

KULLEGG SAN BENEDITTU Secondary School, Kirkop

Level

7 – 8

HALF YEARLY EXAMINATION – 2015/2016

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.

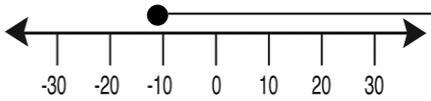
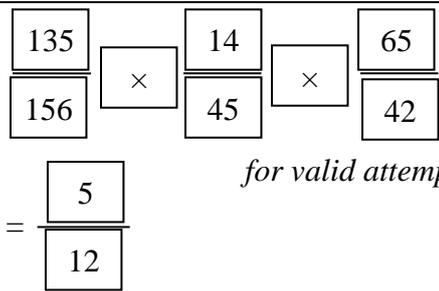
Other

- 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)

Question	Requirements	Mark	Additional Guidance	Total
1.	Attempt at changing numbers to decimals. $\frac{3}{10}, \frac{31}{100}, 0.333, \frac{1}{3}, 33.4\%$	M1 B2 (-1e.e.o.o)		3
2.	$\frac{20 \times 3}{5}$ $= 60 \div 5$ (o.e.) $= 12$	M1 M1 A1		3
3.	$(-13) + (-5)$	B1		1
4.	Alan: 80, 160, 240, 320, 400 , 480, 560, 640... Joan: 100, 200, 300, 400 , 500, 600... So after 400 cm <i>Or any other correct method</i>	M1 A1		2
5.	a) - 2448 b) 3 c) 13	B1 B1 B1		3
6.	a) $\frac{16}{25}$ b) 64% c) 0.6	B1 B1 B1		3
7.	$360 - (90 + 5y) = 270 \div 5$ (o.e.) 54^0	M1 A1		2
8.	$240 \div 3 = 80 \div 2 = 40 \div 2 = 20 \div 5 = 4 \div 2 = 2$ $\div 2 = 1$ Ans = $2^4 \times 3 \times 5$	M2 A1		3
9.	a) 43 b) 38 c) 8	B1 B1 B1		3
10.	a) $-2x + 5y$ b) $3a + 6b$	B1 B1		2

Main Paper (75 marks)

Question	Requirements	Mark	Total
1.	 <p><i>drawing a filled dot at -10</i></p> <p><i>correct direction of the line</i></p>	B1 B1	2
2.	<p>$108^\circ (\pm 1^\circ)$</p> <p>Obtuse</p>	B1 B1	2
3.	a) <i>9 seen as a common factor</i> $9(2f + 7m - 13d)$	M1 A1	5
	b) $\frac{90}{2250}$ <i>seen</i> $\frac{90}{2250} \times \frac{100}{1}$ $= 4\%$ <i>Multiplied by 100 seen or implied</i>	M1 M1 A1	
4.	a) (i) Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24 <i>B1 for every 4 correct factors</i> Factors of 78: 1, 2, 3, 6, 13, 26, 39, 78 (ii) 2, 3, 13 <i>all correct</i> (iii) 6	B4 B1 B1	10
	b) Valid attempt at finding the L.C.M. L.C.M. = $2^3 \times 3 \times 5 = 120$ $120 \div 60$ 2 minutes	M1 M1 M1 A1	
5.	a) $\frac{29}{40}$ <i>or</i> 0.725	B1	3
	b) 5.5 <i>or</i> $\frac{11}{2}$ <i>or</i> $5\frac{1}{2}$	B1	
	c) 32	B1	
6.	a) 8.2 cm	B1	4
	b) i) Pierre ii) correct reason correct reason	B1 B1 B1	
7.	a) i) = ii) >	B1 B1	3
	b) -2	B1	
8.	 <p><i>Multiplying by reciprocal</i></p> <p><i>for valid attempt of cancelling and/or simplifying</i></p>	B1 M1 A1	3

9.	a)	$\frac{48}{100} \times 295 = 141.6 \text{ kW}$	M1 A1	4						
	b)	$295 - 141.6 = 153.4 \text{ kW}$	M1 A1 f.t.							
10.	a)	i) Accurate drawing and labelling of angle $\pm 2^\circ$ ii) Accurate drawing and labelling of angle $\pm 2^\circ$	B1 B2	14						
	b)	i) $a = 72^\circ$ (corresponding angles) $b = 55^\circ$ (angles on a st. line) $c = 55^\circ$ (interior/alternate angles) $d = 72^\circ$ (vertically opposite angles) <i>Accept any other valid reason given.</i> ii) Exterior angle of triangle is equal to the sum of the two opposite interior angles.	B1 B1 B1 B1 B1 B1 B1 B1 B1							
	c)	RT LT 180 115 <i>B1 for every 2 correct entries</i>	B2							
11.	a)	i) $\frac{4}{15} + \frac{17}{15}$ $\frac{20}{15} + \frac{51}{15}$ (o.e.) $\frac{71}{15} = 4\frac{11}{15}$ ii) $\frac{39}{35} - \frac{2}{35}$ $\frac{195}{35} - \frac{14}{35}$ (o.e.) $\frac{181}{35} = 5\frac{6}{35}$	M1 M1 A1 M1 M1 A1	10						
	b)	(i) $5000 - 400 = 4600$ $\frac{4}{5}$ of 4600 = €3680 (ii) $4600 - 3680 = \text{€}920$	M1 M1 A1 B1 (f.t.)							
12.	a)	i) $\frac{5971}{11} = 542.82$ ii) 509 iii) 452	M1 A1 B1 B1	8						
	b)	$828 - 450 = 378$	B1							
	c)	<table style="display: inline-table; vertical-align: middle;"> <tr><td> </td><td>5</td></tr> <tr><td> </td><td>2</td></tr> <tr><td></td><td>0</td></tr> <tr><td> </td><td>1</td></tr> </table> <i>(-1 e.e.o.o) Deduct mark per wrong row</i>			5		2		0	
	5									
	2									
	0									
	1									
13.	a)	$x + 1 + 2x + 4x - 2$ $7x - 1$ o.e.	M1 A1	7						
	b)	$2x - 1 + 2x - 1 + 2x - 1 + 2x - 1$ or $4(2x - 1)$ $8x - 4$ o.e.	M1 A1							
	c)	Equation: $7x - 1 = 8x - 4$ o.e. Correct method of solving $x = 3$	B1 M1 A1							
TOTAL MAIN : 75 MARKS										