Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel International GCSE

Monday 3 June 2024

Morning (Time: 2 hours)

Paper reference **4MA1/2F**

Mathematics A
PAPER 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 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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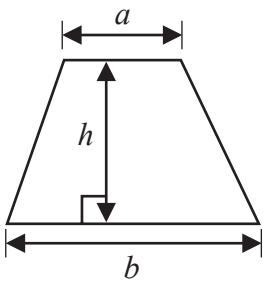
P 7 3 9 9 2 A 0 1 2 4

Pearson

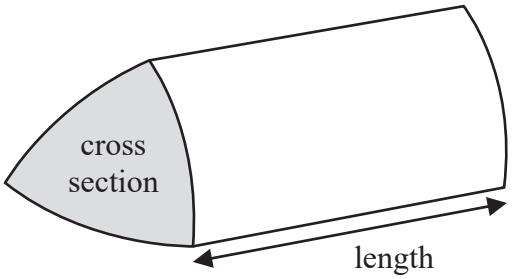
International GCSE Mathematics

Formulae sheet – Foundation Tier

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

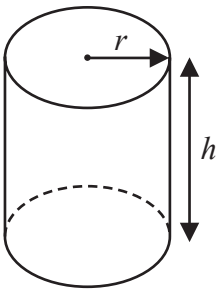


Volume of prism = area of cross section × length



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

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



Answer ALL TWENTY EIGHT questions.

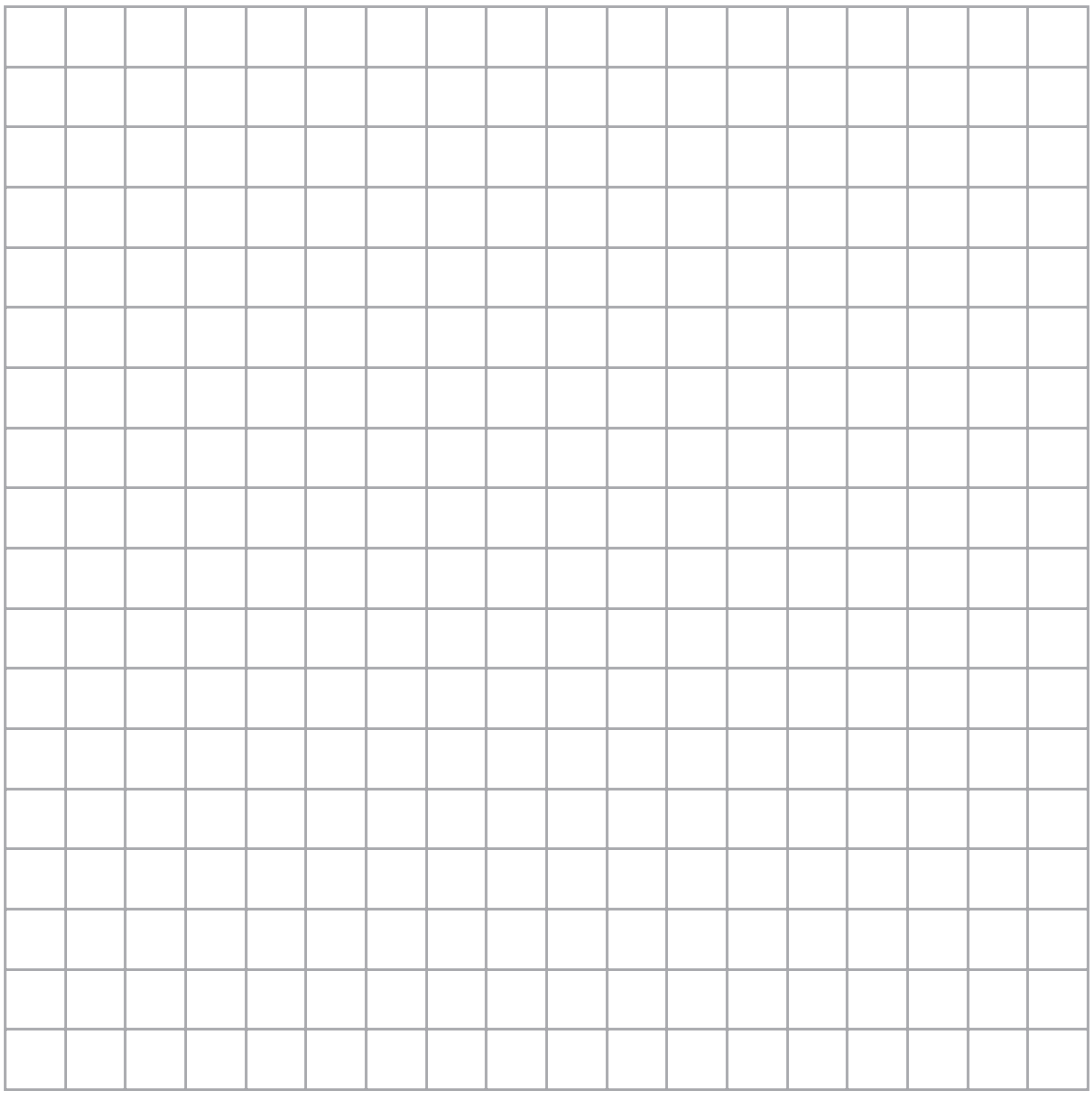
Write your answers in the spaces provided.

You must write down all the stages in your working.

1 The table shows the distance, in kilometres, each of 6 people travelled to get to a train station.

Name	Ted	Yui	Barney	Ichika	Wilfred	Bella
Distance (km)	7	12	10	5	4	9

On the grid, draw a bar chart to show this information.



(Total for Question 1 is 3 marks)

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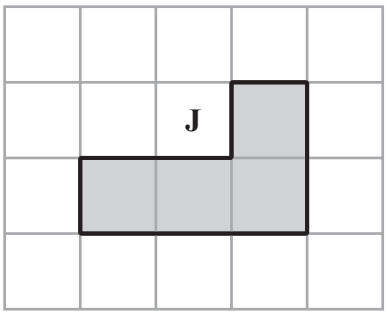
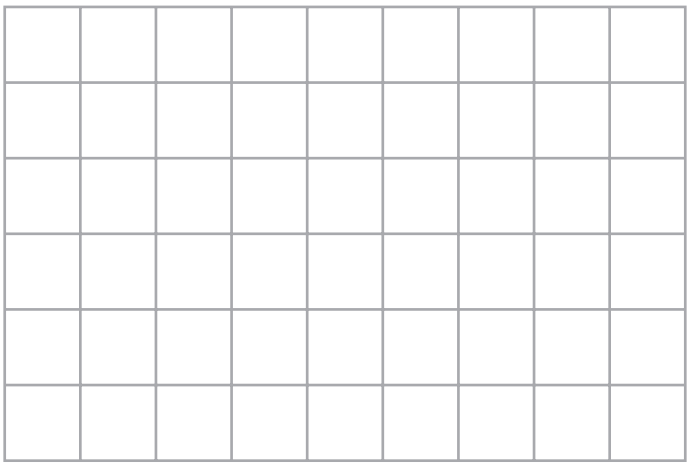
2

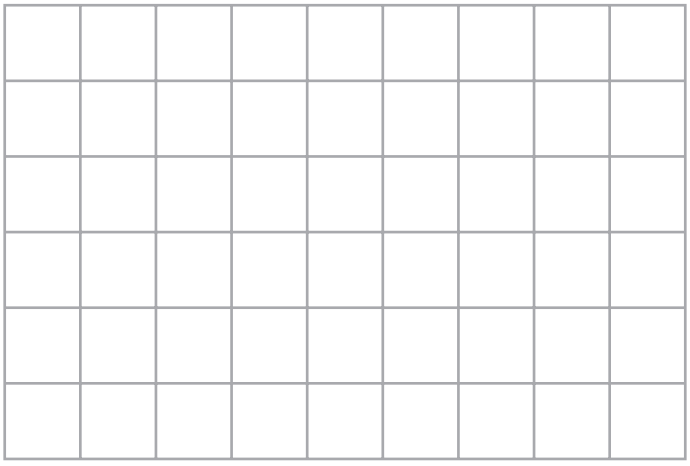


(a) On the grid, draw a shape that is congruent to shape **J**



(1)

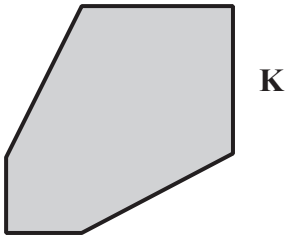
(b) On the grid, draw a shape that is an enlargement of shape **J** with scale factor 2



(2)

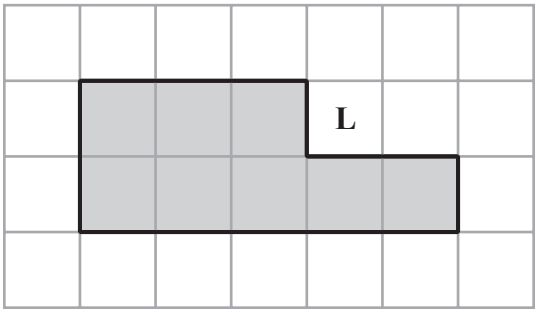
The diagram shows shape **K**
Shape **K** has exactly one line of symmetry.

(c) Draw this line of symmetry on shape **K**



(1)

The diagram shows shape **L** drawn on a centimetre grid.



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

..... cm

(1)

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

..... cm^2

(1)

(Total for Question 2 is 6 marks)

3 (a) Write these numbers in numerical order.
Start with the smallest number.

–77 39 –89 43 –6

.....

(1)

(b) Write these decimals in order of size.
Start with the smallest decimal.

0.134 0.12 0.145 0.017 0.3

.....

(1)

(c) Write 0.7 as a percentage.

.....%

(1)

(d) Write $\frac{27}{100}$ as a decimal.

.....

(1)

There are 60 plants on a plant stall.

$\frac{7}{10}$ of the plants are vegetable plants.

(e) Work out how many of the plants are **not** vegetable plants.

.....

(2)

(Total for Question 3 is 6 marks)

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

106 99 92 85 78

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

.....

(1)

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

.....

(1)

The 9th term of the sequence is 50

(b) Work out the 12th term of the sequence.

.....

(1)

Umberto says 7 is a term in the sequence.
Umberto is wrong.

(c) Explain why.

.....

.....

(1)

(Total for Question 4 is 4 marks)

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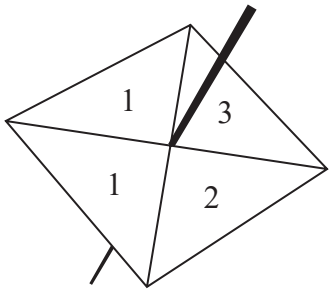
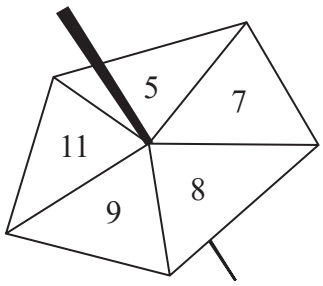
5 Percy has two fair spinners.
Spinner **A** is 4-sided and can land on 1, 1, 2 or 3
Spinner **B** is 5-sided and can land on 5, 7, 8, 9 or 11



Spinner **A**



Spinner **B**

Percy spins each spinner once.
He subtracts the number that spinner **A** lands on from the number that spinner **B** lands on to get his score.

(a) Complete the table to show all the possible scores.

Spinner **A**

Spinner **B**	**1**	**1**	**2**	**3**
5	4	4		
7			5	4
8		7		5
9		8		
11		10	9	8

(2)

(b) Find the probability that

(i) Percy's score is an even number

.....

(1)

(ii) Percy's score is greater than 7

.....

(1)

(Total for Question 5 is 4 marks)

6 There are 150 animals on a farm.

Of these animals

19 are sheep
32 are goats
3 are dogs

The rest of the animals are chickens.

Write the number of chickens as a fraction of the total number of animals.
Give your fraction in its simplest form.

.....

(Total for Question 6 is 3 marks)

7 2 jugs each contain 350 millilitres of milk.
5 bottles each contain y millilitres of milk.

Peter tips all the milk from the 2 jugs and the 5 bottles into a container.
The total amount of milk that Peter tips into the container is 2.8 litres.

Work out the value of y

$y =$ .....

(Total for Question 7 is 4 marks)

8 Bargain Crafts and Art's Store each have a special offer on tins of crayons.

Bargain Crafts	**Art's Store**
Crayons $4.20 per tin	Pack of 5 tins of crayons for $18
Special offer	**Special offer**
Pay for 2 tins get 1 tin free	25% off each pack of 5 tins

Heidi buys 30 tins of crayons from Bargain Crafts using the special offer.
Amir buys 30 tins of crayons from Art's Store using the special offer.

Work out the difference between the amount that Heidi pays and the amount that Amir pays.

$.....

(Total for Question 8 is 4 marks)

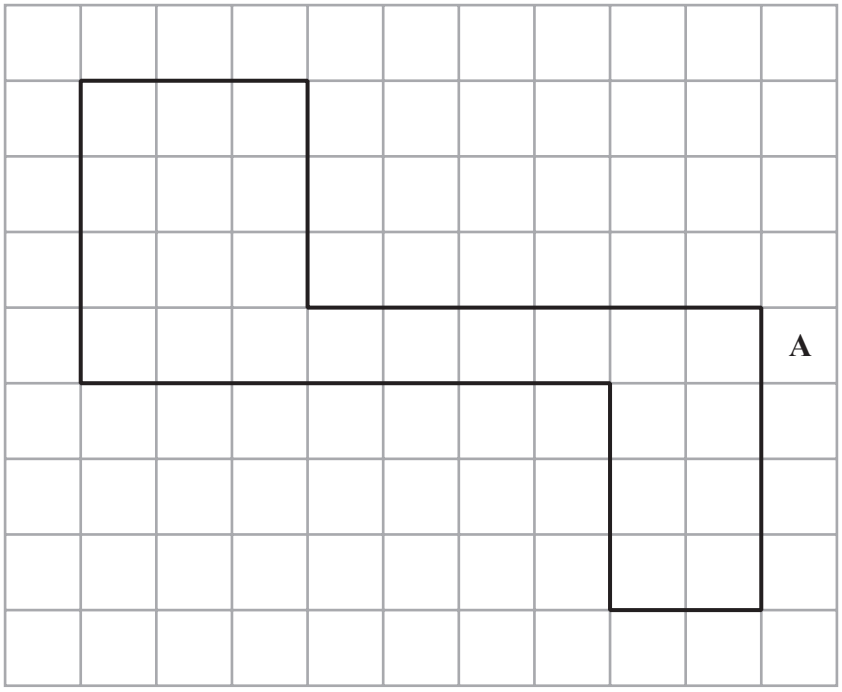
9 A circle has a radius of 9 cm.

Calculate the area of the circle.
Give your answer correct to 3 significant figures.

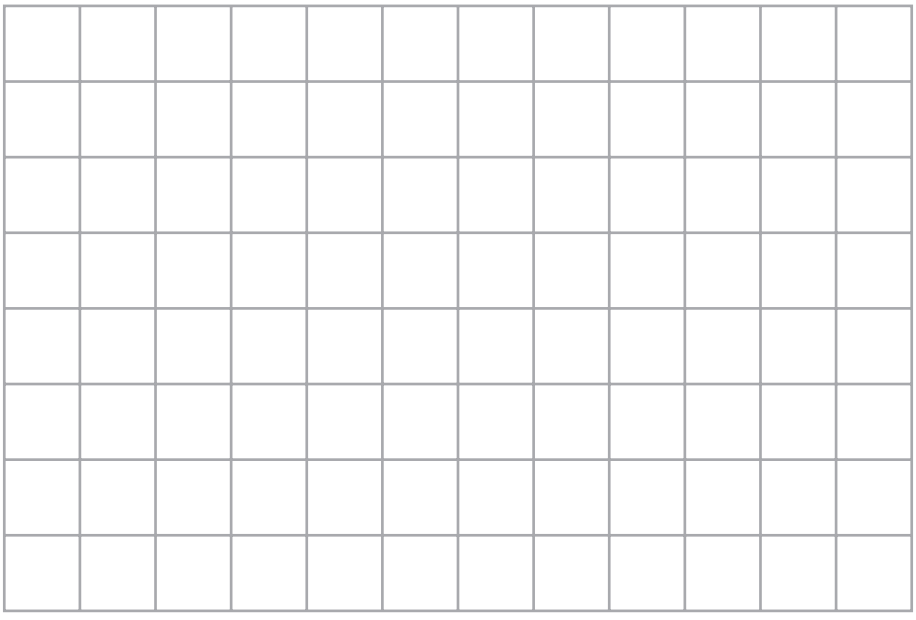
..... cm^2

(Total for Question 9 is 2 marks)

10 The diagram shows shape **A** drawn on a centimetre grid.



On the centimetre grid below, draw a rectangle that has the same area as shape **A**



(Total for Question 10 is 2 marks)

11 (a) Simplify $e \times e \times e \times e \times e$

.....

(1)

(b) Simplify $m + m + m$

.....

(1)

(c) Simplify $3g^2 + 7g^2 - 4g^2$

.....

(1)

(d) Expand $a(a + 8)$

.....

(1)

(e) Factorise $15x + 20$

.....

(1)

Sophia sells d packs of toy cars and h boxes of toy cars.

Each pack contains 3 toy cars.
Each box contains 5 toy cars.

The total number of toy cars that Sophia sells is T

(f) Write down a formula for T in terms of d and h

.....

(3)

(Total for Question 11 is 8 marks)

12 Shane buys a clock in Australia.

The clock costs 232 Australian dollars.
In India, an identical clock costs 12 420 Indian rupees.

The exchange rate is 1 Australian dollar = 54 Indian rupees

The clock costs more in Australia than in India.

Work out how much more.
You must give the units of your answer.

....

(Total for Question 12 is 3 marks)

13 Tom wants to knit an item for a baby.

He can knit a jumper (*J*) or a blanket (*B*) or a hat (*H*) or some socks (*S*)
He can knit using white wool (*W*) or using yellow wool (*Y*)

Tom chooses one item to knit and chooses one colour of wool.

Write down all the possible combinations for the item that Tom could knit.

.....

.....

.....

(Total for Question 13 is 2 marks)

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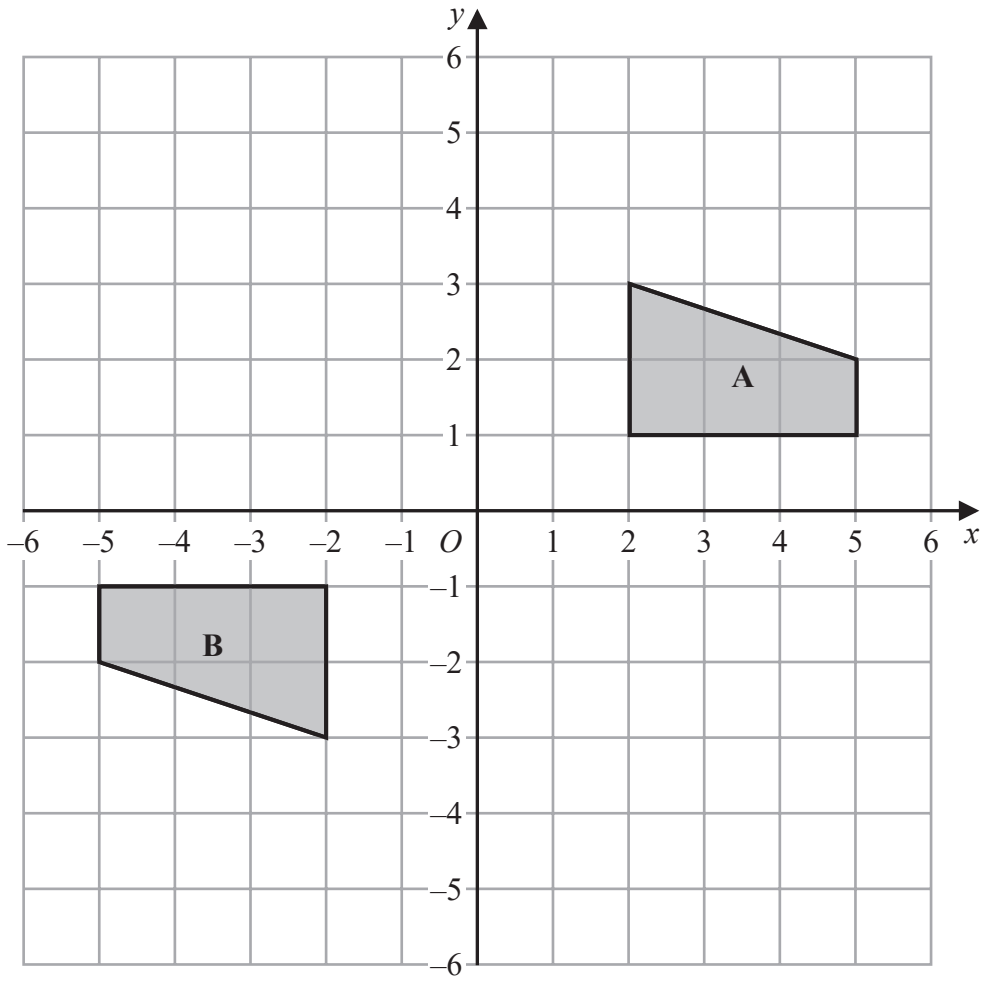
14



(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 $y = -1$

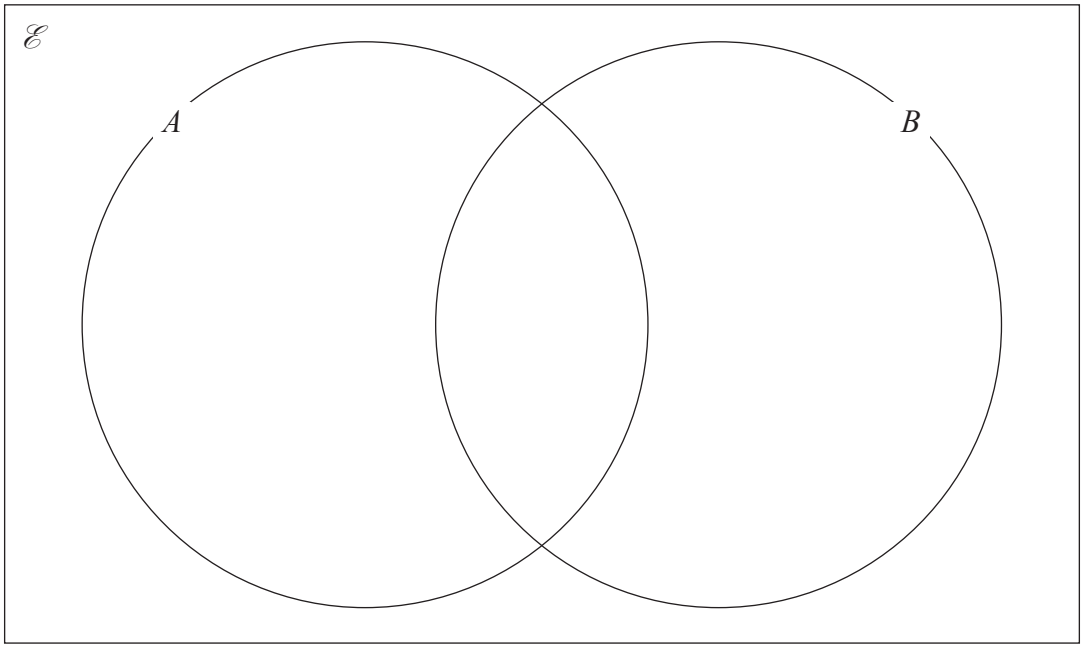
(2)

(Total for Question 14 is 4 marks)

15 $\mathscr{E} = \{11, 12, 13, 14, 15, 16, 17, 18, 19, 20\}$

$A = \{11, 14, 16, 19\}$
$B = \{12, 14, 15, 16, 18, 20\}$

Complete the Venn diagram for this information.



(Total for Question 15 is 3 marks)

16 Use your calculator to work out the value of

$$\frac{17.9}{8.61 + 2.36} - 1.2^2$$

Give your answer as a decimal.
Write down all the figures on your calculator display.

.....

(Total for Question 16 is 2 marks)

17 Here are eight numbers written in order of size

$h \quad 6 \quad 7 \quad 8 \quad j \quad 16 \quad k \quad k$

where h, j and k are integers.

The median of the eight numbers is 10

The mode of the eight numbers is 18

The range of the eight numbers is 13

Work out the value of h, the value of j and the value of k

$h =$ .....

$j =$ .....

$k =$ .....

(Total for Question 17 is 3 marks)

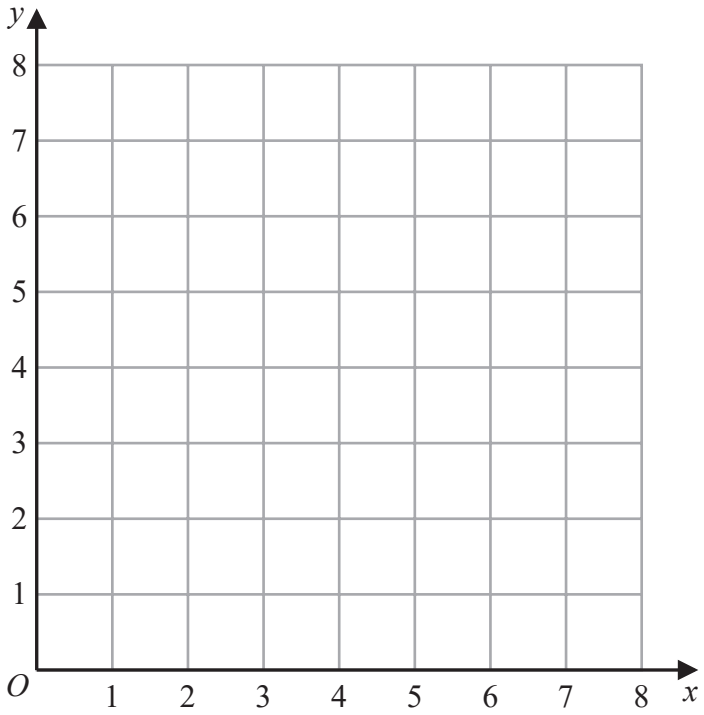
18 (a) On the grid, draw the straight line with equation

(i) $y = 2$

(ii) $x = 6$

(iii) $y = x + 1$

Label each line with its equation.



(3)

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

$y \geqslant 2$ $x \leqslant 6$ $y \leqslant x + 1$

Label the region **R**

(1)

(Total for Question 18 is 4 marks)

19 A plane takes 9 hours 36 minutes to fly from New Delhi to Perth.

The plane flies at an average speed of 820 km/h.

Work out the total distance the plane flies.

..... km

(Total for Question 19 is 3 marks)

20 Show that $2\frac{4}{7} \times 3\frac{1}{9} = 8$

(Total for Question 20 is 3 marks)

21 The diagram shows triangle ABC

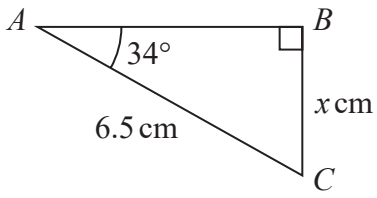


Diagram **NOT** accurately drawn

Work out the value of x
Give your answer correct to one decimal place.

$x =$ .....

(Total for Question 21 is 3 marks)

22 Change a speed of w metres per second to a speed in kilometres per hour.
Give your answer in terms of w in its simplest form.

..... kilometres per hour

(Total for Question 22 is 3 marks)

23 The diagram shows a 6-sided shape *ABCDEF*

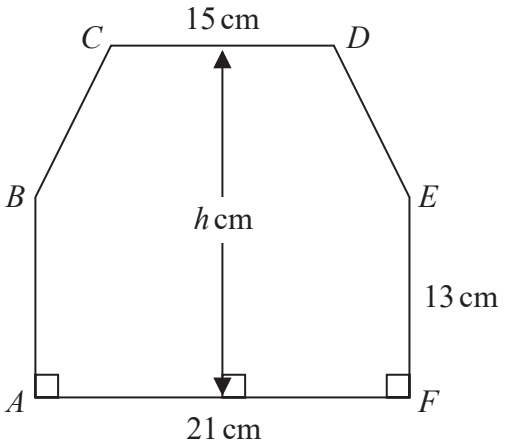


Diagram **NOT** accurately drawn

$AF = 21\,\text{cm}$ $CD = 15\,\text{cm}$ $AB = FE = 13\,\text{cm}$

The perpendicular height of the shape is h cm
CD is parallel to AF

The area of the shape is $390\,\text{cm}^2$

Work out the value of h

$h =$ .....

(Total for Question 23 is 4 marks)

24 Ishir plants 600 bulbs in a garden.
He plants tulip bulbs, crocus bulbs and daffodil bulbs so that

number of tulip bulbs : number of crocus bulbs : number of daffodil bulbs = 9 : 4 : 2

45% of the tulip bulbs are for yellow flowers.

$\frac{5}{8}$ of the crocus bulbs are for yellow flowers.

All of the daffodil bulbs are for yellow flowers.

Work out the number of bulbs that are for yellow flowers.

.....

(Total for Question 24 is 5 marks)

25 Giovanni invests 4500 koruna in a savings account for 4 years.
He gets 2.4% per year compound interest.

Work out how much money Giovanni will have in the savings account at the end of 4 years.
Give your answer correct to the nearest koruna.

..... koruna

(Total for Question 25 is 3 marks)

26 Solve the simultaneous equations

$$6x + 4y = 1$$
$$3x + 5y = 8$$

Show clear algebraic working.

$x =$ .....

$y =$ .....

(Total for Question 26 is 3 marks)

27 (i) Factorise $x^2 + 9x - 22$

.....

(2)

(ii) Hence, solve $x^2 + 9x - 22 = 0$

.....

(1)

(Total for Question 27 is 3 marks)

28 Ali uses a fitness tracker to count the number of steps he walks each day for 7 days.

For the first 4 days, his mean number of steps is 11 800
For the next 3 days, his mean number of steps is 13 207

Work out his mean number of steps for the 7 days.

.....

(Total for Question 28 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS