



**Annual Examinations for Secondary Schools 2015**

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**FORM 5    MATHEMATICS TRACK 1    MARKING SCHEME**

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**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)

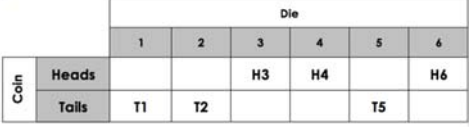
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
$1\frac{2}{5}$	$-6 + -4 = -1 \times 10$ $-1 \times -10 = 5 \times 2$	25	10	C, A, B, D (o.e.)	30	36

<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
$\frac{d}{e}$	8	an enlargement	48	A or $6x + 3$	25	

<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
10	8	B or 37	3	C or 1	2 or 9

### Main Paper (80 marks)

Que.	Requirements	Mark	Additional Guidance
<b>1</b>	Matching correctly	B4 4	Award 1 mark for each correct match
<b>2</b>	a $7 \times 2 = 6 + 8$	B2	4 Both signs correct
	b $22 - 20 \div 2$	B2	
<b>3</b>	a 8 and 5	B2	6 Award 1 mark for each correct answer
	b 13	B2	
	c 4 and 1	B2	
<b>4</b>	a $\frac{1}{2}$ of 24 12	M1 A1	6 Seen or implied Accept any other valid method
	b $\frac{3}{8}$ of 24 9	M1 A1	
	c $24 - 12 - 9$ 3	M1 A1	

Que.	Requirements	Mark	Additional Guidance
5	a $18 \div 2$ 9	M1 A1	5 Seen or implied
	b $\pi \times 9^2 \div 2$ 127.234... 127	M1 M1 A1	
6	a $\frac{N}{2} - 9$	B1	7 f.t. from answer in part (a)
	b $\frac{30}{2} - 9$ 15 - 9 6	M1 M1 A1	
	c i) Smaller	B1	
	ii) $\frac{N}{2} = 9$ 18	M1 A1	
7	a 	B3	7 -1 e.e.o.o.
	b i) $\frac{3}{12}$ or $\frac{1}{4}$	B2	
	ii) $\frac{2}{12}$ or $\frac{1}{6}$	B2	
8	a $A = l \times b$ $120 \times 50$ 6000	M1 M1 A1	7 Seen or implied Seen or implied
	b 150	B1	
	c $V = l \times b \times h$ $6000 \times 150$ or $120 \times 50 \times 150$ 900,000	M1 M1 A1	

Que.	Requirements	Mark	Additional Guidance	
<b>9</b>	a	$\frac{\text{sum of temperatures}}{11}$ $186 \div 11$ 16.909...	M1 M1 A1	6 Seen or implied
	b	16	B1	
	c	Temperatures in ascending order 17	M1 A1	
<b>10</b>	a i)	cannot	B1	10 Seen or implied Seen or implied Accept any other valid method Alternate angles are equal
	ii)	$360^\circ$	B1	
	b i)	$180 - 107$ $c = 73$ Angles on a straight line	M1 A1 B1	
	ii)	$360 - 253$ $d = 107$ Angles in a quadrilateral	M1 A1 B1	
	iii)	Trapezium It has a pair of parallel sides	B1 B1	
<b>11</b>	a	Correct sketch of triangle	B2	8 Award 1 mark for a right-angled triangle at Q Award 1 mark for correct distances of QR and QP Award 1 mark for length QR correct to $\pm 0.2$ cm Award 2 marks for correct drawing of right angle Award 1 mark for length QP correct to $\pm 0.2$ cm Award 1 mark for joining PR $\pm 0.2$ cm
	b	Correct construction of triangle	B5	
	c	13 cm	B1	

Que.		Requirements	Mark	Additional Guidance	
12	a i)	A 7	B1	Award mark if A only is given	
	ii)	$\frac{3 \times 7 - 5}{2}$	M1		
		$\frac{21 - 5}{2}$	M1		
	b	$6x + 2 = 17$	M1	10	Award method marks if steps are not seen but correct answer is provided
		$6x = 17 - 2$	M1		
$6x = 15$		M1			
$x = 15 \div 6$		M1			
c	$x = 2.5$	A1	Seen or implied		
	$\frac{x}{5} = 7 + 3$	M1			
	$x = 10 \times 5 = 50$	A1			