1st Class Maths

Video Solutions

SCAN ME

PRACTICE PAPER FOR

Edexcel Paper 3F (June 2023)

---------- Disclaimer ----------

In 2022 I wrote a series of predicted papers that in many cases reflected the real exam paper very well. This was due to the exam boards providing advance information on the topics that were going to be in each paper. This information is no longer provided so "predicting" a paper is not possible. Nobody can know what topics and types of questions will come up in each paper, apart from the few examiners that write them.

This paper has been created based on the **most common** paper 2/3 topics from previous years as well as careful analysis of the topics that have already appeared in paper 1/2. The paper should be excellent at helping students revise for exams, however should not be relied upon as the basis for revision. The topics from this paper may well appear in the real exams, however there is absolutely no guarantee of this for the reasons previously mentioned. Some topics may appear, some may not.

Ultimately the best way to prepare for the exams is to **revise all topics**.

Answer ALL questions

Write your answers in the spaces provided

You must write down all the stages in your working.

1 Write down the value of the number 6 in the number 7261

.....

(Total for Question 1 is 1 mark)

2 Work out the value of 4^4

.....

(Total for Question 2 is 1 mark)

3 Write down a square number between 30 and 50

.....

(Total for Question 3 is 1 mark)

4 Write $\frac{3}{4}$ as a percentage

..... %

(Total for Question 4 is 1 mark)

5 The probability that Kevin passes his driving test is 0.4
Work out the probability that Kevin does **not** pass his driving test.

.....

(Total for Question 5 is 1 mark)

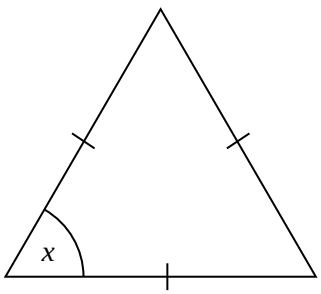
6 $m = 5k - 6$

Find the value of m when $k = 17$

.....

(Total for Question 6 is 2 marks)

7 Here is an equilateral triangle.



Write down the size of angle x.

$x =$ ..... °

(Total for Question 7 is 1 mark)

8 A school has

72 teachers
240 Year 11 students

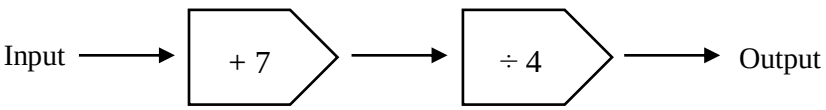
$\frac{2}{3}$ of the teachers and $\frac{9}{10}$ of the Year 11 students attend the prom.

Work out the total number of people attending the prom.

.....

(Total for Question 8 is 3 marks)

9 The diagram shows a number machine.



(a) Find the output when the input is 11.

.....

(1)

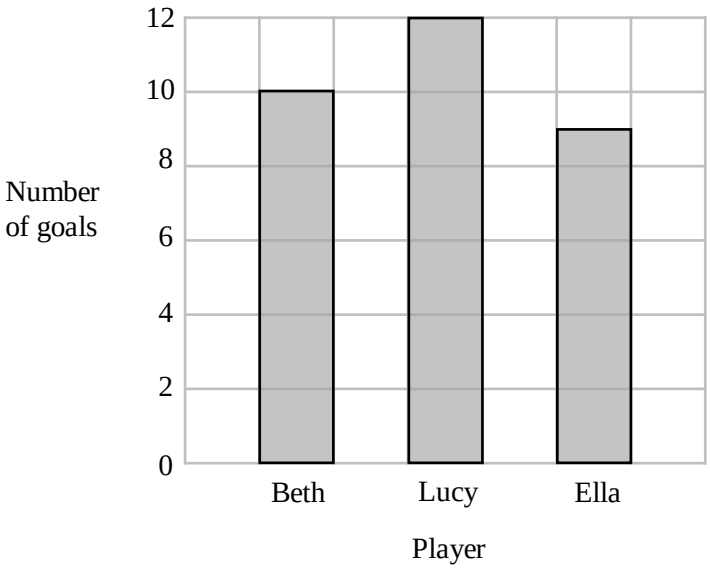
(b) Find the input when the output is 1.

.....

(2)

(Total for Question 9 is 3 marks)

10 The bar chart below shows the number of goals scored by three members of a football team.



(a) Write as a ratio, the number of goals Lucy scored to the number of goals Ella scored.
Give your answer in its simplest form.

.....

(2)

(b) The incomplete pictogram below shows the number of goals scored by Beth.
Complete the pictogram

Beth	○ ○ ◗
Lucy	
Ella	

Key:

(3)

(Total for Question 10 is 5 marks)

11 60 students took part in a maths challenge.

All of the students received a certificate.

$\frac{1}{3}$ of the students were in Year 8 and the rest were in Year 9.

5 students received a gold certificate and 1 of them was in Year 8.
26 students received a silver certificate and 15 of them were in Year 9.
Complete the two-way table below.

	Gold	**Silver**	**Bronze**	**Total**
Year 8				
Year 9				
Total				

(Total for Question 11 is 3 marks)

12 Tracey is booking a flight.

She must choose her ticket type and seat location.

Booking Information

Ticket Type	**Seat Location**
First Class Business Class Economy Class	Window Seat Aisle Seat

Write down all the possible combinations Tracey can choose.

(Total for Question 12 is 2 marks)

13 The stem and leaf diagram below shows information about the masses of some goats on a farm.

1	8						
2	4	5	5	7	7	8	9
3	1	1	4	5	6		
4	3	3	4	5			
5	0	1					

Key: 1 | 8 represents 18 kg

(a) Work out the median mass of the goats.

..... kg
(2)

(b) Work out the range of the masses of the goats.

..... kg
(2)

(Total for Question 13 is 4 marks)

14 Here are some exchange rates for pounds (£), euros (€) and dollars ($)

£1 = €1.17
£1 = $1.26

Betty changes $200 into euros.

Work out how many euros Betty will receive.
Give your answer to 2 decimal places.

€ .....

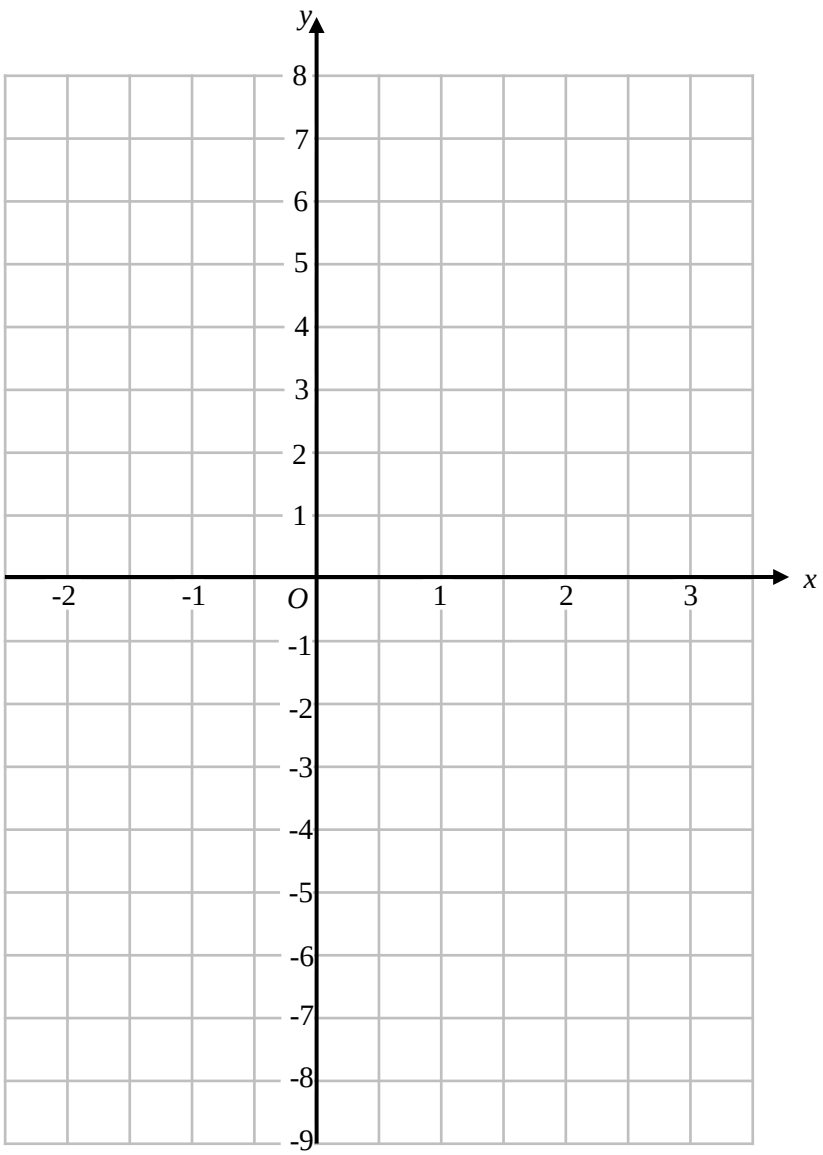
(Total for Question 14 is 3 marks)

15 (a) Complete the table of values for $y = 1 - 3x$

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

(2)

(b) On the grid, draw the graph of $y = 1 - 3x$ for values of x from -2 to 3



(2)

(Total for Question 15 is 4 marks)

16 The formula below can be used to find the size of each exterior angle of a regular polygon with n sides.

$$\text{Exterior Angle} = \frac{360}{n}$$

(a) Use the formula to work out the exterior angle of a regular octagon.

.....°

(2)

The exterior angles of a regular polygon with 10 sides are 36°

Alistair wants to work out the exterior angle of a regular polygon with 20 sides.

Alistair says:

"The exterior angle of a regular polygon with 20 sides is 72° since $2 \times 36 = 72$"

(b) Is Alistair correct? You must explain your answer.

.....

.....

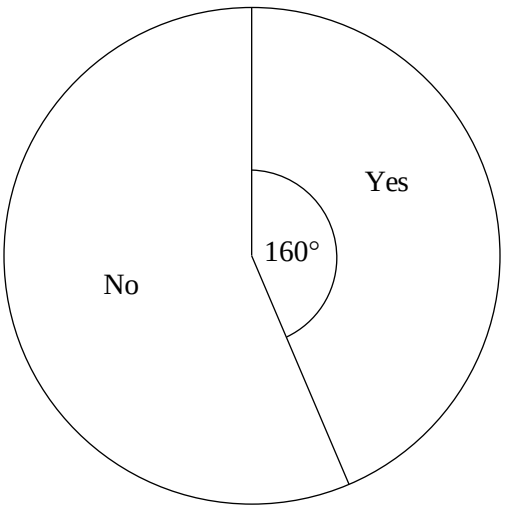
.....

(1)

(Total for Question 16 is 3 marks)

17 A headteacher wants to do a survey to find out if students want more homework.
He asks every student in Year 11.

The pie chart below shows the results.



(a) Write as a ratio, the number of students who said Yes to the number of students who said No.
Give your answer in its simplest form.

.....

(2)

There are 120 students in Year 11.

The headteacher says that the pie chart shows that not every student in Year 11 answered the survey.

(b) Explain why the headteacher is correct.

.....

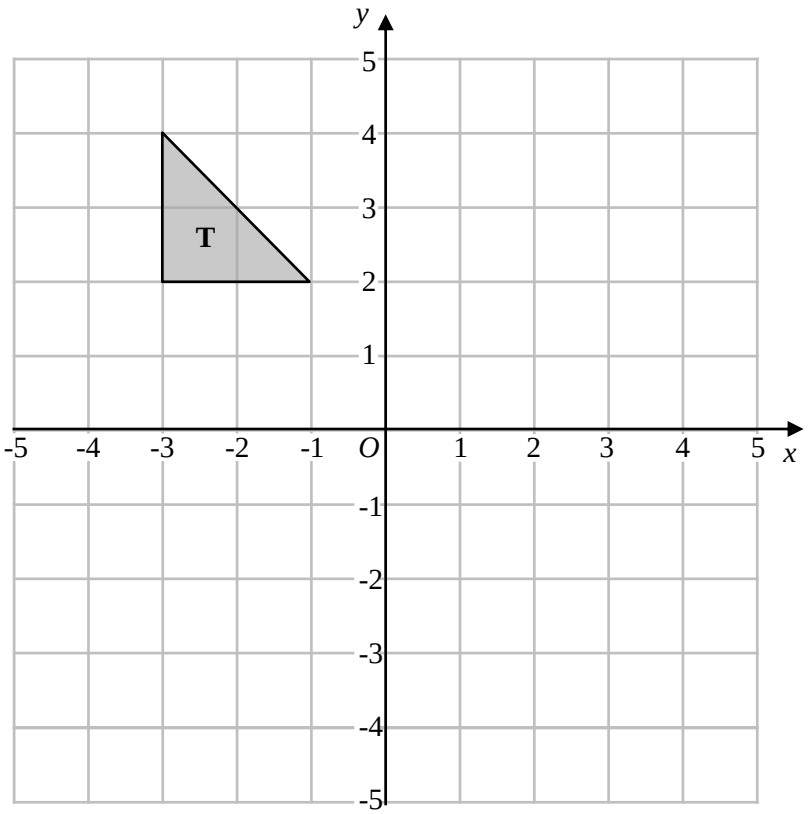
.....

.....

(2)

(Total for Question 17 is 4 marks)

18



(a) Rotate triangle **T** 90° clockwise about the origin.
Label the new triangle **A**.

(2)

(b) Translate triangle **T** by the vector $\begin{pmatrix} -2 \\ -1 \end{pmatrix}$

Label the new triangle **B**.

(2)

(Total for Question 18 is 4 marks)

19 The ratio of Milly's age to Lydia's age is 2 : 3

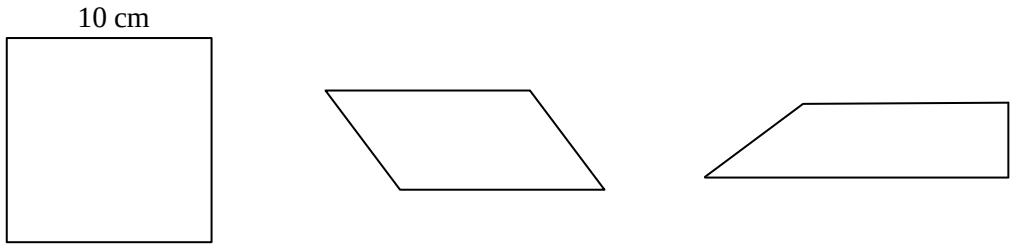
Milly is 30 years old.

Work out Lydia's age.

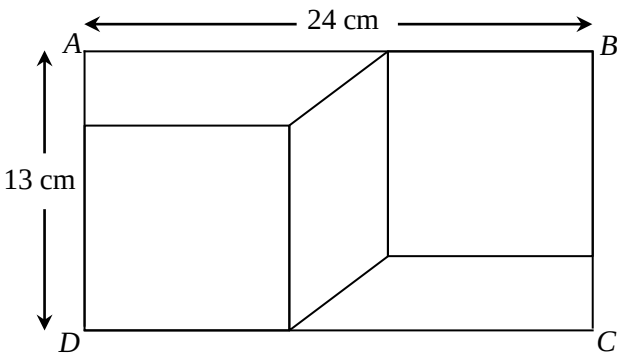
.....

(Total for Question 19 is 2 marks)

20 Here is a square, a parallelogram and a trapezium.



Two copies of the square and the trapezium and one copy of the parallelogram are used to make rectangle *ABCD* shown below.



AB = 24 cm
AD = 13 cm

(a) Work out the area of the parallelogram.

..... cm^2
(2)

(b) Work out the area of **one** of the trapeziums.

..... cm^2
(3)

(Total for Question 20 is 5 marks)

21 (a) Write 8.9×10^{-3} as an ordinary number.

.....

(1)

(b) Work out $\dfrac{4.8 \times 10^3}{6 \times 10^4 \times 2.5 \times 10^{-8}}$

Give your answer in standard form.

.....

(2)

(Total for Question 21 is 3 marks)

22 (a) Expand and simplify $(x + 7)(x - 7)$

.....

(2)

(b) Factorise $x^2 + 13x + 36$

.....

(2)

(Total for Question 22 is 4 marks)

23 (a) Find the Highest Common Factor (HCF) of 63 and 105

.....

(2)

(b) Find the Lowest Common Multiple (LCM) of 48 and 80

.....

(2)

(Total for Question 23 is 4 marks)

24 The table shows information about the prices of 55 ties for sale in a tie shop.

Price, (p £)	**Frequency**
$0 < p \leq 10$	21
$10 < p \leq 20$	8
$20 < p \leq 30$	9
$30 < p \leq 40$	8
$40 < p \leq 50$	7
$50 < p \leq 60$	2

(a) Write down the modal class.

.....

(1)

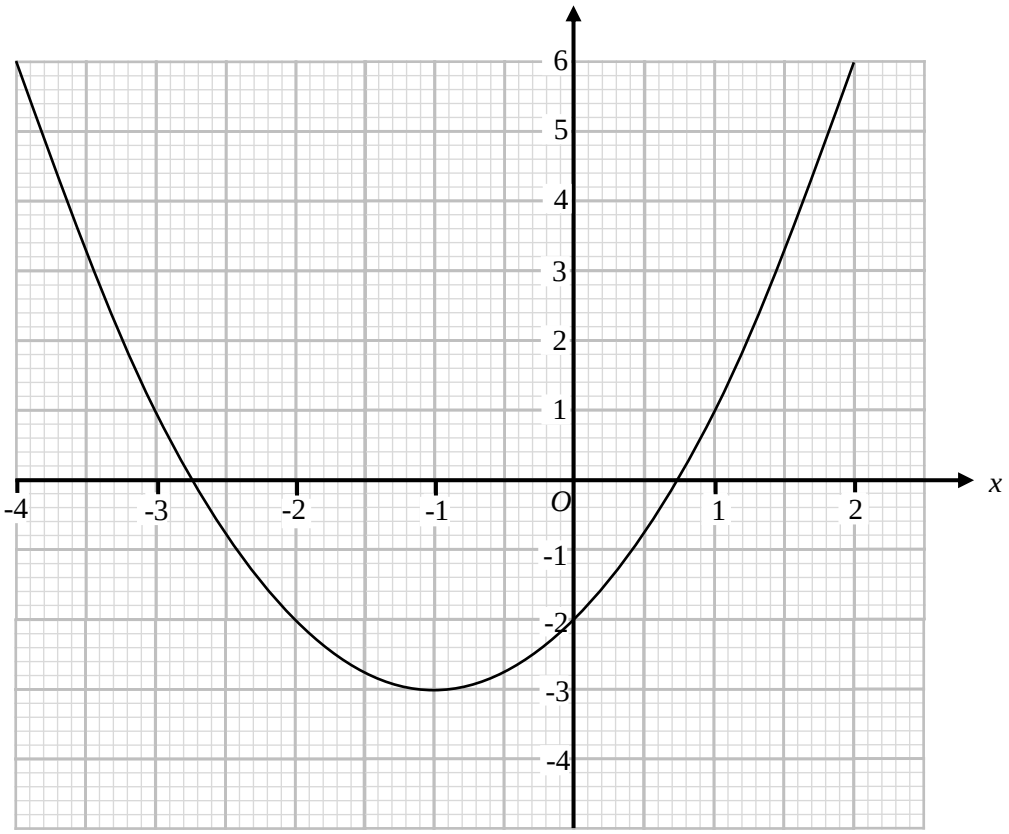
(b) Find the class interval that contains the median price.

.....

(1)

(Total for Question 24 is 2 marks)

25 The graph of $y = x^2 + 2x - 2$ is drawn on the grid.



(a) Write down the coordinates of the turning point of the graph.

(..... , ...)

(1)

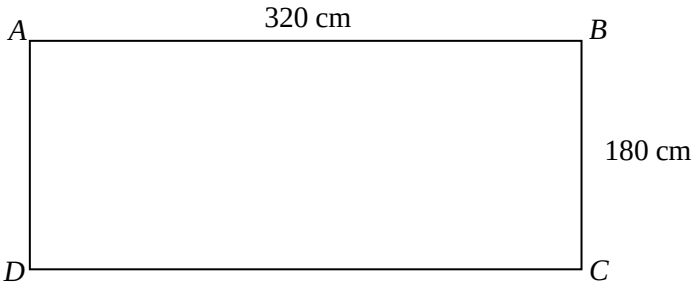
(b) Use the graph to find estimates for the roots of the equation $x^2 + 2x - 2 = 0$

.....

(2)

(Total for Question 25 is 3 marks)

26 Here is a rectangle *ABCD*.



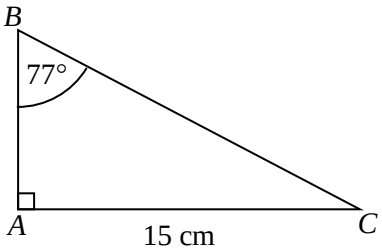
AB is increased by 12%
BC is decreased by 25%

Work out the area of the resulting rectangle.

..... cm^2

(Total for Question 26 is 3 marks)

27



Triangle *ABC* is a right-angled triangle.
Angle *ABC*= 77°
AC = 15 cm

Work out the length of *AB*.
Give your answer to 1 decimal place.

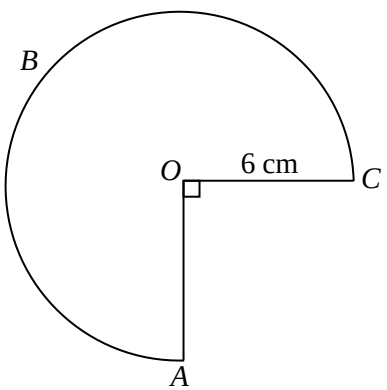
..... cm

(Total for Question 27 is 2 marks)

28 The diagram shows a sector of a circle of radius 6 cm.

Angle *AOC* = 90°

Work out the length of arc *ABC*.
Give your answer to 1 decimal place.



..... cm

(Total for Question 28 is 3 marks)

29 Convert 9 m^2 into cm^2

..... cm^2

(Total for Question 29 is 1 mark)

30 Make x the subject of $y = mx + c$

.....

(Total for Question 30 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS