Annual Examinations for Secondary Schools 2016

FORM 1	MATHEMATICS	MARKING SCHEME

Notes for Marking of Scripts

Types of Marks

- **M**(ethod) 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. In general a correct method is implied by a correct answer and therefore **when a correct answer is given and no work is shown, no method marks are lost**.
- **A**(ccuracy) marks are 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 (M) or accuracy (A) marks are awarded when a wrong method leads to a correct answer.
- **B** marks are accuracy marks awarded for specific results or statements independent of the method used.

Misreading

M marks can still be earned (unless that part of the question is trivialized) but the final A marks are lost.

Crossed out working

An answer or working that is crossed out and not replaced is marked as if it was 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.
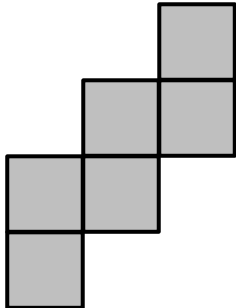
Other

- ➢ 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, 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

No.		Answers	Marks	Total
1.	a)	7.25	B1	2
	b)	145° (± 20°)	B1	
2.	a)	9 + 21 = 30	M1 (valid attempt)	4
		30 × 7 = 210	A1	
	b)	80 ÷ 10 = 8		
		19 − 8 = 11	M1 (valid attempt)	
		+ 11	A1 (both seen)	
3.	a)	Valid attempt at addition of decimals	M1	4
		66.1	A1	
	b)	Valid attempt at subtraction of decimals	M1	
		7.2	A1	
4.	a)	i) $\frac{4}{100} \times 700$	M1	5
		28	A1	
		ii) 672	B1	
	b)	672 ÷ 12	M1	
		56	A1	
5.		Double **32**	B1	5
		8^2	B1	
		131 − **67**	B1	
		4 + **60**	B1	
		10	B1	
6.	a)	i) 30, seagull	B1 B1	5
		ii) anchor	B1	
	b)	−15 + 20 − 5	M1	
		0	A1	
		TOTAL: 25 MARKS		

Main Paper

No.		Answers	Marks	Total
1.	a)	4	B1	5
	b)	5 *or* 7	B1	
	c)	15.6025	B1	
	d)	395	B1	
	e)	Tenths *or* $\frac{9}{10}$ *or* 0.9	B1	
2.	a)	i) True	B1	4
		ii) False	B1	
	b)	i) circle	B1	
		ii) 4	B1	
3.	a)	$x = 51 - 17$	M1	6
		$x = 34$	A1	
	b)	$4y$	B1	
	c)	$2 + 7(9 + 3)$ (seen or implied)	M1	
		$2 + 7(12)$	M1	
		86	A1	
4.	a)	i) $a = 49°$	B1	9
		Angles in a triangle add up to 180° or working shown	B1	
		ii) $b = 131°$	B1 (f.t.)	
		Angles on a straight line add up to 180° or working shown	B1	
		iii) c = 70°	B1	
		Corresponding angles are equal	B1	
		iv) d = 102°	B1	
		Vertically opposite angles are equal	B1	
	b)	Any reflex angle correctly marked	B1	
5.	a)	(6, 2)	B1 B1	6
	b)	Correct plotting of points D and E	M1 M1	
	c)	Pentagon	B1	
	d)	No	B1	

6.	a)	Attempt at simplifying	M1	4
		$\frac{1}{5}$	A1	
	b)	$5 \times 5 \times 5$	M1	
		125	A1	
7.	a)		B1	6
	b)	6	B1	
		$8 \times 2 = 16$	M1 A1	
	c)	No	B1	
		Karen used an odd number of squares.	B1	
		(Accept any other valid reason)		
8.	a)	6, 5, 3	B2 (−1e.e.o.o.)	8
	b)	7	B1	
	c)	Strawberry cake	B1	
	d)	$\frac{5}{25} = \frac{1}{5}$	M1 A1	
	e)	Bar chart completed correctly	B2 (f.t.)	
			(B1 for every 2 correct bars)	
9.	a)	i) 90 , 1.50	B1 B1	8
		ii) (75c × 22) + (90c × 4) + (€1.50 × 4) (o.e.)	M1 for at least 1 correct	
			multiplication	
			M1 for adding	
		€26.10	A1 (f.t.)	
	b)	i) 1 hour 20 minutes	B1	
		ii) Minute hand drawn on the 9	B1	
		Hour hand drawn **nearly** on the 10	B1	
10.	a)	i) 9	B1	6
		ii) 7	B1	
		iii) 3, 4	B1 (both correct)	
	b)	72 ÷ 7 = 10.2857...	M1 M1	
		10.3	A1	

11.	a)	Breadth = $(10 - 6) \div 2 = 2$	M1 A1	6
		Length = $6 + 2 = 8$ (o.e.)	B1	
	b)	Area of smaller square = 36	M1	
		Area of one rectangle = 16	M1 (f.t. from a)	
		9 : 4	A1	
12.	a)	Construction of side XY ($\pm$ 0.2 cm)	M1	7
		Construction of side XZ - arc seen ($\pm$ 0.2 cm)	M1	
		Construction of side YZ - arc seen ($\pm$ 0.2 cm)	M1	
		Triangle XYZ correctly joined	A1	
	b)	46° ($\pm$ 1°)	B1	
	c)	7.3 + 8.1 + 10 (seen or implied)	M1	
		25.4	A1	

TOTAL : 75 MARKS