



KULLEGĠ SAN BENEDITTU

Secondary School, Kirkop

HALF YEARLY EXAMINATION – 2015/2016

Level
6 – 7

YEAR 8

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)

Quest.		Requirements			Mark	Additional Guidelines	Total								
1	a)	12			B1		4								
	b)	Factors of 30 Factors of 45 15			M1 M1 A1										
2		<table border="1"><tr><td>14</td><td></td><td></td></tr><tr><td></td><td>15</td><td>17</td></tr><tr><td></td><td></td><td>16</td></tr></table> $x = 16$	14				15	17			16		M1 A1	Seen or implied	2
14															
	15	17													
		16													
3	a)	110°			B1	(±10°)	2								
	b)	i. The angles in a triangle add up to 360°			B1										
4	a)	30 330			M1 A1	Seen or implied	4								
	b)	65 + 65 =130 180 – 130 = 50			M1 A1	Seen or implied									
5	a)	4y – 5x			B1		3								
	b)	5x + 10 – 6 5x + 4			M1 A1	Seen or implied									
6		0.027, 0.207, 0.217, 0.27, 1.072			B2	Award one mark for any three numbers in correct order	2								
7	a)	8 × 2 = 16 16 – 11 = 5			M1 A1	Seen or implied	4								
	b)	18, 20, 23, 25, 31, 33 24			M1 A1	Seen or implied									
8	a)	$\frac{50 \times 10}{5}$ 100			M1 A1	Seen or implied	4								
	b)	0.25 + 0.1 0.35			M1 A1	Seen or implied									

MAIN PAPER (75 marks)

Quest.		Requirements	Mark	Additional Guidelines	Total																
1	a)	i) 15 ii) 9	B1 B1		4																
	b)	12.72568... 12.73	M1 A1																		
2	a)	2, 3, 5, 7	B3	-1 e.e.o.o.	8																
	b)	Attempt to find the prime factorization 2 x 5 x 7	M1 A1	Seen or implied																	
	c)	Attempt to find LCM 120 ÷ 60 2	M1 M1 A1	Seen or implied																	
3		$a = 40^\circ$ Vertically opposite angles $b = 40^\circ$ Alternate angles $c = 90^\circ - 40^\circ = 50^\circ$ Sum of angles in a triangle $d = 180^\circ - 40^\circ = 140^\circ$ Angles on a straight line	B1 B1 B1 B1 M1 A1 B1 M1 A1 B1	Accept other valid reason o.e. Accept other valid reason Accept other valid reason	10																
4	a)	i) > ii) = iii) <	B3	Award one mark for each correct answer	7																
	b)	i) $8 \times 3 = 24$ ii) $15 + 24$ $= 39$	M1 A1 M1 A1																		
5	a)	90, RT, 50, FD	B4		6																
	b)	$150 + 70 + 50 + 70$ $= 340$	M1 A1	Seen or implied																	
6	a)	Correct drawing of bar chart1	B4		8																
	b)	i) 21 ii) 12	B1 B1																		
	c)	No because the bar chart only gives information about a range of values	B2	Accept other valid reason																	
7		<table><tr><td></td><td>Fract</td><td>Dec.</td><td>Perc.</td></tr><tr><td>Protein</td><td></td><td>0.05</td><td>5</td></tr><tr><td>Fat</td><td>$\frac{3}{40}$</td><td></td><td>7.5</td></tr><tr><td>Carboh.</td><td>$\frac{7}{8}$</td><td>0.875</td><td></td></tr></table>		Fract	Dec.	Perc.	Protein		0.05	5	Fat	$\frac{3}{40}$		7.5	Carboh.	$\frac{7}{8}$	0.875		B6	(-1e.e.o.o.)	6
	Fract	Dec.	Perc.																		
Protein		0.05	5																		
Fat	$\frac{3}{40}$		7.5																		
Carboh.	$\frac{7}{8}$	0.875																			

Quest.		Requirements	Mark	Additional Guidelines	Total
8	a)	Correct drawing of 5 th figure	B1		6
	b)	$\begin{array}{cccccccc} 1 & 2 & 3 & 4 & 5 & 6 & \dots & 8 \\ 1 & 3 & 6 & 10 & 15 & 21 & \dots & 36 \end{array}$	B3	(-1e.e.o.o.)	
	c)	Yes Figures all represent triangles	B1 B1	Accept other valid reason	
9	a)	$\left. \begin{array}{l} \frac{20}{100} \times 350 = \\ 350 - 70 \\ 280 \end{array} \right\} \text{ (o.e.) } 70$	M1 A1		5
	b)	$\left. \begin{array}{l} \frac{60}{80} \times 100 = 75 \\ 100 - 75 \\ 25 \end{array} \right\} \text{ (o.e.) }$	M2 A1	Award one mark for one correct step (e.g.: $80 - 60 = 20$ or $100 - 75 = 25$)	
10	a)	$\begin{array}{l} 2 - -12 \\ = 14 \end{array}$	M1 A1	Seen or implied	4
	b)	$\begin{array}{l} \text{i) } 4 \\ \text{ii) } 16 \end{array}$	B1 B1		
11	a)	$\begin{array}{l} \text{i) } x = 10 - 3 \\ x = 7 \\ \text{ii) } 2x = 16 \\ x = 8 \\ \text{iii) } 3x + 30 = 15 \\ 3x = -15 \\ x = -5 \end{array}$	M1 A1 M1 A1 M1 M1 A1	Seen or implied Seen or implied Seen or implied	10
	b)	$\begin{array}{l} \text{i) } 2x + 5 = 76 \\ \text{ii) } 2x = 71 \\ x = \text{€}35.50 \end{array}$	B1 M1 A1	Seen or implied	
12	a)	$\begin{array}{l} \text{€}0.50 \times 3 \\ \text{€}1.50 \end{array}$	M1 A1		7
	b)	$\frac{1}{4}$	B1		
	c)	$\begin{array}{l} \text{€}1.50 \times 4 \\ \text{€}6 \end{array}$	M1 A1		
	d)	$\begin{array}{l} 360 - 30 - 90 - 130 = 110 \\ \text{Games} \end{array}$	M1 B1		