Annual Examinations for Secondary Schools 2014

FORM 5 MATHEMATICS SCHEME C 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	C or -5×-3	B1	1	
2	40	B1	1	
3	38	B1	1	
4	15	B1	1	
5	B or 40°	B1	1	
6	36	B1	1	
7	2, 1	B1	1	not 1, 2
8	D or Trapezium	B1	1	
9	21:50	B1	1	o.e.
10	Correct drawing of shape	B1	1	
11	$3/8$	B1	1	
12	$3(3x - 4)$	B1	1	
13	A or 40°	B1	1	
14	**Four** parts shaded	B1	1	
15	30	B1	1	
16	A or $4 \times x^2$	B1	1	
17	C or Increases	B1	1	
18	B	B1	1	
19	14	B1	1	
20	C or ½	B1	1	

Main Paper (80 marks)

Que.		Requirements	Mark		Additional Guidance
1		C or $100 - 12 \times 6$	B2	2	
2	a	$\boldsymbol{x} = 7 \times 5$ $\boldsymbol{x} = 35$	M1 A1	4	Seen of implied
	b	$2\boldsymbol{x} = 8$ $\boldsymbol{x} = 4$	M1 A1		Seen or implied
3	a	$\frac{4}{7}$	B2	6	
	b	$\frac{1}{2} = \frac{4}{8}$ 1	M1 A1		Seen or implied
	c	$12 \div 4$ 3	M1 A1		Accept other valid attempts
4	a	$\frac{}{100} = \frac{}{5}$	B1 B1	6	Award one mark for 100
	b	$\frac{1}{5}$ of 70 = 14 14 + 70 = 84	B1 B1		Accept any other valid method
	c	$\frac{1}{5}$ of 84 = 16.8 16.8 + 84 = 100.8	M1 A1		Seen or implied F.t. from working
5	a	4×4 16	M1 A1	8	Seen or implied
	b	$3\boldsymbol{a} \times \underline{4} = \underline{12\boldsymbol{a}}$	B1 B1		
	c	$16 + 12\boldsymbol{a}$	B1		Accept 12a + 16
	d i)	$6\boldsymbol{a} + 16$	B1		
	ii)	Correct substitution 58	M1 A1		Seen or implied F.t. from answer in d i)

Que.		Requirements	Mark		Additional Guidance
6	a	16:00	B1	11	
	b	5	B1		
	c	60 ÷ 8 7.5	M1 A1		Seen or implied
	d	2.0 – 0.8 1.2	M1 A1		Seen or implied
	e	(20 + 22) ÷ 2 21	M1 A1		Seen or implied
	f	II	B1		
	g	Valid reason	B2		Higher/greater wind speed or wave height
7	a	Correct labelling of bearing	B1	8	Award the mark for either labelling or marking of angle
	b	180 + 34 (or any other valid method) 214°	M1 A1		Seen or implied
	c	4.8	B2		Accept answers ±0.2 cm
	d	4.8 × 20000 = 96000 cm ÷ 100 960 m	M1 M1 A1		Seen or implied Seen or implied F.t. from c) ±40 m
8	a	8 ÷ 2 4	M1 A1	9	Seen or implied
	b	$(\pi \times 4^2)$ ÷ 2 25	M1 M1 A1		Seen or implied Accept any rounded answer of 25.132…
	c	12 × 6 72	M1 A1		Seen or implied
	d	72 – 25.13… 47	M1 A1		F.t. for answer in b) and c) Ignore rounding

Que.		Requirements	Mark		Additional Guidance
9	a	Correct construction of triangle	B4	8	Award one mark each for correct lengths of AB, AC and BC (±0.1 cm) Award one mark for accurate construction of arcs
	b	90°	B2		
	c	(6 × 8) ÷ 2 24	M1 A1		Seen or implied
10	a i)	6 regular hexagon	B2	7	1 mark for each correct answer
	ii)	360°	B1		
	b i)	360 ÷ 6 = 60	M1		F.t. from a ii)
	ii)	180(6 – 2) = 720 720 ÷ 6 = 120	M1 M1 A1		Accept any other valid method E.g.: 180 – 60 = 120
11	a	30 ÷ 3 = 10; 16 ÷ 3 = 5; 11 ÷ 3 = 3 10 × 5 × 3 = 150	M1 M1 A1	7	Seen or implied Seen or implied
	b	3 × 3 × 3 = 27 27 × 150 = 4050 30 × 16 × 11 = 5280 5280 – 4050 = 1230	M1 M1 M1 A1		Seen or implied Seen or implied Seen or implied F.t.; award mark for working
12		82 – 32 = 50 92 – 32 = 60 50 + 60 = 110 60	M1 M1 M1 A1	4	Seen or implied Seen or implied Seen or implied

Question No. 15 : Accept 31 or 31.4 (Additional Guidance)