Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel International GCSE

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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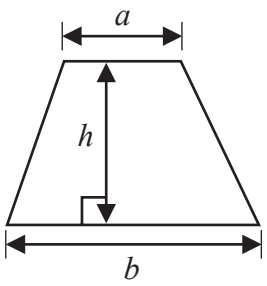
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Pearson

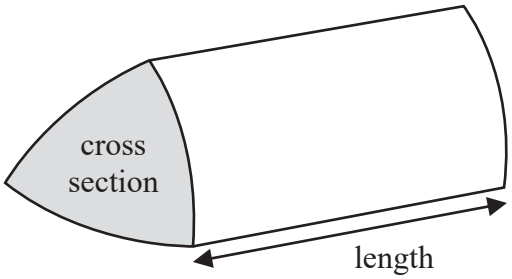
International GCSE Mathematics

Formulae sheet – Foundation Tier

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

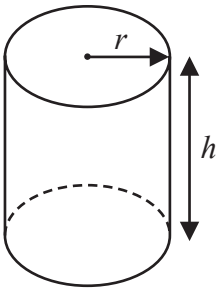


Volume of prism = area of cross section × length



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

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



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Answer ALL TWENTY EIGHT questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (a) Write 0.3 as a percentage.

..... %

(1)

(b) Write $\frac{29}{100}$ as a decimal.

.....

(1)

(c) Write $\frac{17}{20}$ as a decimal.

.....

(1)

(d) Write these numbers in order of size.
Start with the smallest number.

-7 8 -9 16 -3

.....

(1)

(e) Write these numbers in order of size.
Start with the smallest number.

0.044 0.104 0.04 0.009 0.2

.....

(1)

There are 400 cars in a car park.

$\frac{3}{10}$ of the cars are grey.

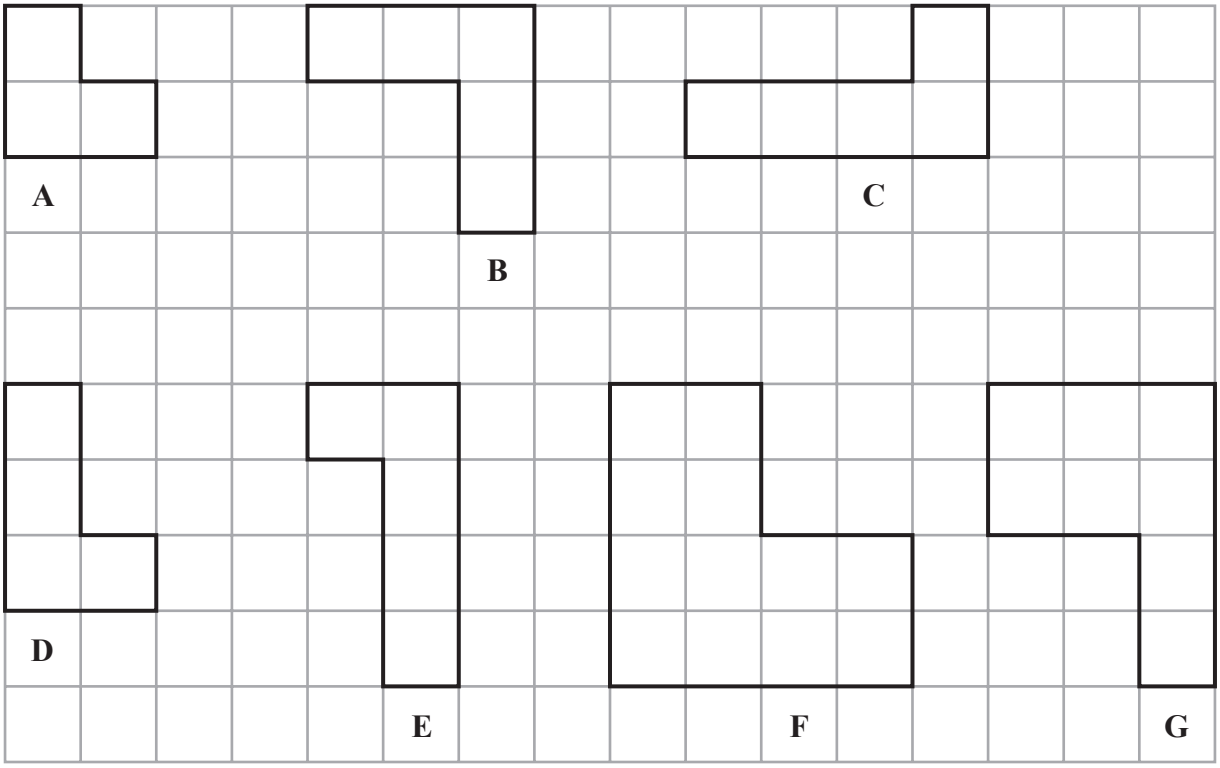
(f) Work out how many of the cars in the car park are **not** grey.

.....

(2)

(Total for Question 1 is 7 marks)

2 Here are seven shapes on a centimetre grid.



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

..... and .....

(1)

Two of the seven shapes are similar but are not congruent.

(b) Write down the letters of these two shapes.

..... and .....

(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 2 is 5 marks)

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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.

.....

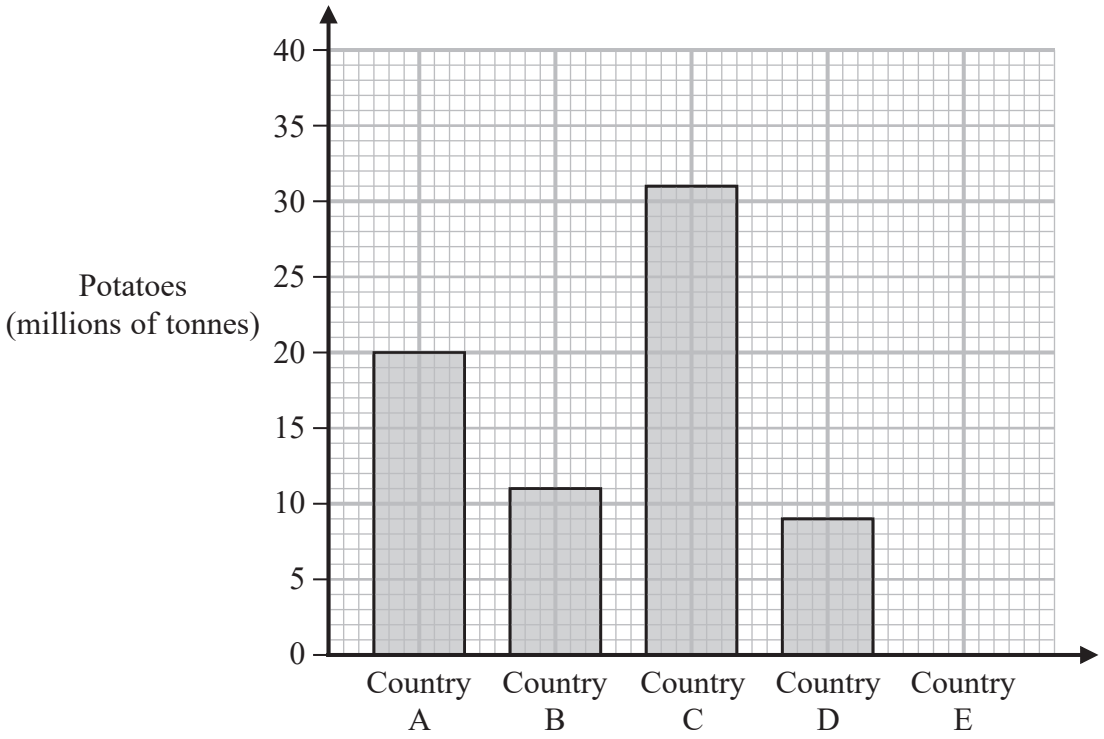
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(1)

(Total for Question 3 is 4 marks)

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4 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?

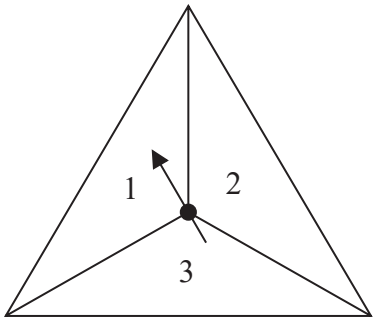
..... million tonnes

(1)

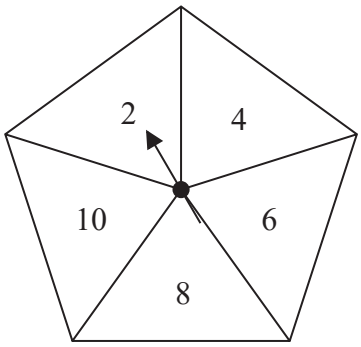
(Total for Question 4 is 3 marks)

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5 Jian has two fair spinners.
Spinner **A** is 3-sided and can land on 1, 2 or 3
Spinner **B** is 5-sided and can land on 2, 4, 6, 8 or 10



Spinner **A**



Spinner **B**

Jian spins each spinner once.

He adds together the number that spinner **A** lands on and the number that spinner **B** lands on to get his total score.

(a) Complete the table to show all possible total scores.
Five of the total scores have been done for you.

Spinner **A**

Spinner **B**	**1**	**2**	**3**
2	3		
4			7
6	7		
8		10	
10		12	

(2)

(b) Find the probability that

(i) Jian's total score is an odd number

.....

(1)

(ii) Jian's total score is less than 9

.....

(1)

(Total for Question 5 is 4 marks)

6 Here are two special offers for buying dog food.

Special offer A
Normally $1.40 a tin **Special offer** Buy 1 tin, get 1 tin half price

Special offer B
Normally pack of 6 tins for $7.20 **Special offer** 20% off each pack of 6 tins

Gaspar 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 Gaspar pays and the amount that Anna pays.

$ .....

(Total for Question 6 is 4 marks)

7 A circle has radius 6.5 cm.

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

..... cm

(Total for Question 7 is 2 marks)

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8 Mairi has 200 flowers.

Of these flowers

37 are white
25 are yellow
42 are pink

The rest of the flowers are red.

Express the number of red flowers as a fraction of the total number of flowers.
Give your fraction in its simplest form.

.....

(Total for Question 8 is 3 marks)

9 3 cups each contain 200 millilitres of water.
4 jugs each contain x millilitres of water.

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

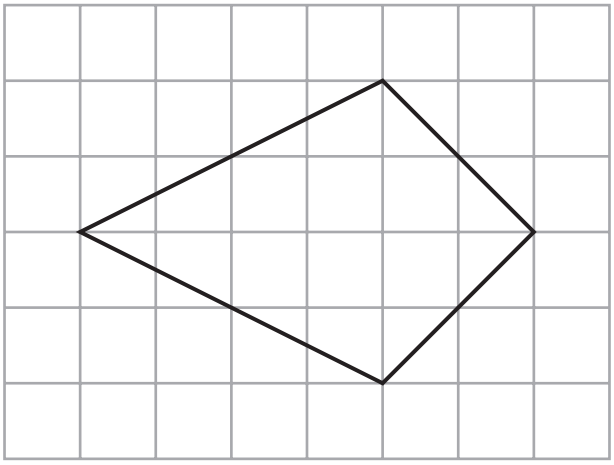
Work out the value of x

$x =$ .....

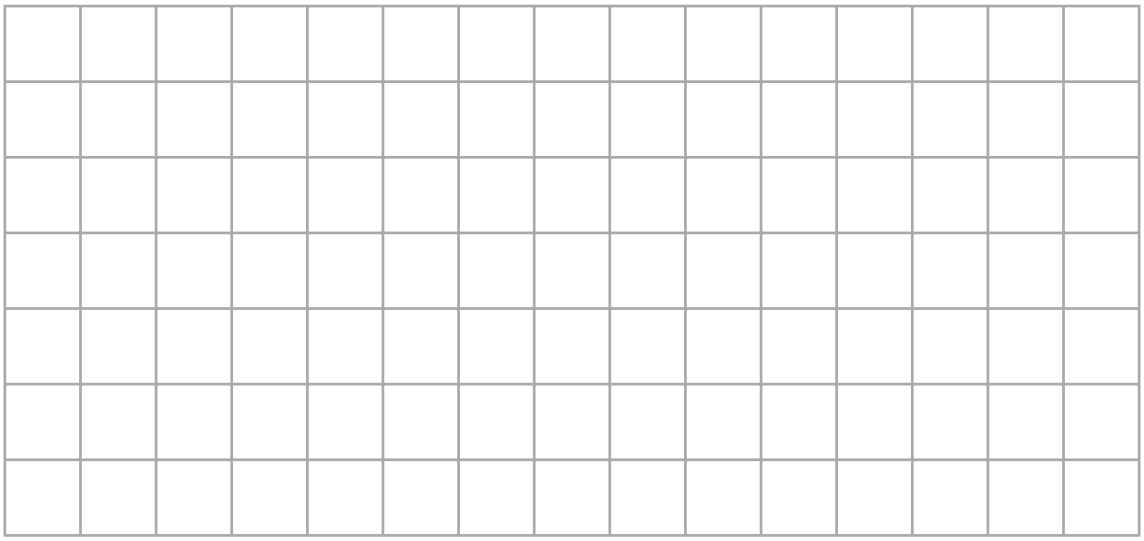
(Total for Question 9 is 4 marks)

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10 The diagram shows a kite drawn on a centimetre grid.



On the centimetre grid below, draw a rectangle that has the same area as the kite.



(Total for Question 10 is 3 marks)

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

.....

(1)

(b) Simplify $2h^3 + 5h^3 - h^3$

.....

(1)

(c) Expand $x(x + 5)$

.....

(1)

(d) Factorise $9y - 12$

.....

(1)

Rosanna sells m small bags of marbles and p large bags of marbles.

Each small bag contains 15 marbles.
Each large bag contains 40 marbles.

The total number of marbles that Rosanna sells is T

(e) Write down a formula for T in terms of m and p

.....

(3)

(Total for Question 11 is 7 marks)

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12 Ingrid buys a bag in Sweden.

The price of the bag is 1342 Swedish Krona.
The price of an identical bag in Finland is 125 euros.

Using an exchange rate of

1 euro = 11 Swedish Krona

work out how much cheaper the bag is in Sweden than it is in Finland.
You must give the units of your answer.

.....

(Total for Question 12 is 3 marks)

13 Hazel is buying a snack and a drink.

She can have a bar of chocolate (*B*) or some fruit (*F*) or a packet of crisps (*C*) as her snack.

She can have orange juice (*O*) or apple juice (*A*) or water (*W*) as her drink.

Write down all the possible combinations Hazel can have.

.....

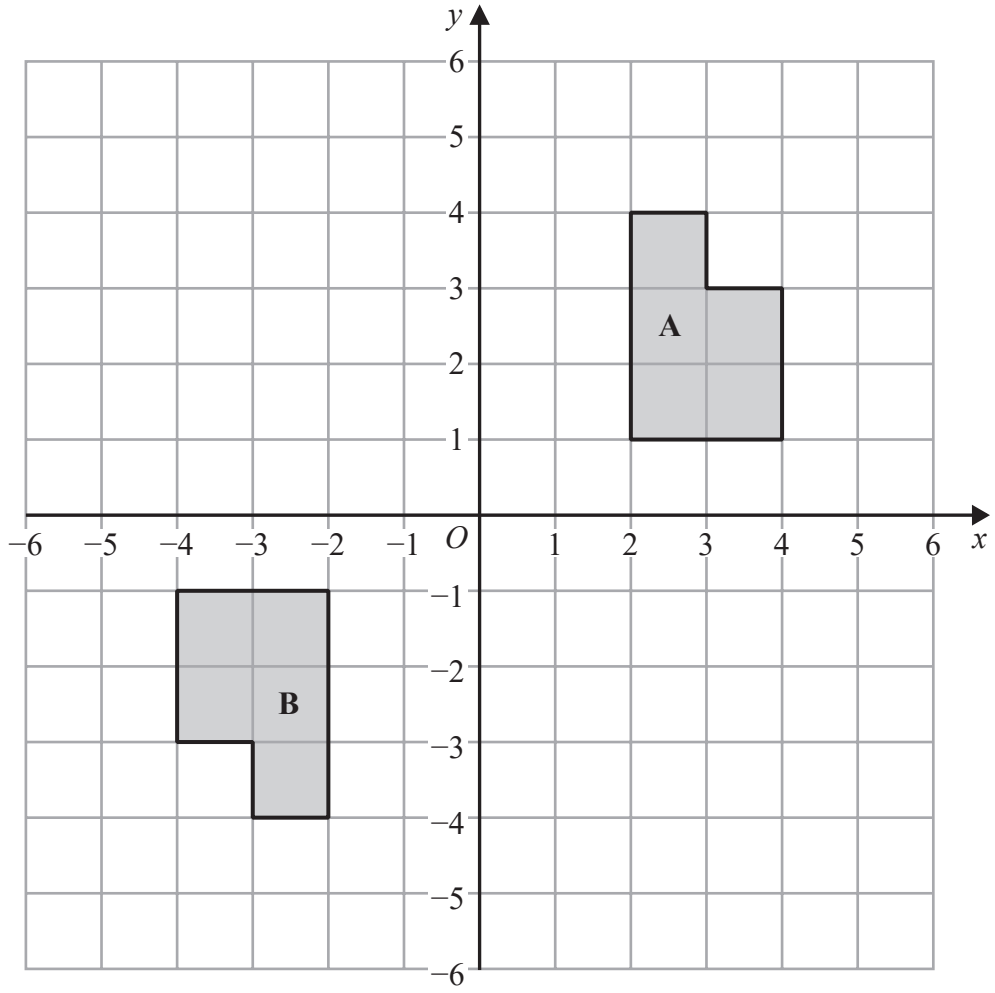
.....

.....

(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 $x = -1$

(2)

(Total for Question 14 is 4 marks)

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15 Use your calculator to work out the value of

$$\frac{5.21 + 6.37}{9.8} + 8.3^2$$

Write down all the figures on your calculator display.

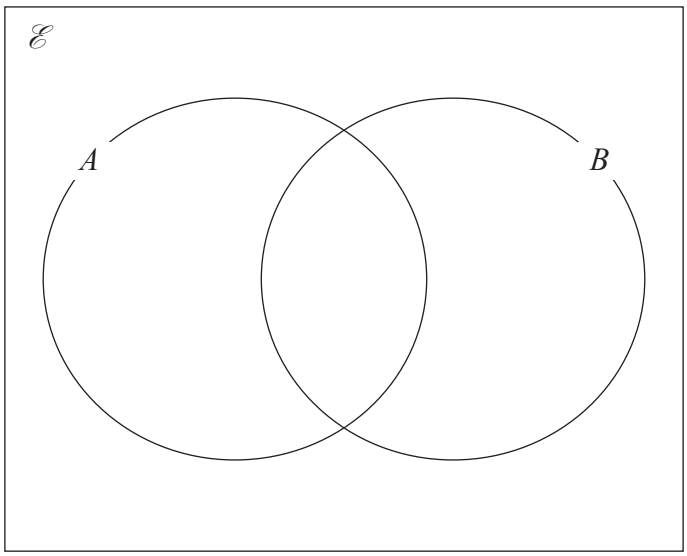
.....

(Total for Question 15 is 2 marks)

16 $\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$A = \{2, 3, 7, 8, 9\}$
$B = \{1, 2, 4, 5, 7, 8, 10\}$

Complete the Venn diagram for this information.



(Total for Question 16 is 3 marks)

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

$$a \quad b \quad c \quad d \quad d \quad d$$

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

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

$a =$ .....

$b =$ .....

$c =$ .....

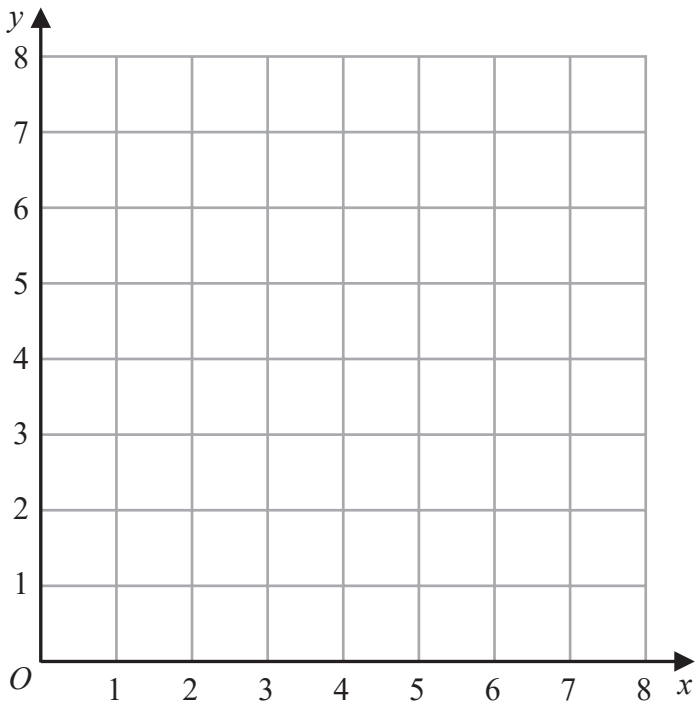
$d =$ .....

(Total for Question 17 is 3 marks)

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18 (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 18 is 4 marks)

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19 An aeroplane travelled from New York City to Los Angeles.

The aeroplane travelled a distance of 3980 kilometres in 5 hours 24 minutes.

Work out the average speed of the aeroplane.
Give your answer in kilometres per hour correct to the nearest whole number.

..... kilometres per hour

(Total for Question 19 is 3 marks)

20 Show that $5\frac{1}{3} - 2\frac{6}{7} = 2\frac{10}{21}$

(Total for Question 20 is 3 marks)

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21 The diagram shows an 8-sided shape *ABCDEFGH*.

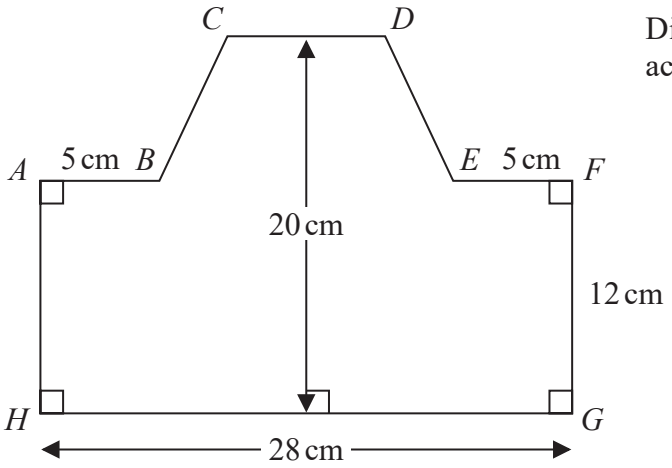


Diagram **NOT** accurately drawn

HG = 28 cm *FG* = 12 cm *AB* = *EF* = 5 cm
The height of the shape is 20 cm
CD is parallel to *HG*

The area of shape *ABCDEFGH* is 434 cm^2

Find the length of *CD*.

..... cm

(Total for Question 21 is 4 marks)

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22 The diagram shows triangle PQR.

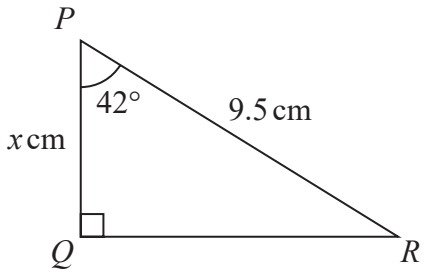


Diagram **NOT** accurately drawn

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

$x =$ .....

(Total for Question 22 is 3 marks)

23 Change a speed of 81 kilometres per hour to a speed in metres per second.

..... metres per second

(Total for Question 23 is 3 marks)

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24 Behnaz makes 300 celebration cards so that

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

$\frac{2}{5}$ 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 24 is 5 marks)

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25 Pasha invests 50 000 dollars in a savings account for 4 years.
He gets 1.3% per year compound interest.

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

..... dollars

(Total for Question 25 is 3 marks)

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26 Solve the simultaneous equations

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

Show clear algebraic working.

$x =$ .....

$y =$ .....

(Total for Question 26 is 3 marks)

27 (i) Factorise $x^2 + 5x - 24$

.....

(2)

(ii) Hence, solve $x^2 + 5x - 24 = 0$

.....

(1)

(Total for Question 27 is 3 marks)

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28 Larry is a delivery man.

He has 7 parcels to deliver.
The mean weight of the 7 parcels is 2.7 kg

Larry delivers 3 of the parcels.
Each of these 3 parcels has a weight of W kg

The mean weight of the other 4 parcels is 3.3 kg

Work out the value of W

$W =$ .....

(Total for Question 28 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

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