



Annual Examinations for Middle Schools 2023

YEAR 7

MATHEMATICS

MARKING SCHEME

Notes for Marking of Scripts

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 25 marks

Quest.		Requirements	Mark		Additional Guidance
1	a)	7.1 7.3	B1 B1	4	
	b)	4.1 4.85	B1 B1		
2	a)	− 2	B1	4	
	b)	8 + 18 ÷ 18 8 + 1 9	M1 M1 A1		
3	a)	Correct rounding Accept answers from 20 to 22	M1 A1	4	
	b)	Valid attempt at dividing 22	M1 A1		
4	a)	102	B1	3	
	b)	14 + 13 27	(M)1 A1		
5		$4x + 34 - 34 = 90 - 34$ $4x = 56$ $\frac{4x}{4} = \frac{56}{4}$ $x = 14$	M1 (M)1 A1	3	
6	a)	40	B1	4	
	b)	$\frac{3}{12} + \frac{11}{12}$ $\frac{14}{12} = \frac{7}{6}$ $1\frac{1}{6}$	M1 M1 A1		
7		Attempt at changing all numbers to decimals or fractions $1\frac{4}{5}$, 1.64, 75%	M1 A1 A1	3	Identifying largest value All correct

Main Paper 75 marks

Quest.		Requirements	Mark		Additional Guidance
1	a)	Forty three thousand and ninety two	B2	6	
	b)	15 763 placed first 15 763, 16 573, 16 753, 51 763	B1 B1		All correct
	c)	Cancelling $\frac{3}{22}$	(M)1 A1		
2		<div> <div>Next summer, I will go swimming.</div> <div>Finding a prime number between 48 and 52.</div> <div>Picking an even number from 102, 112, 124, 148.</div> <div>Getting a head when tossing a coin.</div> <div>The probability that the first person you meet was born in February.</div> </div> <div> <div>Evens</div> <div>Impossible</div> <div>Very Likely</div> <div>Very Unlikely</div> <div>Certain</div> </div>		4	

3			Factors of 18	Factors of 20	B3	3	−1 e.e.o.o.	
		Odd	3	9				5
		Even	6	18				4
4	a)	i) 0.04			B1	4		
		ii) $\frac{1}{25}$			B1			
	b)	$\frac{1}{25} \times \frac{5760}{1}$ €230.40			M1 A1 ft			
5	a)	$5p - 2h$			B1 B1	7		
	b)	i) $3w + d$			B1 B1			
		ii) $3(18)$ $54 + 15$ 69			M1 (M)1 A1			
6		€1.95 × 4 = €7.80 €1.65 × 2 = €3.30 €1.20 × 1.5 = €1.80 €7.80 + €3.30 + €1.80 = €12.90 €15.51 − €12.90 = €2.61 €2.61 ÷ 1.8 €1.45			 M1 (M)1 (M)1 M1 A1	5		
7	a)	True			B1	7		
	b)	True			B1			
	c)	True			B1			
	d)	False			B1			
	e)	False			B1			
	f)	True			B1			
	g)	True			B1			
8	a)	$\frac{873}{9}$ 97			(M)1 A1	7		
	b)	96			B1			
	c)	Ordered numbers 96			M1 A1			
	d)	$149 - 78$ 71			(M)1 A1			
9	a)	$p = 82^\circ$ Alternate angles are equal			A1 M1	9		
		$q = 180^\circ - 82^\circ$ = 98° Angles on a straight line add up to 180°			A1 ft M1			

		$r = 360^\circ - (82^\circ + 98^\circ + 36^\circ)$ $= 144^\circ$ Angles in a quadrilateral add up to 360°	A1 ft M1		
		$s = 36^\circ$ Vertically opposite angles are equal	A1 M1		
	b)	No, because the opposite angles are not equal Or No, because it has only one pair of parallel lines since $p \neq 36^\circ$.	B1		Accept other valid reasons
10	a)	i) 15:40 – 13:30 2 h 10 min	(M)1 A1	6	
		ii) 130 mins	B1		
	c)	i) 15:40 + 1 hr 45 minutes = 17:25 5:25 p.m.	M1 A1		
		ii) 	B1 ft		
11	a)	A (–2, 3) B (1, 3)	B1 B1	7	
	b)	Correct plotting of points D, E and F	B2		B1 for 2 points plotted correctly
	c)	Joining points H (–5, 1)	B1 B1		
	d)	an octagon	B1		
12	a)	$13 \times 5 = 65 \text{ cm}^2$ $13 \times 6 = 78 \text{ cm}^2$ $7 \times 4 = 28 \text{ cm}^2$ Total area = 171 cm^2	M1 M1 M1 A1	10	Accept other valid methods
	b)	$\frac{€26}{100} = €0.26$ $€0.26 \times 171$ €44.46	(M)1 A1 ft		
	c)	$13 \times 5 \times 8 = 520 \text{ cm}^3$ $13 \times 6 \times 8 = 624 \text{ cm}^3$ $7 \times 4 \times 8 = 224 \text{ cm}^3$ Total volume = 1368 cm^3	M1 M1 M1 A1		Accept other valid methods