



Annual Examinations for Middle Schools 2024

YEAR 8 **MATHEMATICS** **TIME: 1h 40 min**
MAIN PAPER

Question	1	2	3	4	5	6	7	8	9	10	11	12	Total Main	Non- Calc	Total
Mark															

DO NOT WRITE ABOVE THIS LINE

Name: _____ Class: _____

**Calculators are allowed but all necessary working
must be shown. Answer All questions.**

1. a) Using the exchange rate of £1 = €1.20, how much are €270 in pounds sterling (£)?

Ans: _____

b) Use your calculator to work out the value of the following:

i) $4.63^2 + 12.13$ correct to 3 d.p.

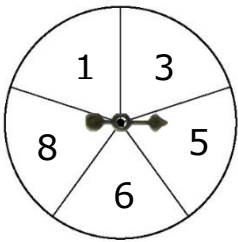
Ans: _____

ii) $\frac{\sqrt{0.0009}}{3}$

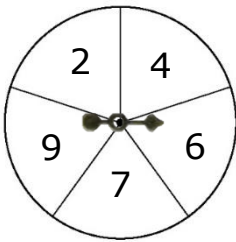
Ans: _____

(6 marks)

2. Noah spins two fair spinners A and B. He multiplies the two numbers.



SPINNER A



SPINNER B

Noah writes the possible outcomes in the possibility space below.

a) Complete the possibility space.

		SPINNER A				
SPINNER B	x	1	3	5	6	8
	2	2	6			16
	4		12	20	24	32
	6	6	18		36	
	7			35	42	56
	9	9		45		

b) Use the possibility space to work out the probability that Noah gets:

i) an odd number = _____

ii) a square number = _____

iii) a multiple of 6 = _____

iv) a factor of 18 = _____

(6 marks)

3. a) In 2015, Bernice bought an apartment for €265 000.

By the year 2019, its value increased by 18%.

Calculate the value of the apartment in the year 2019.

Ans: _____

- b) In 2022, Bernice sold her apartment for €344 500.

i) Calculate the profit.

Ans: _____

ii) Express the profit as a percentage of the original price in 2015.

Ans: _____

(6 marks)

4. a) Write 240 as a product of prime factors. Give your answer in index form.

Ans: _____

b) Work out the Least Common Multiple of 240, 160 and 96.

Ans = _____

(6 marks)

5. Anna, Bertha and Clara travelled to Rome together. They shared their travelling expenses in the ratio of their salaries. Anna earns €1500 per month while Bertha and Clara each earn €1250 per month.

a) Write the ratio of their salaries in its simplest form.

Ans: _____

- b) Returning to Malta, they had €304 left which were shared between them in the same ratio. Calculate how much each of them received.

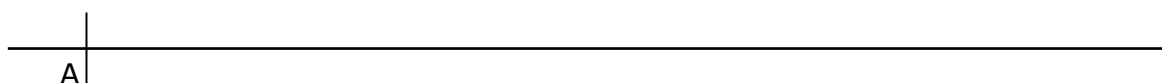
Anna = _____

Bertha = _____

Clara = _____

(6 marks)

6. a) Use compass and ruler only to construct triangle ABC in which $AC = 10$ cm, $\angle CAB = 60^\circ$ and $AB = 4$ cm.



- b) Measure $\angle ABC$.

Ans: _____

(6 marks)

7. Steve organised an Esports tournament. The following is the list of games which were played.

Online Game	Minedigger	Grand Racing 7	Football 2024	Fantasy Two
Number of Players	x	$2x$	$3x - 8$	$x + 7$

- c) Write an expression for the total number of players. Simplify your answer.

Ans: _____

- b) The total number of players was 62.

Form an equation and solve it to find the value of x .

Ans: _____

- c) How many players prefer Fantasy Two?

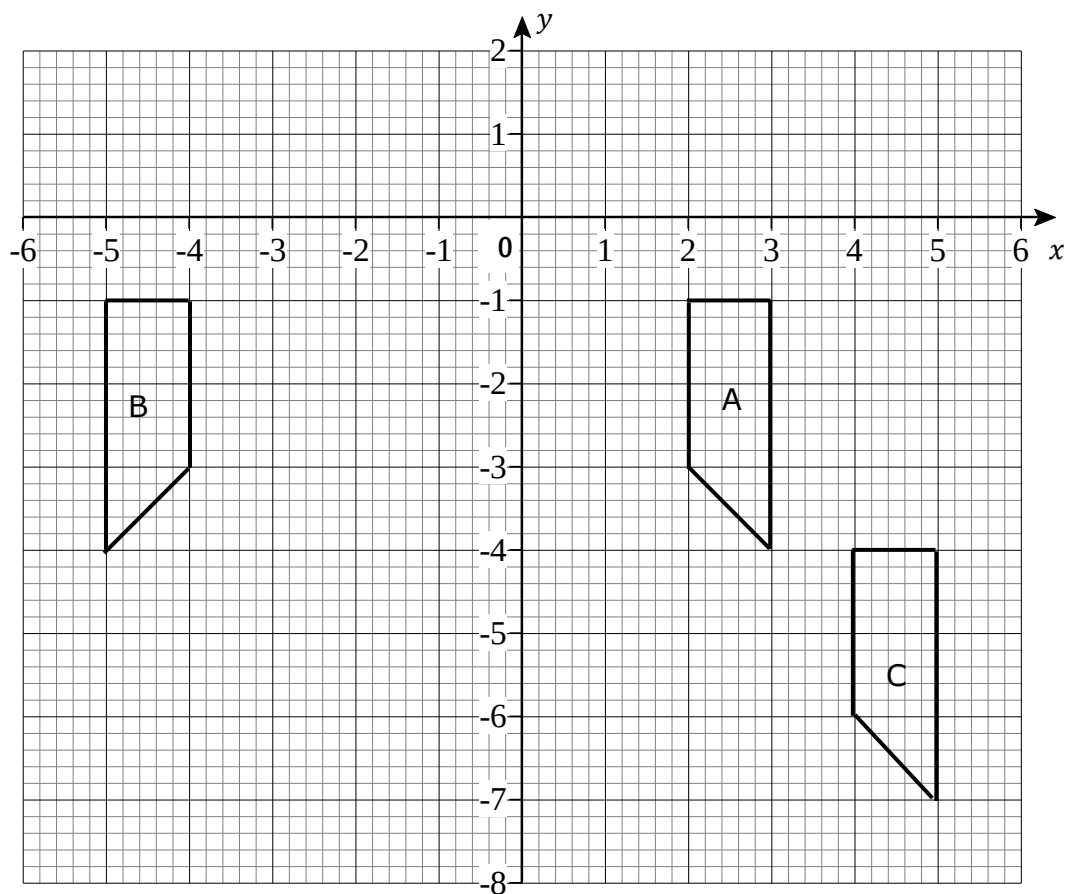
Ans: _____

- d) How many players prefer Football 2024?

Ans: _____

(8 marks)

8.



a) Rotate trapezium A by 180° about the point $(2, -1)$. Label the image D.

b) The transformation which maps A to B

is a _____ in the line _____.

c) The transformation which maps A to C is a _____ by $\begin{pmatrix} & \\ & \end{pmatrix}$.

(6 marks)

9. Cory conducted a survey about the favourite snack of a group of teenagers.

The following are the results.

Favourite Snack	Fruit	Popcorn	Cereal Bar	Cheese Crackers	Asian Mix	Nuts
Number of teenagers	132	86	190	106	56	150

- a) How many teenagers participated in the survey?

Ans: _____

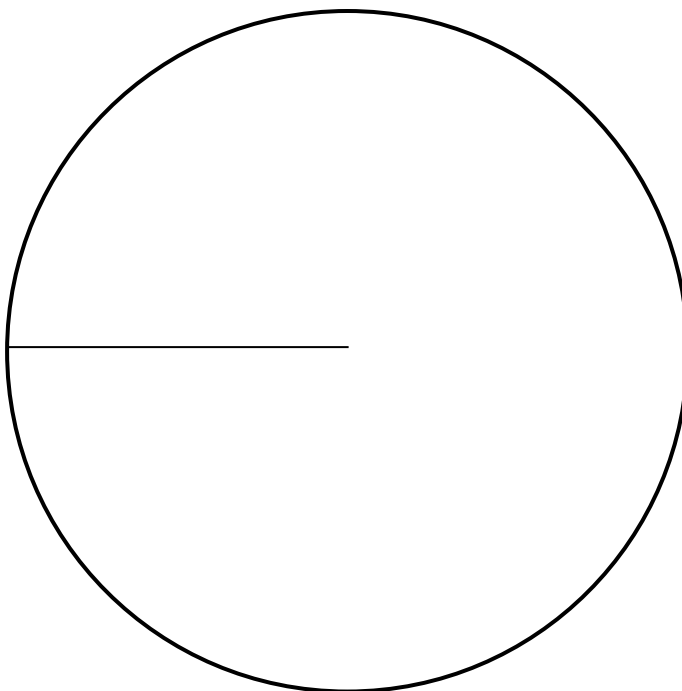
- b) Cory presented the data gathered in a pie chart.

The table below shows the angle of each sector in the pie chart.

Fill in the missing angles.

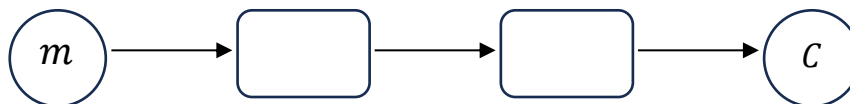
Favourite Snack	Fruit	Popcorn	Cereal Bar	Cheese Crackers	Asian Mix	Nuts
Number of teenagers		43°		53°		

- c) Draw and label the pie chart.



(8 marks)

10. a) A scooter rental company charges 20c per minute (m), in addition to €1.50 to unlock the scooter. Complete the number machine for the total cost, C , in cents.



- b) Make the letter T , the subject of the formula. $K = \frac{T - 8m}{9}$

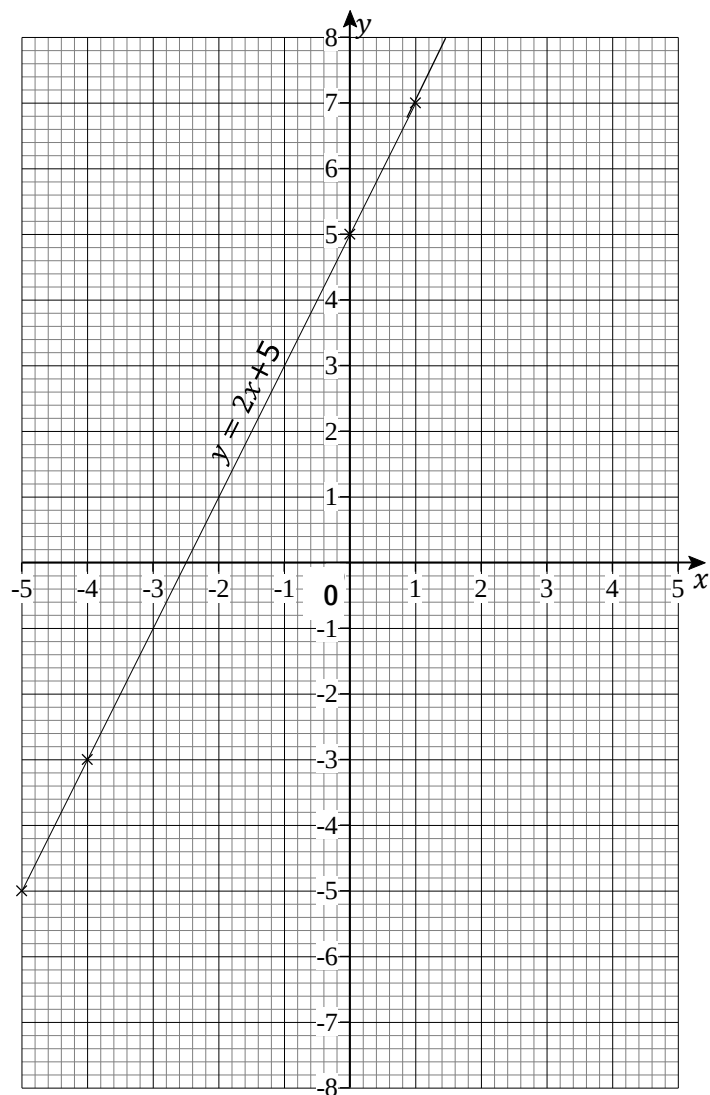
Ans: _____

- c) Solve. $4(3x + 2) = 38 - 3x$

Ans: _____

(8 marks)

11. The graph below represents the line $y = 2x + 5$.



- a) Complete the table below and plot the line $y = 2x - 1$.

x	-3	0	4
$2x$		0	
-1		-1	
y		-1	

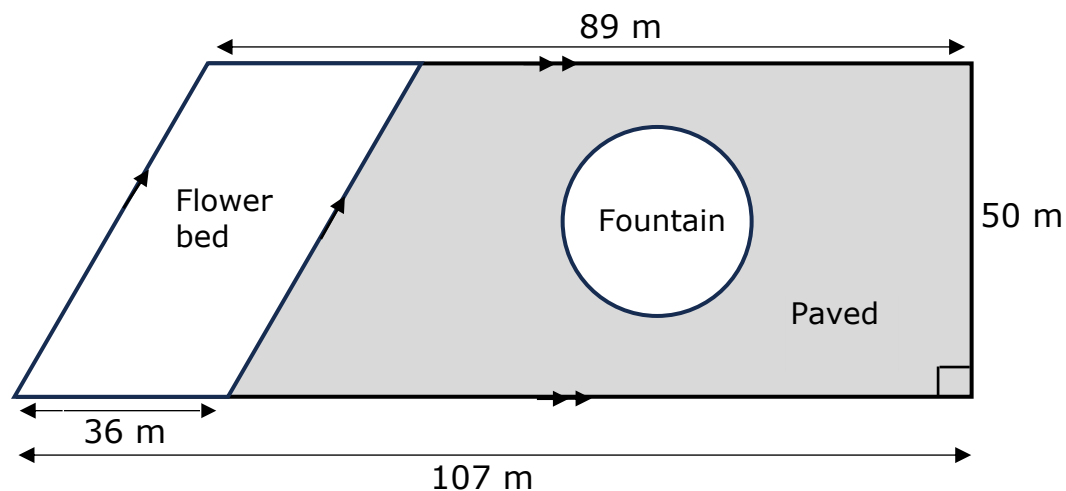
- b) Using the equation of line $y = 2x + 5$ and line $y = 2x - 1$, explain why these two lines are parallel.

- c) Does the point $(-6, 9)$ lie on the line $y = 2x - 1$? Show your working.

Ans: _____
(6 marks)

12. Xarolla Local Council presented the diagram below as the sketch of a new public garden in the shape of a trapezium.

Diagram not drawn to scale



- a) Calculate the area of the whole public garden.

Ans: _____

- b) Calculate the area of the fountain of radius 7 m.

Ans: _____

- c) Calculate the shaded paved area.

Ans: _____

(8 marks)

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