



Annual Examinations for Middle Schools 2024

YEAR 7

MATHEMATICS

MARKING SCHEME

Types of Marks

Method marks are awarded for knowing a correct method of solution and attempting to apply it. Method marks cannot be lost for arithmetic mistakes. They can only be awarded if the method used would have led to the correct answer had not an arithmetic mistake been made. Unless otherwise stated, any valid method not specified in the marking scheme is to be accepted and marked accordingly.

There are two types of Method marks: **M** marks and **(M)** marks.

- **M marks** are only awarded if method is seen.
- **(M) marks** are awarded even when a correct answer is given, and no work is shown.

There are two types of Accuracy marks: **A** marks and **B** marks.

- **A** marks are accuracy marks given for correct answer only (c.a.o.).
 - * Incorrect answers, even though nearly correct, score no marks.
 - * Accuracy marks are also awarded for incorrect answers which are correctly followed through (f.t.) from an incorrect previous answer, **provided that f.t. is indicated in the marking scheme.**
 - * No Method marks **M/(M)** or Accuracy marks **A** are awarded when a wrong method leads to a correct answer.
 - * When a question is assigned **M** and **A** marks and students present a correct answer without any working, only **A** marks are awarded.
- **B** marks are accuracy marks awarded for specific results or statements independent of the method used.

Misreading

Method marks can still be earned (unless that part of the question is trivialised) but the final Accuracy marks are lost.

Crossed out working

An answer or working that is crossed out and not replaced is marked as if it were not crossed out. If the answer or working is replaced, then the crossed out answer or working is ignored and should not be considered for marking.

Units

In general, missing or inaccurate units are not penalised unless otherwise indicated in the marking scheme.

Other

- Incorrect working or statement following a correct answer is ignored.
- Marks are not sub-divisible; no half marks may be awarded.
- Other abbreviations used:
 - o.e. (or equivalent)
 - e.e.o.o. (each error or omission)
- Markers are advised to indicate the M, (M), A or B marks awarded in the body of the script and then write their total in the margin. The total mark for each question should be written in the table included at the top of page 1 of the main paper. This measure facilitates the moderation of papers.

NON-CALCULATOR PAPER (20 marks)

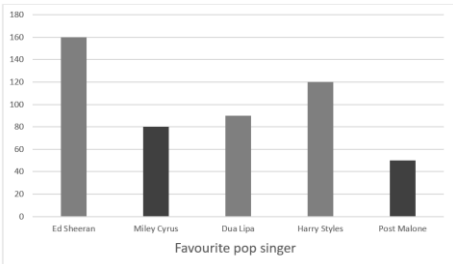
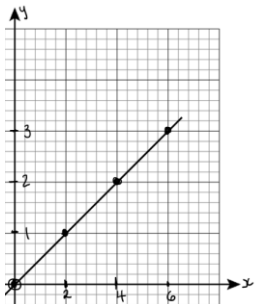
Questions 1-10 (1 mark each) and questions 11-15 (2 marks each)

Que.	Requirements	Mark		Additional Guidance
1	3.1	B1	1	
2	30 000	B1	1	
3	59.089	B1	1	
4	0.14	B1	1	
5	6.5	B1	1	
6	42 st	B1	1	
7	60	B1	1	
8	– 13	B1	1	
9	7260	B1	1	
10	29	B1	1	
11	$180^\circ - 115^\circ = 65^\circ$ $x = 65^\circ$	(M)1 A1	2	
12	Choosing prime nos 2, 5, 13 and 29 $P(\text{prime}) = \frac{4}{10} = \frac{2}{5}$	(M)1 A1	2	
13	$64 - 64$ $= 0$	(M)1 A1	2	
14	$\frac{15}{35} + \frac{14}{35}$ $= \frac{29}{35}$	(M)1 A1	2	
15	$59 - 7 = 52$ $52 \div 4 = 13$	(M)1 A1	2	

MAIN PAPER (80 marks)

Que.	Requirements	Mark		Additional Guidance
1	a) Five million eight hundred and three thousand	B1	4	
	b) i) $0.5 \times 982\,416$ $= 491\,208$ ii) 491 000	(M)1 A1 A1 f.t.		
2	a) Nets A, C and E	B3	7	B1 for each correct net
	b) 90 FD 110 RT 90 FD 50	B4		B1 for each correct entry

3	a)	$156 \div 15 = 10.4$ 11 boats	M1 A1	8										
	b)	$\text{€}187.50 \times 11$ $= \text{€}2062.50$	(M)1 A1 f.t.		f.t. from a)									
	c)	i) $\frac{15}{100} \times 2062.50 = 309.375$ $= \text{€}309.38$ ii) $\text{€}2062.50 - \text{€}309.38$ $= \text{€}1753.12$	M1 A1 f.t. (M1) A1 f.t.		f.t. from b) f.t. from b) and ci)									
4	a)	$\frac{3}{5} \times 120$ $= 72$	M1 A1	10										
	b)	$\frac{30}{100} \times 120 = 36$ $120 - 72 - 36$ $= 12$	M1 A1 f.t.		f.t. from a)									
	c)	Menu A: $15 \times 2.25 \times 72 = \text{€}2430$ $2.5 \times 36 = \text{€}90$ $\text{€}2430 + \text{€}90 + \text{€}60 = \text{€}2580$ Menu B: $\text{€}2200 + \text{€}40 + \text{€}60 = \text{€}2300$ Menu B is cheaper by $\text{€}280$.	M1 M1 A1 f.t. A1 B1 A1		f.t. from a) and b)									
5	a)	<table><tr><td></td><td>One right angle</td><td>No right angles</td></tr><tr><td>Two equal sides</td><td>D</td><td>F</td></tr><tr><td>No equal sides</td><td>B G</td><td>A C E</td></tr></table>		One right angle	No right angles	Two equal sides	D	F	No equal sides	B G	A C E	B4	5	-1 e.e.o.o.
		One right angle	No right angles											
Two equal sides	D	F												
No equal sides	B G	A C E												
	b)	D and F	B1		both correct									
6	a)	$5x + 30 = 70$ $5x + 30 - 30 = 70 - 30$ $\frac{5x}{5} = \frac{40}{5}$ $x = 8$	M1 M1 M1 A1	6	for expanding brackets for subtracting both sides by 30 for dividing both sides by 5									
	b)	$(6 \times 7) + 3(11 + 4)$ $42 + 45$ $= 87$	M1 A1											
7			B4	4	B1 for each correct mark Arrow D anywhere between C and B Arrow E anywhere between A and B									
8	a)	an isosceles	B1	6	(M)1 for addition f.t. from b)									
	b)	$b = 15 \text{ m}$	A1											
	c)	House: $A = 15 \times 19 = 285 \text{ m}^2$ Terrace: $A = \frac{15 \times 15}{2} = 112.5 \text{ m}^2$ T.A. $= 285 + 112.5$ $= 397.5 \text{ m}^2$	M1 M1 (M)1 A1 f.t.											

9	a)	26 Sundays	B1	4	Accept also 2024 is divisible by 4
	b)	Wednesday	B1		
	c)	Monday	B1		
	d)	Yes because February has 29 days and not 28 days	B1		
10	a)	$7.45 + 7.49 + 7.49 + 7.53 + 7.56 + 7.60$ $= \frac{45.12}{6}$ $= €7.52$	(M)1 M1 A1	7	Award M1 for dividing by 6
	b)	$(7.49 + 7.53) \div 2$ €7.51	M1 A1		
	c)	€7.49	B1		
	d)	$€7.60 - €7.45 = €0.15$	A1		
11	a)	Correct line AB (± 0.2 cm) Correct line AC (± 0.2 cm) Correct line BC (± 0.2 cm) Vertices A, B and C clearly indicated	M1 M1 M1 A1	5	Construction arcs seen
	b)	Angle B = 49° ($\pm 2^\circ$)	A1		
12	a)	90 students	B1	5	f.t. from a) and b) both correct; f.t. from b) and c)
	b)	$160 \div 2 = 80$ students	A1		
	c)	$500 - (160 + 80 + 90 + 120)$ $= 50$ students	(M)1 A1 f.t.		
	d)		A1 f.t.		
13	a)	(0 , 0); (2 , 1); (4 , 2); (6 , 3)	B3	9	-1 e.e.o.o.
	b)		B1		for correct scale and labelling
	c)		M2 M1		M1 for every two correct points drawn
	d)	$x = 5$	B1		for joining points to form a straight line
	e)	$y = 1.5$	B1		