

KULLEGG SAN BENEDITTU

Secondary School, Kirkop

HALF YEARLY EXAMINATION – 2016/2017

YEAR 9 Track 1

MATHEMATICS

MARKING SCHEME

Aids 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 mark 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 were 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 mark scheme.

Other

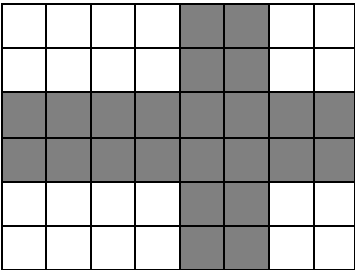
- Incorrect working or statements following a correct answer are ignored.
- Marks are not sub-divisible; no half marks may be awarded.
- Other abbreviations used:
 - o.e. (or equivalent)
 - e.e.o.o. (each error or omission)
- Markers are advised to indicate the M, A or B marks awarded in the body of 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 (25 marks)

Que.	Requirements	Mark	Additional Guidance
1		B1 B1 B1 B1	4
2	6 km 24 km 3 km 12 km	B1 B1 B1 B1	4
3	a $5 \rightarrow \times 2 \rightarrow +10 \rightarrow \text{€}20$ $26 \rightarrow -10 \rightarrow \div 2 \rightarrow 8 \text{ hours}$ b $26 - 10 = 16$ $16 \div 2 = 8$	M1 A1 M1 A1	4
4	a i) $60, \frac{3}{5}$ ii) Shading three boxes b $100\% - 38\%$ 62% c i. $\frac{1}{4}$ of $32 = 8$ ii. 50% of $40 = 20$	B1 B1 M1 A1 B1 B1	6
5	10 and (3 or 17) in any order	B1 B1	2
6	$20 \times 4 = 80$	B1	1
7	a 5 and 3 b 2 as coefficient of a Same coefficient of b c 3	B1 B1 B1 B1	4
Total		25	

Main Paper (75 marks)

Que.		Requirements	Mark		Additional Guidance
1	a	-8, -1, 0, 2, 5	B2	5	Award 1 mark if at least both largest and smallest are in place. + seen or implied
	b	$5 - (-8)$ $5 + 8$ 13	M1 M1 A1		
2		Correct matching	B1(×5)	5	
3	a	$a = 180^\circ - 50^\circ = 130^\circ$	M1 A1	6	
	b	$b = 180^\circ - (80^\circ + 60^\circ)$ $180^\circ - 140^\circ = 40^\circ$	M1 A1		
	c	$360 - (90^\circ + 90^\circ + 115^\circ)$ $360^\circ - 295^\circ = 65^\circ$	M1 A1		
4	a	$7 - (-3) = 10$	B1	3	
	b	Level 2 to level 4 = 2 floors	B1		
	c	Car park -1 to pool Level -1 to 7 = $7 - (-1) = 8$ floors	B1		
5		80 or 80.000 85 84.6	B1 B1 B1	3	
6	a	$\frac{8}{12} = \frac{2}{3}$	M1 A1	4	
	b	$\frac{2}{7} = \frac{7}{10}$	M1 A1		
7	a	8:15 p.m.	B1 B1	6	
	b	Correct position of hour and minute hand	B1 B1		
	c	2hr 15min	B1 B1		
8	a	1.75×100 seen or implied	M1	3	
	b	$1.75 \text{ cm} \times 5 = 8.75 \text{ m}$ 875 cm	M1 A1		
9	a	$P = 3a + b$	B1	3	Substitution seen or implied
	b	$P = 3a + b$ $= 3(5) + 1$ $= 15 + 1 = 16 \text{ cm}$	M1 A1		

Que.		Requirements	Mark		Additional Guidance
10	a	$\frac{20}{100} \times €800$ €160	M1 A1	4	Accept any other valid methods
	b	$800 - 160$ €640	M1 A1		
11	a	Circle +3	B1	4	Award mark even if student circles only one (+3) (-3) seen Award mark for balancing or change side change sign method.
	b	$2x + 3^{-3} = 7^{-3}$ $2x = 4$ $x = 2$	M1 M1 A1		
12	a	Drawing circle correctly	A1	4	
	b	3 correct angles of $60^\circ \pm 2^\circ$ at centre All angles correct Joining of points	M1 M1 A1		
13	a	Correct drawing of shapes 4 and 5	B1 B1	7	Award 1 mark for at least 2 correct entries
	b	6, 11, 16, 21, 26	B2		
	c	By trial and error 8 th shape or By counting on $n = 8$	M2 A1		
14	a	i) Shape A : cuboid Shape B : cone	B1 B1	8	For taking 2 grids for each side
		ii) A	B1		
	b	5 faces , 5 vertices, 8 edges	$B1 \times 3$		
	c		M1 A1		
15	a	i) Mean London $\frac{6 + 8 + 9 + 11 + 13 + 9 + 7}{7} = \frac{63}{7} = 9$	M1 A1	10	Award 1 mark for listing temperatures in ascending/descending order Ar any other valid reason
		Mean Paris $\frac{10 + 7 + 7 + 11 + 13 + 11 + 11}{7} = \frac{70}{7} = 10$	M1 A1		
		ii) Median London is 9 Median Paris is 11	M1 A1 M1 A1		
	b	Paris, It had a greater mean	B1 B1		