FORM 3	**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.
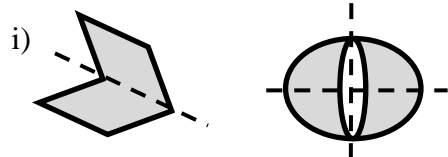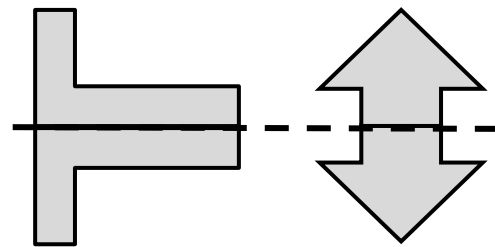
Other

- ➢ 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 o.e. (or equivalent)
  - o 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 Guidance	Total
1	a)	Valid attempt at addition 4379	M1 A1		**4**
	b)	Valid attempt at subtraction 242	M1 A1		
2	a)	Valid attempt at division 350	M1 A1		**4**
	b)	Valid attempt at multiplication 930	M1 A1		
3	a)	i) 30 ii) 600	B1 B1		**4**
	b)	600×30 18000	M1 A1	f.t.	
4	a)	85 87	B1 B1		**4**
	b)		B1 B1		
5	a)	Correct matching	B3	-1 e.e.o.o.	**5**
	b)	Nine thousand and one	B2	B1 for part of the number written correctly. B2 all the number written correctly. Ignore spelling mistakes.	
6	a)	Correct filling in	B2	-1 e.e.o.o.	**4**
	b)	9×2 18	M1 A1		

Main Paper (75 marks)

Quest.		Requirements	Mark	Additional Guidance	Total
1	a)	39 chosen as smallest number 1001 chosen as largest number 39, 101, 459, 495, 1001	M1 M1 A2	 -1 e.e.o.o.	7
	b)	i) $9.2 \times 3 = 27.6$ $49.368 - 27.6 = 21.768$ $21.768 \div 0.05 = 435.36$ ii) 435	M1 M1 A1	} seen or implied f.t.	
2	a)	$56 \div 8 = 7$	M1 A1		4
	b)	$15 \times 8 = 120$	M1 A1		

Quest.		Requirements	Mark	Additional Guidance	Total
3		<table><tr><th>Solid</th><th>Name of Solid</th><th>No. of Faces</th><th>No. of Vertices</th><th>No. of Edges</th></tr><tr><td></td><td></td><td></td><td>0</td><td>2</td></tr><tr><td></td><td></td><td>6</td><td>8</td><td></td></tr><tr><td></td><td>Cone</td><td>2</td><td></td><td>1</td></tr></table>	B7	-1 e.e.o.o.	7
4		- 8 ÷5 +9 ×4	B2 B2 B2 B2		8
5		First parallelogram showing tessellation correctly drawn. Second parallelogram showing tessellation correctly drawn.	B2 B2		4

6	a)	i) ii) no	B3 B2	-1 e.e.o.o.	**11**
	b)		B3 B3	} Subtract 1 mark for every 2 incorrect vertices	
7	a)	32 *or* 84	B2		**8**
	b)	29	B2		
	c)	84	B2		
	d)	77	B2		
8	a)	i) 	**Items**	**Cost**
---	---
2 boxes of crayons	€12.80
1 scientific calculator	€19.85
1 compass	€ 2.25
Total Cost:	€34.90	 ii) 4 × 10 = €40 €40 – €34.90 = €5.10	M3 A1 M1 M1 A1	M2 for finding correct price of 2 boxes of crayons. M1 for writing down the price of **both** the calculator and the compass correctly. A1 for total correct.	**10**
	b)	350 ÷ 90 = 3.8888… 3	M1 M1 A1	o.e. method	

9	a)	Drawing of line BC = 6 cm (± 1 mm)	M1		7
		Drawing of line AB = 4.5 cm (± 1 mm)	M1		
		Joining of point A to C.	A1		
	b)	a scalene	B2		
	c)	7.5 cm (± 2 mm)	M1 A1	f.t.	
10	a)	(table below)	B1		9
			B1		
			B1		
			M1 A1		
	b)	adding 4 grey tiles each time	B1		
	c)	18 + 4 + 4 = 26	M2	o.e.	
		6 grey tiles	A1		

Table (10 a):

Number of Black Tiles	Number of Grey Tiles
	6
	10
	14
	18