

Annual Examinations for Secondary Schools 2022

YEAR 10	MATHEMATICS	MARKING SCHEME
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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

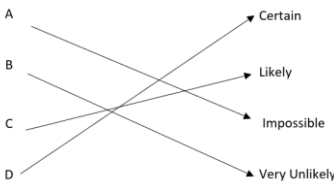
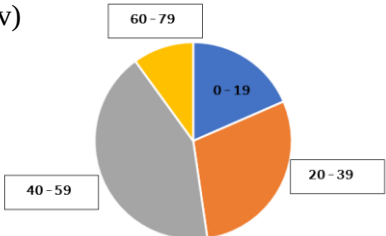
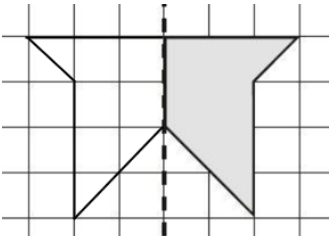
- Incorrect working or statement following a correct answer is ignored.
- Marks are not sub-divisible; no half marks may be awarded.
- Other abbreviations used:
 - o.e. (or equivalent)
 - e.e.o.o. (each error or omission)
- Markers are advised to indicate the M, (M), A or B marks awarded in the body 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.

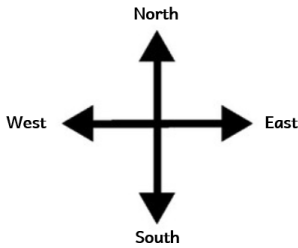
NON-CALCULATOR PAPER (25 marks)

Question		Requirements			Marks		Additional Guidelines										
1	a)	64			B1	4											
	b)	54			B1												
	c)	120			B1												
	d)	7			B1												
2	a)	<table><tr><td>Number</td><td>Multiply by 100</td><td>Divide by 10</td></tr><tr><td>23.4</td><td>2340</td><td>2.34</td></tr><tr><td>35.25</td><td>3525</td><td>3.525</td></tr></table>			Number	Multiply by 100	Divide by 10	23.4	2340	2.34	35.25	3525	3.525	B4	4		
					Number	Multiply by 100	Divide by 10										
					23.4	2340	2.34										
					35.25	3525	3.525										
3	a)	2			B1	4	o.e.										
	b)	2.5			B1												
	c)	1500			B1												
	d)	4600			B1												
4	a)	$x = 3 + 4 = 7$ $y = 18 - 3 = 15$			(M)1 A1 (M)1 A1	6											
	b)	$18 + 3 + 15 + 4 + 3 + 7 = 50$			M1 A1 ft												
5	a)	$86 + 14 = 100$ $100 \div 5 = 20$			B1 B1	7											
	b)	$-10, -8, -2, 4, 10$			B5												

MAIN PAPER (75 marks)

Question		Requirements	Marks		Additional Guidelines
1	a)	i) 90 ii) 800 iii) 9000	B1 B1 B1	5	
	b)	$72000 \div 9000 = 8$	(M)1 A1		
2	a)	2.785, 25.78, 27.58, 27.85, 257.8, 278.5	B3	6	B1 for smallest number B1 for largest number B1 for correct order
	b)	i) $717.973 \div 2.785$ 257.8	(M)1 A1		
		ii) 258	B1		

Question		Requirements	Marks		Additional Guidelines
3	a)		B3	6	
	b)	i) $\frac{1}{6}$	B1		
		ii) $\frac{1}{2}$	B1		o.e.
		iii) $\frac{2}{3}$	B1		o.e.
4	a)	i) $4 + 38 + 55 + 13$ 130	M1 A1	10	
		ii) $40 - 59$	B1		
		iii) $38 + 55 + 13$ 106	M1 A1		
		iv) 	B3		
	b)	$\frac{25}{100} \times 300 = 75$	M1 A1		
5	a)	i) $150 \div 2 = \text{€}75$	(M)1 A1	8	
		ii) $150 + 150 + 75 = \text{€}375$	M1 A1 ft		
		iii) $\frac{75}{100} \times 375$ $\text{€}281.25$	M1 A1 ft		
	b)		B2		
6	a)	7th June	B1	5	Accept 7th
	b)	5	B1		
	c)	$5 + 5 + 2 = 12$	(M)1 A1		
	d)	Saturday	B1		

Question		Requirements	Marks		Additional Guidelines
7	a)	i) 23 , 35 , 47 , 59 , 71	B2	6	-1 e.e.o.o
		ii) 65 , 56 , 47 , 38 , 29	B2		-1 e.e.o.o
	b)	Start with 6, then multiply by 2	B1 B1		
8	a)	i) $\frac{6}{10} + \frac{3}{10} = \frac{9}{10}$	M1 A1	6	
		ii) $\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$	M1 A1		
	b)	$240 \div 12 = 20$ $20 \times 5 = \text{€}100$	M1 A1		
9	a)	Any 4 correct tesslations	B4	4	
10	a)	A of rectangle = $20 \times 8 = 160$ A of triangle = $(10 \times 12) \div 2 = 60$ Total Area = $160 + 60 = 220$	M1 A1 M1 M1 A1 M1 A1	11	M1 for side 12 cm
	b)	$V = 2.5 \times 2.5 \times 2.5$ $V = 15.625$	M1 A1		
	c)	$15 \div 2 = 7.5$	(M)1 A1		
11	a)	i) acute angle ii) right-angle iii) 180°	B1 B1 B1	8	Accept acute only Accept right only
		$180 - 90 - 65 = 25^\circ$	M1 A1		
	c)		B3		