SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010

Directorate for Quality and Standards in Education
Educational Assessment Unit

FORM 3 **MATHEMATICS SCHEME C** **TIME: 30 minutes**
Non Calculator Paper

Name: _____ **Class:** _____

1	2	3	4	5	6	7	8	Total

INSTRUCTIONS TO CANDIDATES

- **Answer all questions.**
- **This paper carries a total of 25 marks.**
- **Calculators and protractors are not allowed.**

1 Fill in.

a) 3 kg = _____ grams b) _____ metres = 600 cm

(2 marks)

2 Work out

$$(32 + 8) \times 10$$

_____

(2 marks)

3 A bag contains 3 cards with the numbers 2, 3, and 4 written on them.
Another bag contains 3 cards with the numbers 4, 5 and 7 written on them.
Pawlu takes one card from the first bag and one card from the second bag.

a) **Complete** the **possibility space** below.

		First Bag		
		2	**3**	**4**
Second Bag	**4**	(2, 4)		
	5			(4, 5)
	7		(3, 7)	

b) Write the **probability** that the **sum** of the two numbers is **9**.

_____

(3 marks)

4 a) Fill in.

(i) **(–10) + 6 =** _____

(ii) **(–10) + (–6)** = _____

b) Put these three temperatures **in order**, the **lowest first**.

–4 °C 2 °C –10 °C _____

(3 marks)

5 Fill in the **missing numbers**.

a) **5, 10, 15, _____, 25**

b) **1, 2, 4, _____, 16, 32**

c) **0.3, 0.5, 0.7, 0.9**, _____

(3 marks)

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6 This football costs **€24.50**.
At a **sale** it is sold at **half price**.

a) Work out the **sale price** of the football.

€_____

b) At the sale, Pawlu buys **3 footballs**.
How much does Pawlu pay for the 3 footballs?

€_____

(4 marks)

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7 a) Fill in.

10% of €500 = €_____

b) Work out

$$\frac{7}{10} - \frac{1}{5}$$

_____

(4 marks)

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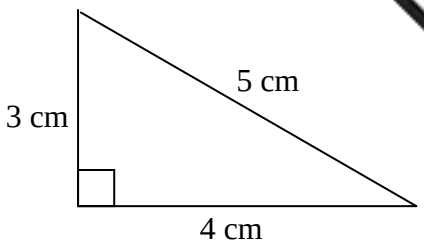
8 a) Work out the **perimeter** of the triangle.



Perimeter = _____ cm

b) Work out the **area** of the **triangle**.

Area = _____ cm^2

(4 marks)

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C

FORM 3 **MATHEMATICS SCHEME C** **TIME: 1h 30min**

MAIN PAPER

1	2	3	4	5	6	7	8	9	10	11	12	13	NC	Main	Total

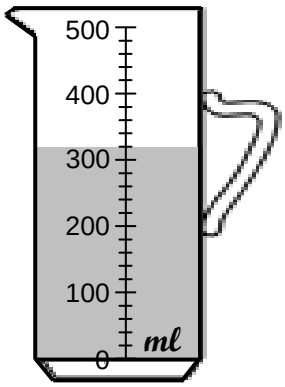
Name: _____ **Class:** _____

Calculators are allowed but the necessary working must be shown.
Answer all questions.

1 a) **Underline** the correct answer.

The **amount of water** in the jug is

(301 *mℓ*, 310 *mℓ*, 320 *mℓ*)

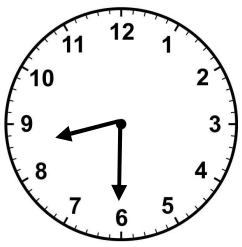


b) Fill in.

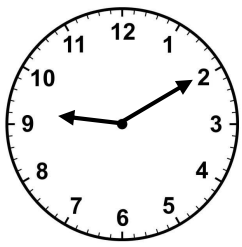
4 litres = _____ *mℓ*

(2 marks)

2



First lesson begins



First lesson ends

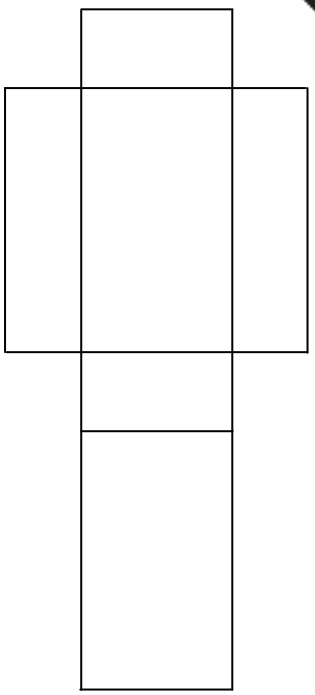
Fill in.

a) The first lesson begins at _____ past _____.

b) The first lesson is _____ minutes long.

(3 marks)

3 This diagram shows the **net** of a **cuboid**.



a) Use your **ruler** to **measure** and fill in.

Length = _____ cm

Width = _____ cm

Height = _____ cm

b) Work out the **volume** of the cuboid.

Volume = _____ cm^3

(4 marks)

---

4 The table shows the distances between three places in Malta.

	Mosta	**Mellieħa**	**Mġarr**
Mosta		10 km	6 km
Mellieħa	10 km		7 km
Mġarr	6 km	7 km	

a) Fill in.

(i) Mosta to Mellieħa = _____ km

(ii) Mġarr to _____ = 6 km

b) Robert walks at **5 km per hour**. How long does it take him to walk from Mosta to Mellieħa **and back**?

_____ hours

(4 marks)

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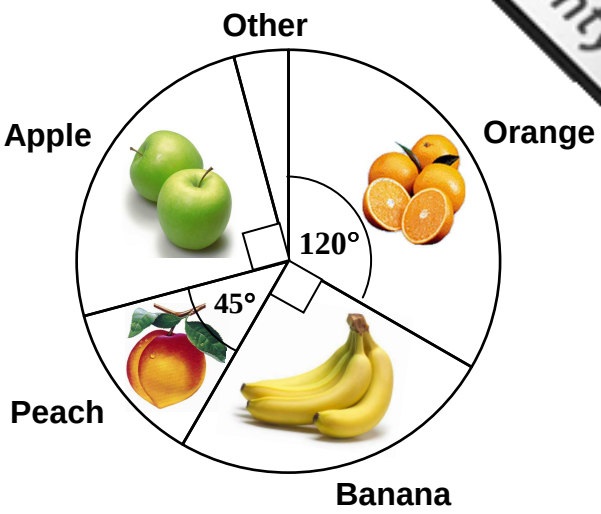
5 120 persons were asked to name their favourite fruit. Their answers are shown in the **pie chart**.



a) Which is the **most favourite** fruit?

_____

b) What **percentage** like **apples**?

_____ %

c) **How many** persons like **peaches**?

_____ persons

d) A person is chosen at random. What is the **probability** that the person likes bananas?

_____

(5 marks)

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6 a) Write down the ratio **BALLS : DOLLS**.

_____ : _____

b) Complete the following ratios.

3 : 6	→	**1 : ___**
2 : 3	→	**4 : ___**

c) In a class the ratio of **boys : girls** is **1 : 3**. There are 21 girls. How many **boys** are there in the class?

_____ boys

(5 marks)

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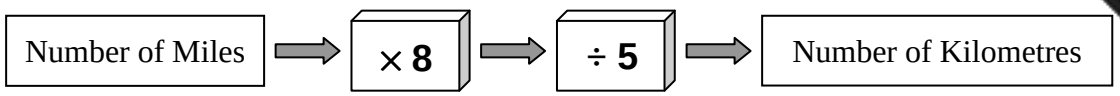
7 This **number machine** changes **miles to kilometres**.



a) Use the number machine to fill in.

15 miles = _____ kilometres

_____ miles = 32 kilometres

b) ***M*** stands for the number of miles.
K stands for the number of kilometres.
Complete this formula.

K = _____

(5 marks)

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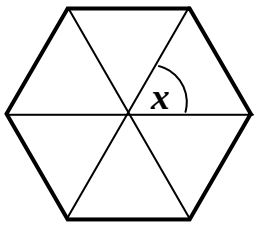
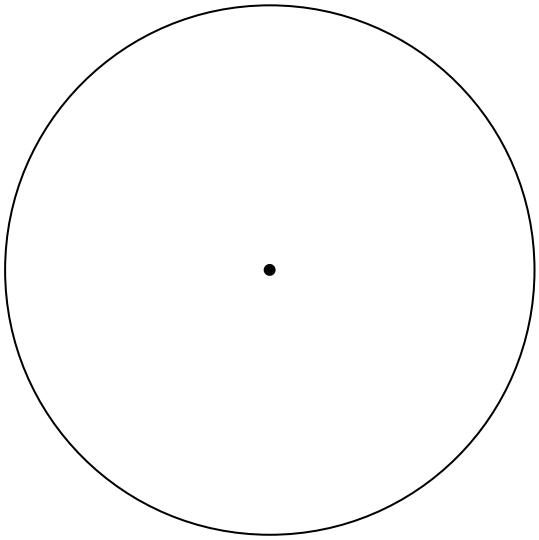
8 The diagram shows a **regular hexagon**.



a) Work out the size of **angle *x***.

angle *x* = _____°

b) Use your **protractor** to draw a **regular hexagon** inside the circle.



(6 marks)

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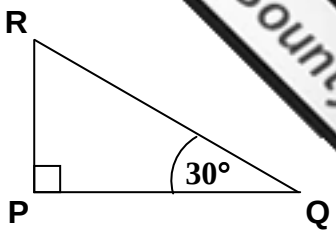
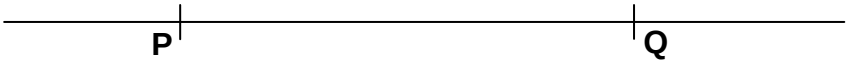
9 a) Use **ruler and compasses** only to draw triangle PQR.





b) **VAT** is charged at 18%.
Work out the **selling price** of the football boots.

€_____

(7 marks)

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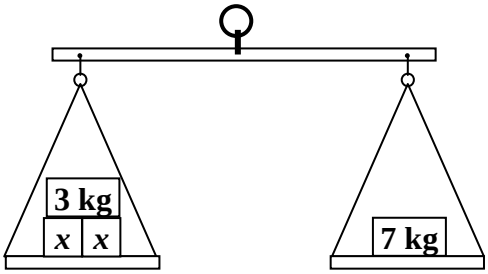
10 a) Find **the value of *x***.



x = _____ kg

b) **Solve** these equations.

(i) $a - 9 = 5$

a = _____

(ii) $4b = 24$

b = _____

(iii) $2c - 3 = 15$

c = ___

(8 marks)

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11 The following are the **shoe sizes** of pupils in a class.

4	4	4	5	5	5	5	5	5
5	5	5	5	6	6	6	6	6
6	6	6	7	7	7	7	8	8

a) Complete the **frequency table**.

Shoe size	**Frequency**
4	
5	
6	
7	
8	2
Total	

b) Write down the **median** and **mode** of this set of data.

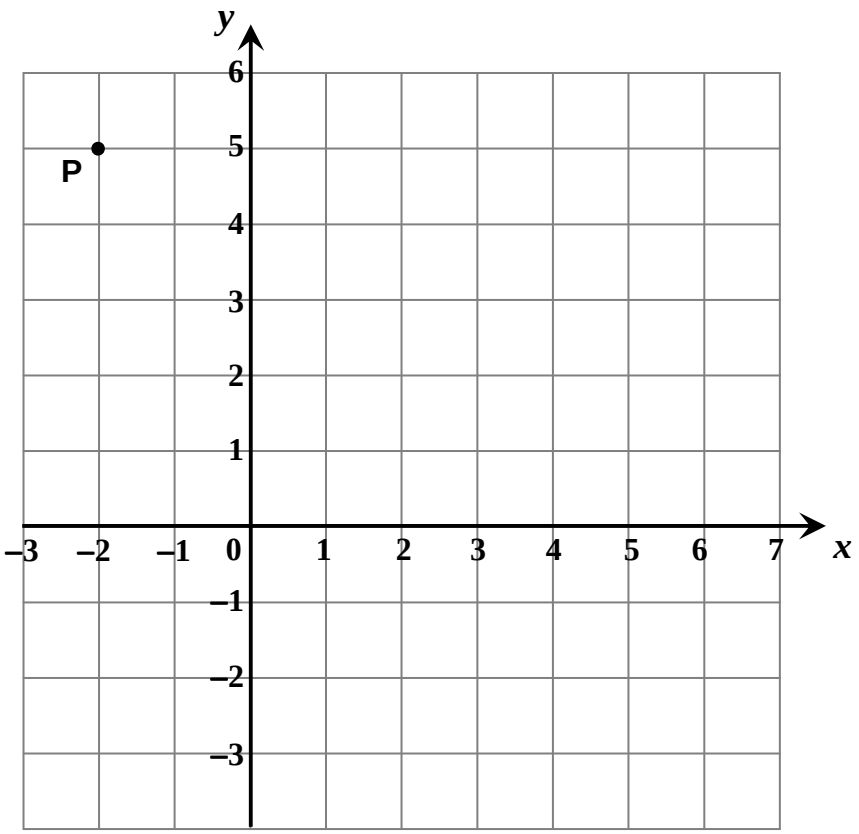
Median = _____ **Mode** = _____

c) Work out the **mean** (average) of this set of data.

Mean = _____

(8 marks)

12 a) Write down the **coordinates** of point **P**. (,)



b) **Plot** the points **(1, 2)** and **(5, –2)**.

c) **Draw** a **line** passing through the 3 points.

d) Complete this table of values for $y = 2x$.

x	–1	1	3
$y = 2x$	–2		

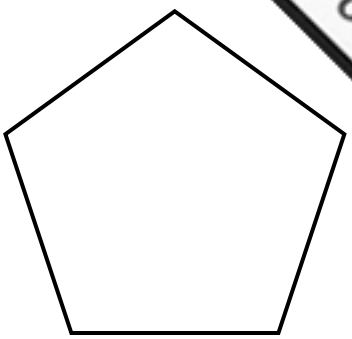
e) **Plot the points** from the table.
Join the points with a **straight line**.

f) Write down the coordinates of the point where the two lines meet.

(,)

(9 marks)

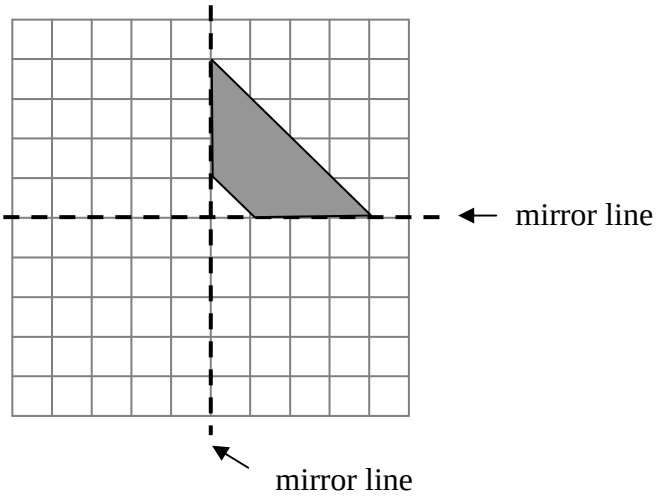
13 a) Underline the name of this shape



(i) (Pentagon, Hexagon, Octagon)

(ii) **Draw** all the **lines of symmetry**.

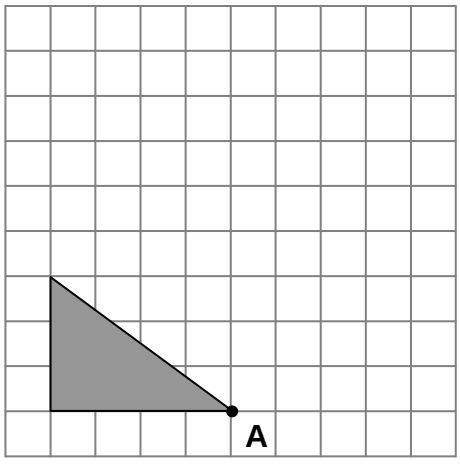
b) **Reflect** the shape in the **mirror lines**.



c) Draw the triangle after

(i) a **translation** of **4 to the right** and **5 up**

(ii) a **rotation** of 90° **clockwise** about **A**.



(9 marks)

END OF PAPER