



Name:

Video Solutions:



MATHS FOR GRANTED EASTER GCSE MOCK EXAMINATIONS 2023

PAPER 1 (Non-Calculator) Foundation Tier Time: 1 hour 30 minutes

You must have: Ruler, protractor, pair of compasses, pen, HB pencil, eraser

Instructions

Use **black** ink or ball-point pen.

Fill in your name at the top of this page.

Answer **all** questions.

Answer the questions in the spaces provided.

Calculators may NOT be used.

Diagrams are **NOT** accurately drawn, unless otherwise indicated.

You must **show all your working out.**

Information

The total mark for this paper is 80.

The marks for **each** question are shown in brackets.





Advice

Read each question carefully and try to answer every question.

Keep an eye on the time and check your answers, if you have time, at the end.

Q1.

This pictogram shows the favourite sport of each person at a youth club.

Sport	Frequency
Football	
Hockey	
Cricket	
Athletics	
Swimming	

Key:  represents _____ people

(a) Football is the favourite sport of 20 of the people at the youth club.
Use this information to complete the key below the pictogram (1)

(b) How many people chose Cricket?
..... (1)

(c) 2 people chose swimming. Show this on the pictogram. (1)

(Total for question = 3 marks)

Q2. Work out

(i) $3 \times 3 - 5$

(ii) $20 \div (12 - 2)$


(iii) $7 + 8 \div 4$

(Total for question = 3 marks)

Q3.

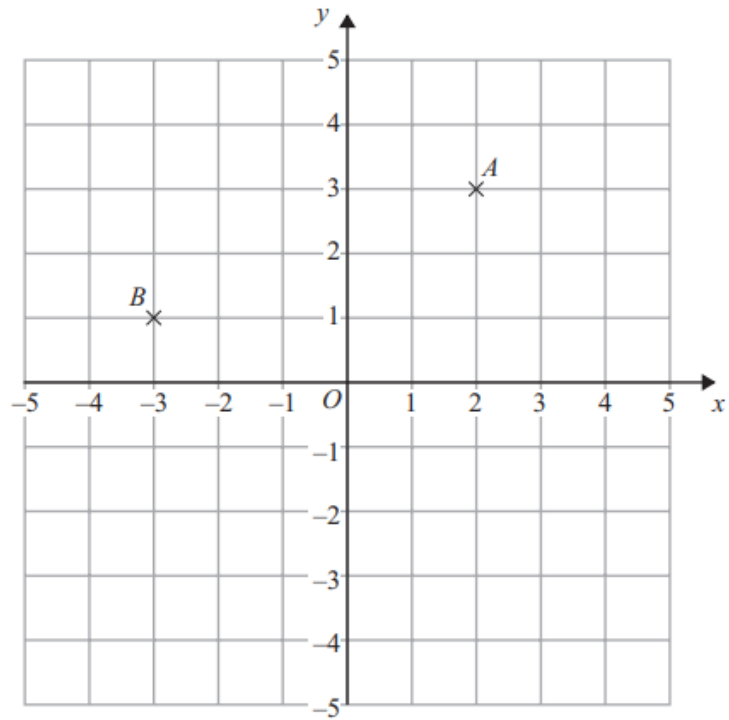
Match each sequence to its description.
One has been done for you.

1 1 2 3 5 8	Arithmetic progression
1 2 4 8 16 32	Geometric progression
1 2 3 4 5 6	Fibonacci sequence
1 3 6 10 15 21	Triangular numbers
1 4 9 16 25 36	Cube numbers
1 8 27 64 125 216	Square numbers



(Total for question = 3 marks)

Q4.



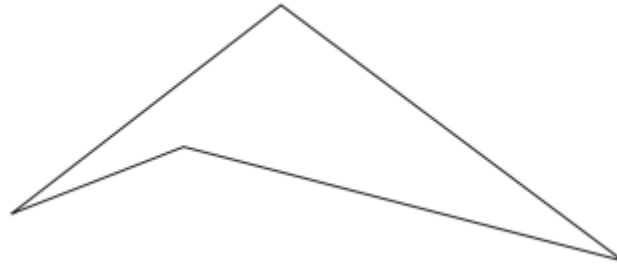
(a) (i) Write down the coordinates of the point A. (.....,) (2)

(ii) Write down the coordinates of the point B. (.....,) (2)

(b) On the grid, mark with a cross (X) the point (3, -4). Label this point C. (1)

(Total for question = 3 marks)

Q5.



(a) (i) What is the mathematical name for the shape above?
Underline the correct word in this list.

Rhombus

Quadrilateral

Trapezium

Pentagon

(1)

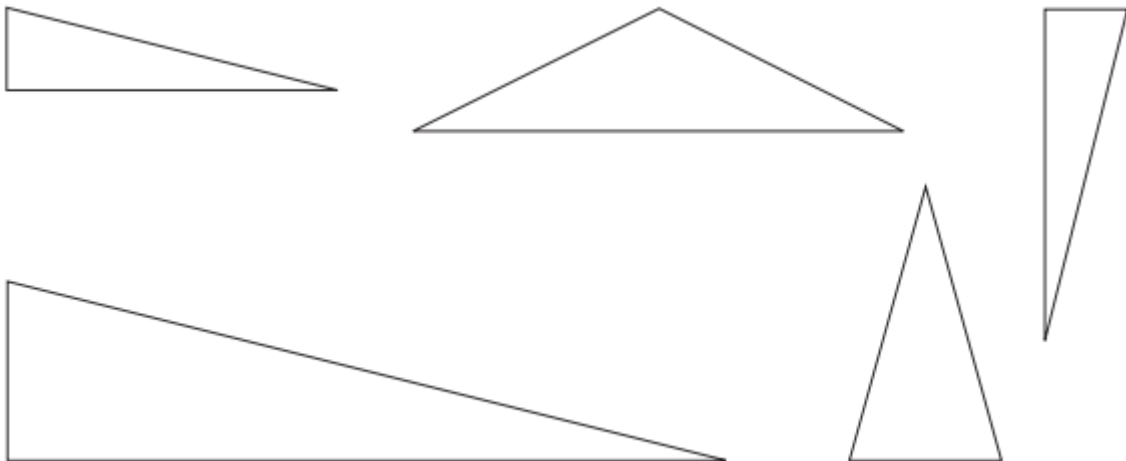
(ii) Mark an obtuse angle on the shape above. Label it O.

(1)

(iii) Mark an acute angle on the shape above. Label it A.

(1)

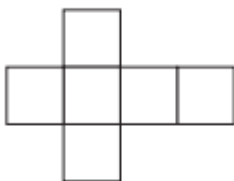
(b) Put a tick (✓) inside each of the two triangles that are **congruent**.



(1)

(c) This is a net of a shape.

What is the mathematical name of the solid shape?



..... (1)

(Total for question = 5 marks)

Q6.

Samina recorded the maximum temperature and the minimum temperature on each of six days in January.

The table shows her results.

	Mon	Tues	Wed	Thurs	Fri	Sat
Maximum temperature	1 °C	3 °C	2 °C	0 °C	3 °C	4 °C
Minimum temperature	- 4 °C	-2 °C	- 4 °C	-5 °C	-3 °C	-2 °C

(a) Write down the lowest temperature.°C

(b) Work out the difference between the maximum temperature on Wednesday and the minimum temperature on Wednesday.°C

The minimum temperature on Sunday was 5°C higher than the minimum temperature on Saturday.

(c) Work out the minimum temperature on Sunday.°C

(Total for question = 3 marks)

Q7.

Margaret is going to have a meal.
She can choose one starter and one main course.

Menu	
Starter	Main course
Pate	Beef
Melon	Salmon
Ham	Lasagne

Write down all the possible combinations Margaret can choose.

.....

.....

.....

.....

.....

(Total for question = 2 marks)

Q8. Jacob has 3 red counters and 7 blue counters.
Tony has 10 red counters.
Emily has only blue counters.

(a) Jacob puts his counters into a bag.

What is the probability of choosing a red counter from the bag?

.....
(1)

(b) Tony adds his counters to the bag.

What is the probability of choosing a red counter now?

.....
(2)

(c) Emily adds her counters to the bag.

The probability of choosing a red counter now is $\frac{1}{2}$

How many blue counters did Emily have?

.....
(2)

(Total for question = 5 marks)

Q9. Steve wins £600 in a competition.

He gives $\frac{1}{4}$ of the money to Lizzie and $\frac{1}{5}$ of the money to Sam.

Of the **remaining** money he gives 10% to charity.

How much does Steve have left?

.....
.....
.....
.....
.....
.....
.....

(Total for question = 5 marks)

Q10.

$$\mathbf{a} = \begin{pmatrix} 6 \\ -10 \end{pmatrix} \quad \mathbf{b} = \begin{pmatrix} -1 \\ 2 \end{pmatrix} \quad \mathbf{c} = \begin{pmatrix} -4 \\ 7 \end{pmatrix}$$

(a) Work out $\mathbf{a} + \mathbf{b} + \mathbf{c}$

.....
(1)

(b) Show that $\mathbf{a} + 2\mathbf{c} = k\mathbf{b}$, where k is an integer to be found.

$k =$
(2)

(Total for question = 3 marks)

Q11. The diagram shows a rectangle and a square.

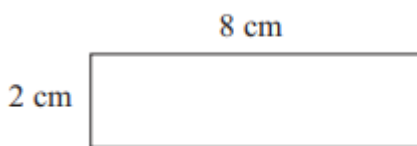


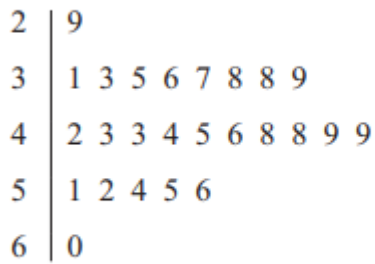
Diagram **NOT**
accurately drawn

The perimeter of the rectangle is the same as the perimeter of the square.

Work out the length of one side of the square.

.....cm
(Total for question = 3 marks)

Q12. The stem and leaf diagram shows some information about the speeds of 25 cars.



Key: 2 9 means 29 miles per hour
--

(a) How many of the 25 cars had a speed of more than 50 miles per hour?

.....

(1)

(b) Find the median speed

.....miles per hour

(1)

(c) Work out the range of the speeds.

.....miles per hour

(2)

(Total for question = 4 marks)

Q13. Kaysha has a part-time job.

She is paid £5.40 for each hour she works.

Last week Kaysha worked for 24 hours.

Work out Kaysha's total pay for last week.

£.....

(Total for question = 3 marks)

Q14. Solve the following equations.

(a) $x + 3 = 10$

$x =$
(1)

(b) $5(x + 4) = 10$

$x =$
(2)

(c) $11 + \frac{x}{3} = 15$

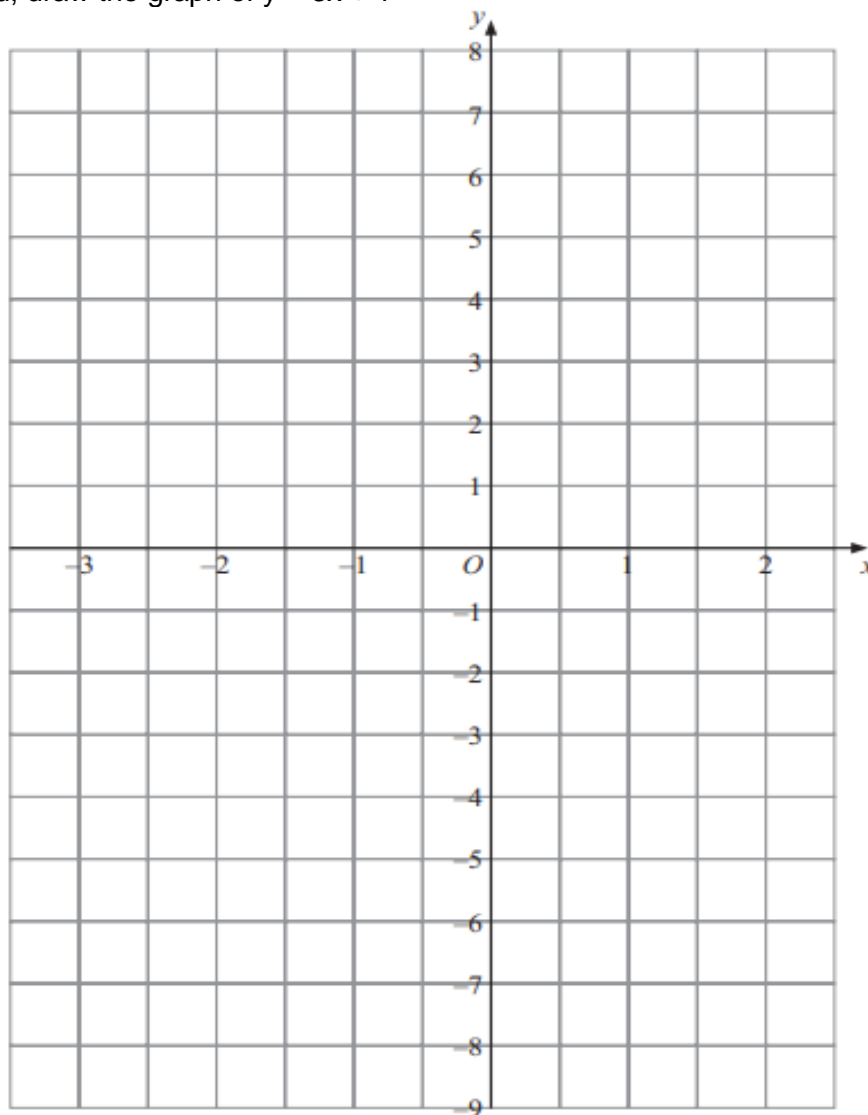
$x =$
(2)
(Total for question = 5 marks)

Q15. (a) Complete the table of values for $y = 3x + 1$

x	-3	-2	-1	0	1	2
y	-8		-2			

(2)

(b) On the grid, draw the graph of $y = 3x + 1$



(2)

(Total for question = 4 marks)

Q16. Buses to Acton leave a bus station every 24 minutes.

Buses to Barton leave the same bus station every 20 minutes.

A bus to Acton and a bus to Barton both leave the bus station at 900am.

When will a bus to Acton and a bus to Barton next leave the bus station at the same time?

.....
(Total for question = 3 marks)

Q17

(a) Work out 2.4×0.002

.....
(1)

(b) Write 1.2×10^{-5} as an ordinary number.

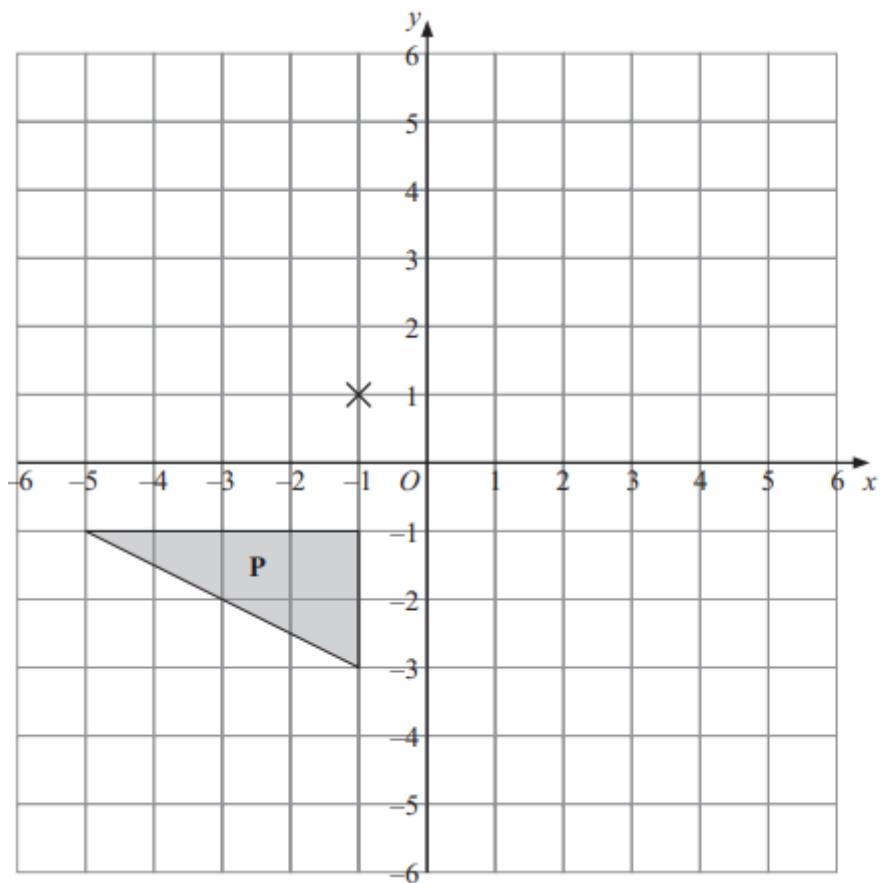
.....
(1)

(c) Write 2 500 000 in standard form.

.....
(1)

(Total for question = 3 marks)

Q18.



(a) Rotate triangle **P** 180° around the point $(-1, 1)$.

Label the new triangle **A**.

(2)

(b) Translate triangle **P** by the vector $\begin{pmatrix} 6 \\ -1 \end{pmatrix}$.

Label the new triangle **B**.

(1)

(Total for question = 3 marks)

Q19.

(a) Work out $\frac{2}{7} + \frac{1}{5}$

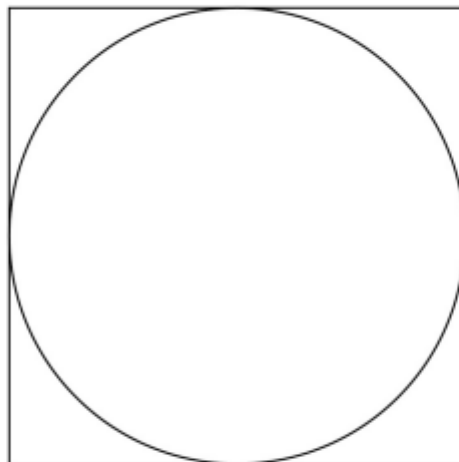
.....
(2)

(b) Work out $1\frac{2}{3} \div \frac{3}{4}$

.....
(2)
(Total for question = 4 marks)

Q20.

Here is a circle touching a square.



Not drawn
accurately

The area of the square is 64 cm^2

Work out the area of the circle.

Give your answer in terms of π .

..... cm^2
(Total for question = 3 marks)

Q21.

a) Work out 7^{-2}

.....
(1)

b)

Use numbers from this box to complete the statements.

0	1	$\sqrt{2}$	$\sqrt{3}$
$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{3}}$	$\frac{\sqrt{3}}{2}$

(i) $\tan 45^\circ = \dots\dots\dots$ (1)

(ii) $\cos 30^\circ = \dots\dots\dots$ (1)

(Total for question = 3 marks)

Q22. Solve the simultaneous equations:

$$\begin{aligned}4x + y &= 25 \\x - 3y &= 16\end{aligned}$$

$x = \dots\dots\dots, y = \dots\dots\dots$
(Total for question = 3 marks)

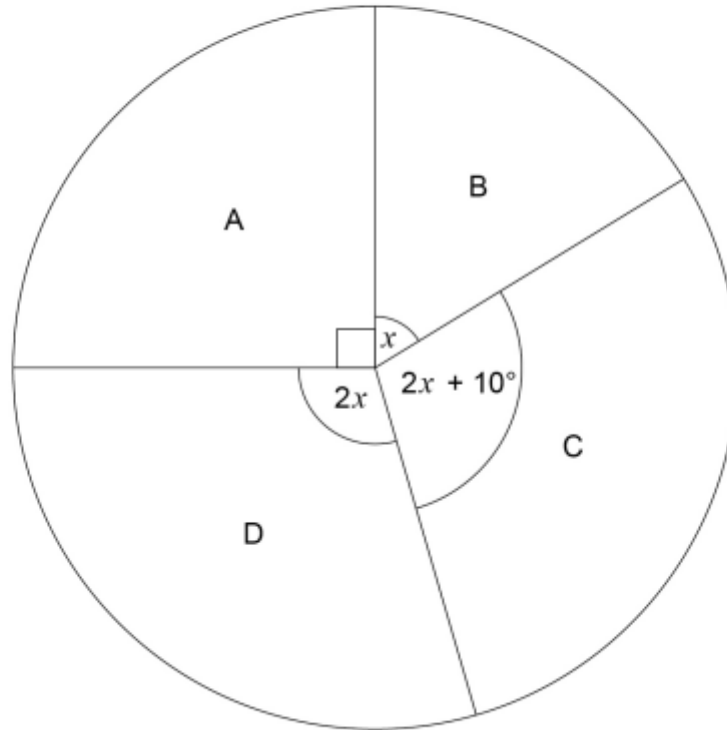
Q23.

The four candidates in an election were A, B, C and D.

The pie chart shows the proportion of votes for each candidate.

Proportion of votes

Not drawn accurately



Work out the probability that a person who voted, chosen at random, voted for C.

.....
(Total for question = 4 marks)

TOTAL FOR PAPER IS 80 MARKS