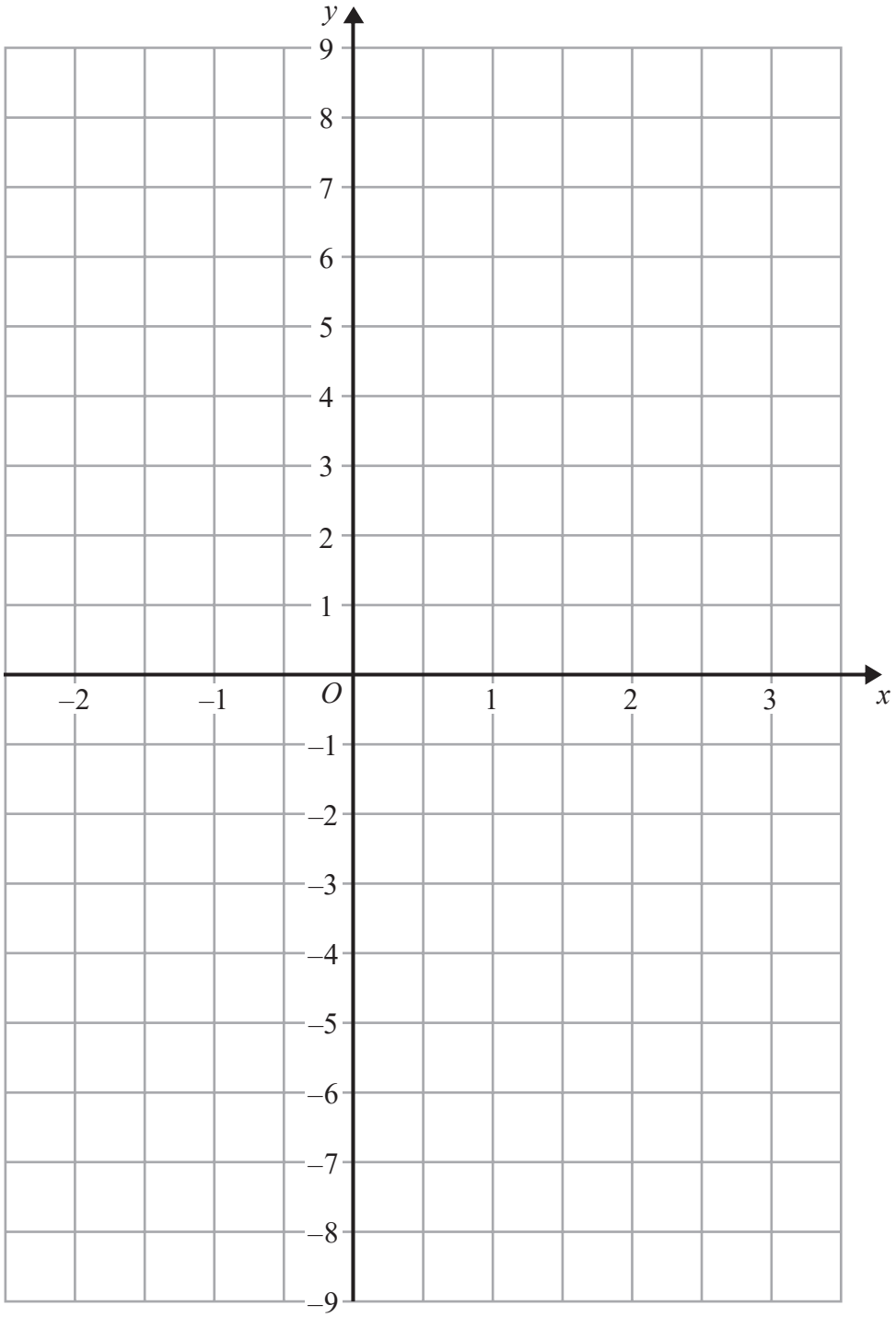
(b) Work out the average speed of the bus.
Give your answer, in km/h, correct to the nearest whole number.

..... km/h

(2)

(Total for Question 11 is 4 marks)

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



(Total for Question 12 is 3 marks)

13

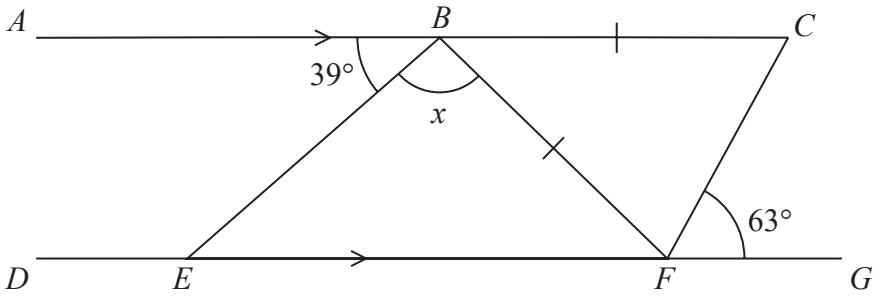


Diagram **NOT** accurately drawn

ABC is parallel to *DEFG*
BC = *BF*
Angle *ABE* = 39°
Angle *CFG* = 63°

Work out the size of angle *x*.
Give a reason for each stage in your working.

.....°

(Total for Question 13 is 5 marks)

14 Calvin has 8 identical rectangular tiles and 4 identical square tiles.
He arranges the tiles to fit exactly round the edge of a rectangle, as shown in the diagram below.

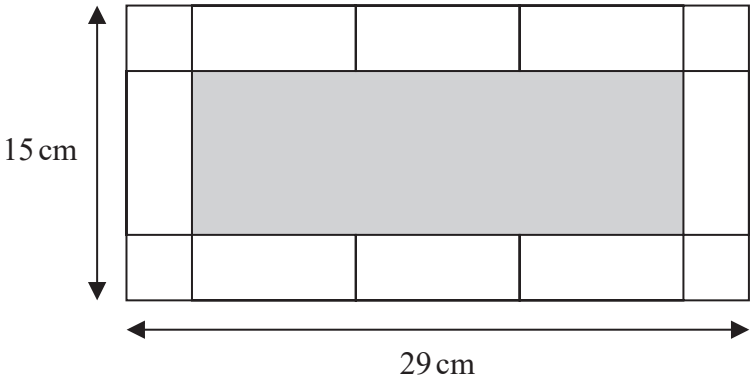


Diagram **NOT** accurately drawn

Work out the area of one of Calvin's rectangular tiles.

..... cm^2

(Total for Question 14 is 5 marks)

15 Aiko, Max and Pau share 5400 yen in the ratios 5 : 3 : 4

How much money does each of them get?

Aiko ..... yen

Max ..... yen

Pau ..... yen

(Total for Question 15 is 3 marks)

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

Find the pressure exerted by a force of 810 newtons on an area of 120 cm^2
Give your answer in newtons/m^2

..... newtons/m^2

(Total for Question 16 is 3 marks)

17 (a) Find the Highest Common Factor (HCF) of 140 and 245

.....

(2)

A machine has a buzzer that sounds every 50 minutes.
The machine also has a bell that sounds every 80 minutes.

The buzzer and the bell sound together at 10 am.

(b) Find the time at which they next sound together.

.....

(3)

(Total for Question 17 is 5 marks)

18 (a) Factorise fully $6y^2 + 15y$

.....

(2)

(b) Expand and simplify $(m + 9)(m - 5)$

.....

(2)

(c) Make t the subject of $s = \frac{1}{2}at^2$

.....

(2)

(d) Solve $\frac{6x - 5}{2} = x + 1$

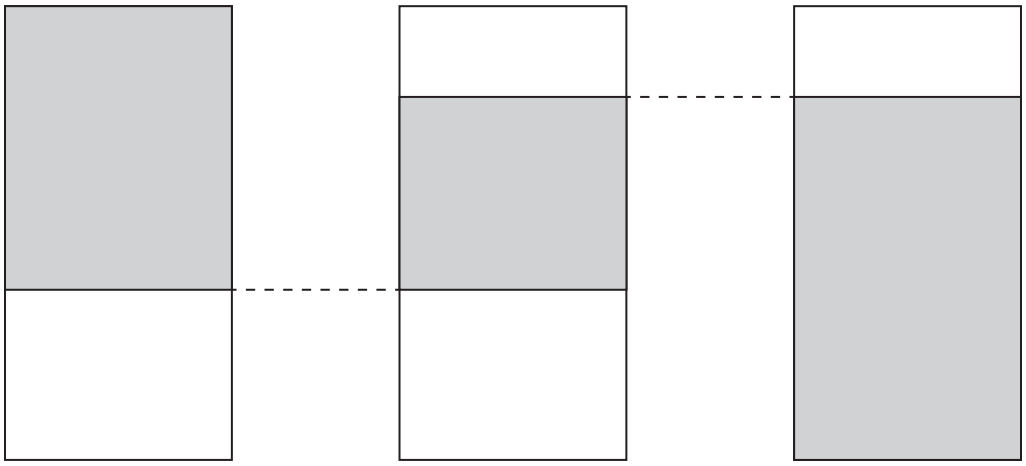
Show clear algebraic working.

$x =$ .....

(3)

(Total for Question 18 is 9 marks)

19 The diagram shows three identical rectangles.



Rectangle **A** Rectangle **B** Rectangle **C**

$\frac{5}{8}$ of rectangle **A** is shaded.

80% of rectangle **C** is shaded.

What fraction of rectangle **B** is shaded?

.....

(Total for Question 19 is 3 marks)

20 Lijuan's salary is 180 000 Hong Kong Dollars (HK$).
She gets a salary increase of 3%

(a) Work out Lijuan's salary after this increase.

HK$.....

(3)

In a sale, all normal prices are reduced by 15%
The sale price of a camera is HK$6630

(b) Work out the normal price of the camera.

HK$.....

(3)

(Total for Question 20 is 6 marks)

21 Ian plays 7 games of cricket.
His mean score per game for these 7 games is 42 runs.

Ian is going to play one more game of cricket.
He wants his mean score per game for the 8 games to be exactly 50 runs.

How many runs must he score in his 8th game?

.....

(Total for Question 21 is 3 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

22 The table shows the population, correct to two significant figures, of each of six countries in April 2016.

Country	Population (April 2016)
Hungary	9.8×10^6
Mexico	1.3×10^8
Thailand	6.8×10^7
Nigeria	1.9×10^8
Singapore	5.7×10^6
Egypt	9.3×10^7

(a) Write 9.3×10^7 as an ordinary number.

.....

(1)

(b) Which of these countries had the least population?

.....

(1)

The population of China was 1.382×10^9 in April 2016.
The population of India was 1.327×10^9 in April 2016.

(c) Work out the difference between the population of China and the population of India in April 2016.
Give your answer in standard form.

.....

(2)

(Total for Question 22 is 4 marks)

23 The diagram shows an isosceles triangle.

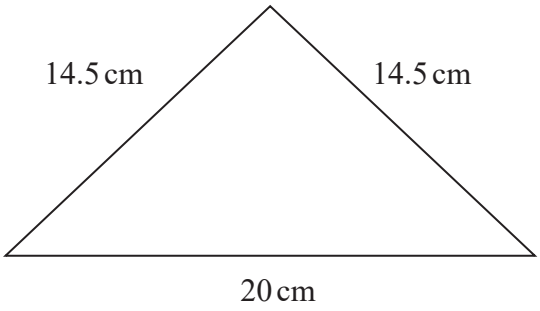


Diagram **NOT** accurately drawn

Work out the area of the triangle.

..... cm^2

(Total for Question 23 is 4 marks)

TOTAL FOR PAPER IS 100 MARKS

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