DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Curriculum Management and eLearning Department
Educational Assessment Unit

D

Annual Examinations for Secondary Schools 2014

FORM 5 MATHEMATICS SCHEME D 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

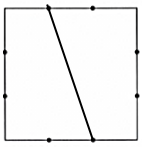
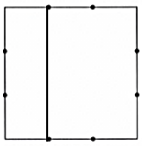
- Incorrect working or statement following a correct answer is ignored.
- Marks are not sub-divisible; no half marks may be awarded.
- Other abbreviations used:
  - o.e. (or equivalent)
  - e.e.o.o. (each error or omission)
- Markers are advised to indicate the M, A or B marks awarded in the body of 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 (20 marks)

Que.		Requirements	Mark		Additional Guidance
1	a	i	B1	2	
	b	700	B1		
2	a	25, 31	B1	2	
	b	25 – 10 = 15	M1		Seen or implied F.t. from answer in a)
3	a	11, 13, 17, 19	B1	2	In any order
	b	$^4/_9$	B1		
4	a	2, 1	B1	3	not 1, 2
	b	€30 × 2 + €50 or other valid method €110	M1 A1		Seen or implied
5		Correct drawing of shape	B1	1	
6		70 × 2 – 65 or other valid method 75	M1 A1	2	Seen or implied
7		Angle C = 80	B1	3	
		180 – 160 Angle A = 20	M1 A1		Seen or implied
8	a	€5.60 ÷ 2 = €2.80	B1	3	Award mark for correct method
	b	€7.50 ÷ 3 = €2.50	B1		Award mark for correct method
	c	30	B1		
9		<table><tr><th></th><th>REGULAR</th><th>IRREGULAR</th></tr><tr><td>INTERIOR ANGLES ADD UP TO 180°</td><td></td><td>Scalene Triangle</td></tr><tr><td>INTERIOR ANGLES ADD UP TO 360°</td><td>Square</td><td>Rectangle</td></tr></table>	B2	2	Award **one** mark for just **one** correct answer

Main Paper (80 marks)

<table>
<tr><th colspan="2">Que.</th><th>Requirements</th><th colspan="2">Mark</th><th>Additional Guidance</th></tr>
<tr><td rowspan="2">1</td><td>a</td><td>13,850</td><td>B1</td><td rowspan="2">4</td><td></td></tr>
<tr><td>b</td><td>Correct matching</td><td>B3</td><td>1 mark for each correct match</td></tr>
<tr><td rowspan="3">2</td><td>a</td><td>$\frac{1}{3}$</td><td>B1</td><td rowspan="3">4</td><td></td></tr>
<tr><td>b</td><td>5 and 1</td><td>B2</td><td>1 mark for each correct answer</td></tr>
<tr><td>c</td><td>10</td><td>B1</td><td></td></tr>
<tr><td rowspan="3">3</td><td>a</td><td><table><tr><th>Alan</th><th>Time</th></tr><tr><td>Leaves school</td><td>14:40</td></tr><tr><td>Arrives home</td><td></td></tr><tr><td>Starts homework</td><td>quarter to five</td></tr><tr><td>Goes to sleep</td><td>10.55 p.m.</td></tr></table></td><td>B3</td><td rowspan="3">6</td><td>Award one mark for each correct entry</td></tr>
<tr><td>b</td><td>Valid method
50 minutes</td><td>M1
A1</td><td>Seen or implied</td></tr>
<tr><td>c</td><td>E.g.: Sleeping</td><td>B1</td><td></td></tr>
<tr><td rowspan="2">4</td><td>a</td><td>$20 \div 2 = 10$; $12 \div 2 = 6$; $8 \div 2 = 4$ o.e.
$10 \times 6 \times 4$
240</td><td>M1
M1
A1</td><td rowspan="2">5</td><td>Seen or implied
Seen or implied</td></tr>
<tr><td>b</td><td>Yes
4 is a factor of 8, 12 and 20 or 8, 12 and 20 are multiples of 4</td><td>B1
B1</td><td>Accept any other valid reason</td></tr>
<tr><td rowspan="2">5</td><td>a</td><td>17 48 24</td><td>B3</td><td rowspan="2">6</td><td>1 mark for each answer</td></tr>
<tr><td>b</td><td>30 –6 120</td><td>B3</td><td>1 mark for each answer</td></tr>
<tr><td rowspan="6">6</td><td>a</td><td>|||</td><td>B1</td><td rowspan="6">8</td><td></td></tr>
<tr><td>b</td><td>Correct plotting of points</td><td>B3</td><td>–1 e.e.o.o.</td></tr>
<tr><td>c</td><td>Correct drawing of straight line</td><td>B1</td><td></td></tr>
<tr><td>d</td><td>Valid coordinates</td><td>B1</td><td>Not one of the given points</td></tr>
<tr><td>e</td><td>30</td><td>B1</td><td></td></tr>
<tr><td>f</td><td>$y = \frac{x}{2}$</td><td>B1</td><td></td></tr>
</table>

Que.		Requirements	Mark		Additional Guidance
7	a	16:00	B1		
	b	5	B2		
	c	Values adding up to 60 60 ÷ 8 7.5	M1 M1 A1		Seen or implied Seen or implied
	d	2.0 – 0.8 1.2	M1 A1	12	
	e	(20 + 22) ÷ 2 21	M1 A1		Seen or implied
	f	Valid reason	B2		Higher/greater wind speed or wave height
8	a		B1		Or equivalent
	b	9 × 9 ÷ 2 40.5	M1 A1		Seen or implied
	c		B1	7	Or equivalent
	d	Correct Shading 9 + 6 + 9 + 6 30	B1 M1 A1		Seen or implied
9	a	Joanne	B1		
	b	4.8	B1		
	c	5.3 – 4.2 1.1	M1 A1	6	Seen or implied
	d	Yes Boys' average/total/mean is greater than that of the girls'	B1 B1		Accept any other valid reason

Que.		Requirements	Mark		Additional Guidance
10	a	40%	B1		
	b	30	B1		
	c i)	100 ÷ 2 50	M1 A1	6	Accept any other valid method
	ii)	25 × 5 125	M1 A1		Accept any other valid method
11	a	10 + w	B1		
	b i)	10 + w + 10 + w + 6 + 6 32 + 2w	M1 A1		Seen or implied Accept 2w + 32
	ii)	6 × 10 60	M1 A1	8	Seen or implied
	iii)	6 × w 6w	M1 A1		Seen or implied
	iv)	60 + 6w	B1		F.t. from b ii) and iii)
12	a	12.50 + 27 + 16 + 54 109.50	M1 A1		Seen or implied
	b	27 ÷ 12 €2.25	M1 A1		Seen or implied
	c	54 ÷ 3 €18	M1 A1	8	Seen or implied
	d	Yes Valid reason	B1 B1		Comparing journey A with C