

**Annual Examinations for Secondary Schools 2014**

**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	Level	Total	
1.	a	$349 + 382$ or $513 + 218$ $= 731$	M1 A1	7	4
	b	12.4	B1	7	
	c	2,800,000	B1	7	
2.	a	$24.99 + 6.80 + 12.59 = €44.38$ yes	M1 A1	7	4
	b	accept any correct method $= 1392$	M1 A1	7	
3.	a	-36	B1	7	2
	b	11	B1	7	
4.	a	$1000 - 270 = 730$	B1	7	2
	b	$3.5 \times 60 = 210$	B1	7	
5.	a	7.5	B1	7	4
	b	dessert = $100 - 30 - 45 = 25\%$ $\frac{25}{100} \times 420$ accept any other correct method $= 105$	M1 M1 A1	8	
6.	ai	1, 2, 3, 4, 6, 9, 12, 18, 36	B2 (B1 for 5 correct factors)	7	5
	aii	1, 4, 9, 36	B1 (f.t.)	7	
	b	accept any correct method $= 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3$ (o.e.)	M1 A1	7	
7.	a	$7 \times 27$ or $2268 \div 12$ $= 189$	M1 A1	7	4
	bi	the two fractions must add up to 1 and not more (accept any other valid reason)	M1	8	
	bii	accept two different fractions that add up to 1, such as $\frac{2}{3}$ and $\frac{1}{3}$ or $\frac{4}{5}$ and $\frac{1}{5}$	A1	7	
<b>Total Non Calculator: 25 MARKS</b>					

## Main Paper

No.	Answers	Marks	Level	Total	
1.	a	-25	B1	7	4
	bi	6527.99	B1	7	
	bii	6528.0	B1	7	
	c	$\frac{1}{2}$ , 1 (o.e.)	B1	7	
2.	a	three hundred and twenty four thousand, five hundred and eight	B1	7	6
	b	valid attempt to find LCM = 36	M1 A1	8	
	c	3 : 8	B1	7	
	d	$6.4 \times 25000$ = 160000	M1 A1	7	
3.	0.7008, 0.0908, 0.085, 0.079, 0.0098	B2 (B1 for placing either smallest or largest correctly)	7	2	
4.	a	square and equilateral triangle	B1, B1	7	7
	bi	square has all sides equal while rectangle has opposite sides equal (o.e.)	B1	7	
	bii	rectangle has 4 right angles while parallelogram does not have any right angles (o.e.)	B1	7	
	biii	parallelogram has opposite sides parallel while trapezium has 1 pair of opposite sides parallel (o.e.)	B1	7	
	ci	circumference	B1	7	
	cii	radius	B1	7	
5.	a	$\frac{1}{10}$ (o.e.)	B1	7	2
	b	1 (o.e.)	B1	7	
6.	a	$h \rightarrow \times 60 \rightarrow m$	B1 (all correct)	7	
	b	$28 - 4 + 3$ = 27	M1 A1	7	

No.	Answers	Marks	Level	Total	
	ci	75	B1	7	6
	cii	accept any correct method = 30	M1 A1	7	
7.	a	accurate drawing of line PR and angle QPR completion of drawing of triangle	M1, M1 A1	7	4
	b	yes accept any three acute angles that add up to $180^\circ$	B1 (both correct)	7	
8.	a	108 (addition) $\frac{108}{9} = 12$	M1 A1 (f.t.)	7	3
	b	14	B1	7	
9.		$180 - 38 = 142$ angles in an isosceles triangle $b = \frac{142}{2} = 71$  $c = 180 - 71 - 58$ (seen or implied) angles at a point $c = 51$  alternate angles $d = 63$  $e = 125 - 63$ (seen or implied) corresponding angles $e = 62$	M1 M1 A1  M1 M1 A1 (f.t.)  M1 A1  M1 M1 A1 (f.t.)	7	11
10.	a	labelling of horizontal and vertical axes correct drawing of bars	M1 M1 A1	7	5
	b	no since data is grouped, the five students could have obtained any mark between 81 and 100 (or any other valid reason)	B1 B1	7	
11.	a	collecting like terms = $20a - 7b$	M1 A1	7	
	b	$5 + 9$ (seen or implied) = 14	M1 A1	7	

No.	Answers	Marks	Level	Total
	ci $4x - 7$ $4x - 7 = 29$	M1 A1	7	8
	cii $4x = 36$ $x = 9$	M1 A1 (f.t.)	7	
12.	a drawing the 2 lines RS and PS and forming the required parallelogram point S in correct position, including labelling	M1 A1	7	3
	b $S = (-2, 4)$	B1	8	
13.	a $2 \text{ lengths} = 180 \times 2 = 360$ $2 \text{ widths} = 420 - 360 = 60$ $\text{width} = \frac{60}{2} = 30$	M1 M1 A1	8	10
	b $15 \times 9 = 135$ $\frac{1}{2} \times 5 \times 9 = 22.5$ accept any other correct method $\text{area} = 135 + 22.5 = 157.5$	M1 M1 A1	7	
	c $8 \times 2 = 16$ $5 \times (8 - 3 - 3) = 10$ area of cross section = $16 + 10 = 26$ accept any other correct method $\text{volume} = 26 \times 2 = 52$	M1 M1 M1 A1 (f.t.)	7	
14.	a correct plotting of the three points drawing of the required line by joining the points	M1 (all correct) A1	7	4
	b $y$ is twice $x$ accept any other correct method $y = 2x$	M1 A1	7	
<b>Total Main: 75 MARKS</b>				