



KULLEĠĠ SAN BENEDITTU

Secondary School, Kirkop

HALF YEARLY EXAMINATION – 2016/2017

YEAR 8 Levels 6-7

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 (Total: 25 Marks)

| Ques. | Requirements | Mark | Additional Guidance | Total |
|-------|--------------|---|---------------------|-------|
| 1 | a | 0.649 0.65 | M1 A1 | 4 |
| | b | 6.00 – 0.19 5.81 | M1 A1 | |
| | | | Seen or implied | |
| 2 | a | 162 | B1 | 3 |
| | b | 32 | B1 | |
| | c | $1\frac{1}{4}$ | B1 | |
| 3 | a | Encircle number 10 | B1 | 3 |
| | b | Underline number 12 | B1 | |
| | c | 2 | B1 | |
| 4 | | $2 \times 3 \times 3 \times 5$ or $2 \times 3^2 \times 5$ | M1 A1 | 2 |
| 5 | a i | $14z + 1$ | B1 | 4 |
| | ii | $4d - 5f$ | B1 | |
| | b | $30a - 60 + 10a$ $= 40a - 60$ | M1 A1 | |
| 6 | | 30 days $30 \div 6 = 5$ $5 \times 5 = 25$ | M1 M1 A1 | 3 |
| 7 | | $52 + 52 = 104$ $180 - 104 = 76$ | M1 A1 | 2 |
| 8 | | $\frac{17}{100}$, 0.17 3%, $\frac{3}{100}$ | B1,B1 B1,B1 | 4 |

MAIN PAPER (Total: 75 Marks)

| Ques. | Requirements | Mark | Additional Guidance | Total |
|-------|--------------|---|---|-------|
| 1 | | 0.31, 3.125, 3.16, 3.6, 31 | M1 M1 A1 | 3 |
| 2 | a | $3\frac{3}{4}$ | B1 | 2 |
| | b | 0.28 | B1 | |
| 3 | | Attempt to find LCM 20 days | M1 A1 | 2 |
| 4 | | $\frac{15}{100} \times 200 = \text{€}30$ $\text{€}200 - \text{€}30$ $= \text{€}170$ | M1 M1 A1 | 3 |
| 5 | | A = 2.14 B = 2.26 | B1 B1 | 2 |
| 6 | a i | - 12 on both sides $z = 23$ | M1 A1 | 10 |
| | a ii | $4x - 28 = 60$ +28 on both sides $88 \div 4$ $x = 22$ | M1 M1 M1 A1 | |
| | b i | $x + 2x + 60 + x$ | B1 | |
| | b ii | $4x + 60 = 180^\circ$ - 60 on both sides $x = 30^\circ$ | M1 M1 A1 | |
| | | | Accept also $4x + 60$ Forming Equation | |

| | | | | | |
|----|---|--|----------------------|---|----|
| 7 | A | Correct cancelling $\frac{3}{10}$ | M1 A1 | Accept any other valid method | 6 |
| | B | $\frac{4}{18} + \frac{12}{18} - \frac{1}{18}$ $= \frac{15}{18}$ $= \frac{5}{6}$ | M2 M1 A1 | | |
| 8 | A | $\frac{90}{360}$ $\frac{1}{4}$ | M1 A1 | Seen or implied | 5 |
| | B | $\frac{30}{360} \times 180$ $= 15$ people | M2 A1 | Award 1 mark for $\frac{30}{360}$ and 1 mark for multiplying by 180 | |
| 9 | A | $4 - 12$ $- 8^\circ \text{C}$ | M1 A1 | Seen or implied | 3 |
| | B | $- 10$ | B1 | | |
| 10 | | Angle $a = 60^\circ$ | B1 | Or any other valid reason Or any other valid reason | 8 |
| | | Vertically Opposite Angles | B1 | | |
| | | Angle $b = 45^\circ$ | B1 | | |
| | | Angles in a triangle | B1 | | |
| | | Angle $c = 75^\circ$ | B1 | | |
| | | Corresponding angles | B1 | | |
| | | Angle $d = 60^\circ$ | B1 | | |
| 11 | | 4,3,2,1,0, .. \rightarrow Subtracting 1 | B1 | B1 for each correct matching | 4 |
| | | 4,8,16,32,64, .. \rightarrow Multiplying by 2 | B1 | | |
| | | 4,8,12,16,20, .. \rightarrow Adding 4 | B1 | | |
| | | 4,7,10,13,16, .. \rightarrow Adding 3 | B1 | | |
| 12 | A | Addition of sizes = 369 $\frac{369}{10}$ 36.9 | M1 M1 A1 | Attempt to add f.t. for wrong addition | 9 |
| | B | 36 | B1 | | |
| | C | Sizes in correct order $\frac{36+37}{2}$ 36.5 | M1 M1 A1 | Award mark for attempt to order | |
| | d | 40- 34 6 | M1 A1 | Seen or implied | |
| 13 | a | False | B1 | Seen or implied f.t. | 8 |
| | b | Plastic | B1 | | |
| | c | $\frac{525}{3447} \times 100 \%$ $= 15.2 \%$ | M1 A1 | | |
| | d | $4955 - 4240 = 715$ $\frac{715}{4240} \times 100 \%$ $= 16.8632...$ $= 17 \%$ | M1 M1 M1 A1 | | |
| 14 | a | 3, 5, 7, 3, 7 | B4 | (-1 e.e.o.o.) | 10 |
| | b | 25 | B1 | | |
| | c | $3 + 5 + 7$ $= 15$ | M1 A1 | f.t. for answers of a | |
| | d | Correct drawing of bars | B3 | f.t. (B1 for every 2 correct bars) | |