SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

Directorate for Quality and Standards in Education
Educational Assessment Unit

FORM 1 **MATHEMATICS SCHEME B** **TIME: 30 minutes**
Non-Calculator Paper

Name: _____ **Class: _____**

Question	1	2	3	4	5	6	7	8	9	10	11	**Total**
Mark												

Instructions to Candidates

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

1. Work out: a) $\frac{2}{3}$ of 15 sweets.

b) 25% of €200.

Ans: a)_____ ; b) _____.

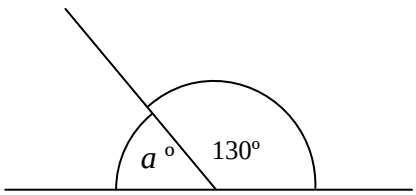
_____(2 marks)

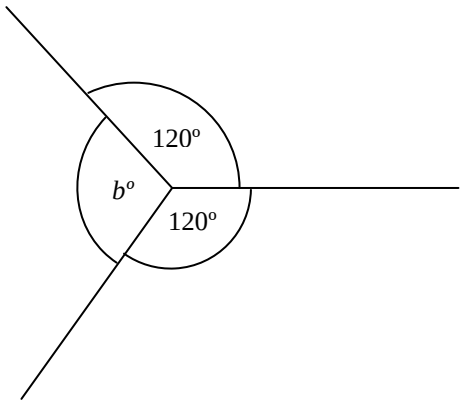
2. Simplify: a) $\frac{2}{5} + \frac{3}{5}$ b) $\frac{4}{7} \times \frac{14}{24}$

Ans: a)_____ ; b) _____.

_____(2 marks)

3. Calculate the marked angles:





Ans: *a* = _____ ; *b* = _____.

_____(2 marks)

4. Work out:

$$\begin{array}{r} 2.8 \\ +\ 4.1 \\ \hline \\ \hline \end{array} \qquad \begin{array}{r} 6.8 \\ \times\ \ 4 \\ \hline \\ \hline \end{array}$$

_____(2 marks)

5. A garden is 20 m long and 16 m wide. A fence is put round the outside of the garde
   a) What is the length of fence required?
   b) What is the total cost if the price of the fence is €1.50 per metre?
   c) What is the cost correct to the nearest 10 euro?

Ans: a)_____ ; b) _____; c) _____.

_____(4 marks)

6. Complete the following number patterns:

   a) 4, 7, 10 , _____ 16, _____.

   b) 1, 4, 9, 16, _____ , _____.

_____(2 marks)

7. Work out:

   a) $5060 \div 100$ = _____

   b) 2.31×10 = _____

_____(2 marks)

8. Work out the value of:

   a) b^2 when $b = 4$,

   Ans _____

   b) xy when $x = 12$ and $y = 3$.

   Ans _____

_____(2 marks)

9. a) Lucy collected 32 empty cans for recycling. Paul collected twice as many cans. How many cans did they collect altogether?

b) There are 18 rows of chairs in a school hall. There are 24 chairs in each row. How many chairs are there altogether?

Ans: a)_____ ; b) _____

_____(3 marks)

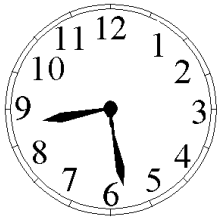
10. a) Tom cycled 4.8 km to his friend's home. In the evening he cycled back home. How far did he cycle in all?

b) Every morning, Graziella drinks ¼ of a milk carton which contains 1 litre. How many cubic centimetres of milk does she drink? (1 litre = 1000 cc).

Ans: a)_____ ; b) _____

_____(2 marks)

11. What fraction of a turn does the minute hand make in: a) 30 minutes? b) 5 minutes? Simplify your answers.



Ans: a)_____ ; b) _____.

_____(2 marks)

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FORM 1 **MATHEMATICS SCHEME B** **TIME: 1h 30m**

Main Paper

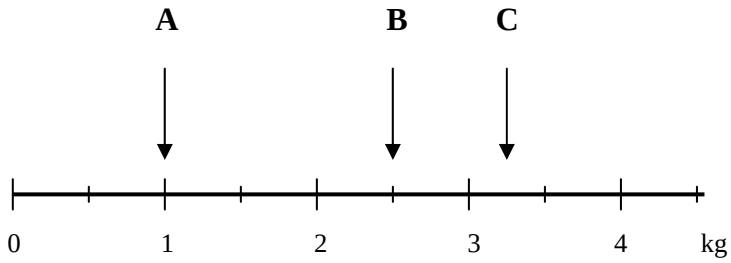
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Main	Non Calculator	**GLOBAL MARK**

DO NOT WRITE ABOVE THIS LINE

Name: _____ **Class:** _____

- **Answer all questions.**
- **This paper carries 75 marks.**
- **Calculators and mathematical instruments are allowed but all necessary working must be shown.**

1. Write down the values shown by these pointers on the scale below.



Pointer A _____ kg Pointer B _____ kg Pointer C _____ kg

_____ (3marks)

2. a) Write down the temperatures 9º C, −16º C, 0º C, −5º C, −10º C in order first.

_____ _____ _____ _____ _____

b) From the set of numbers (4, 6, 7, 15, 21) write down:

i) an even number _____

ii) the square root of 16 _____

iii) the prime number _____

iv) the multiple of 3 and 5 _____

_____ (6marks)

3. a) Simplify: (i) $p + p + p$ = _____ (ii) $4y + 3y$ = _____

b) Expand: (i) $5(z + 2)$ = _____ (ii) $x(2x + 5)$ = _____

_____ (4marks)

4. In each of the following questions, underline the appropriate answer.

a) The length of a stamp can be measured in (millimetres, metres, kilometres).

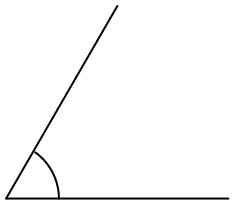
b) The weight of an apple is usually measured in (milligrams, grams, kilograms).

c) The area of a field can be measured in (litres, kilograms, metres squared).

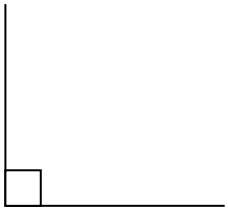
_____ (3marks)

Name: _____ **Class:** _____

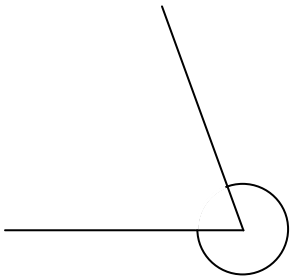
5. Match the following angles:



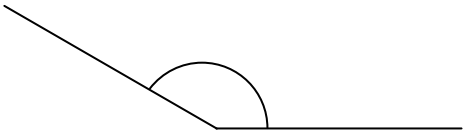
obtuse angle



reflex angle



acute angle



right angle

_____ (4marks)

6. Here is a probability scale.

a

Impossible — Unlikely — Even chance — Likely — Certain

Show the following events on the scale above. (The first one has been done for you.)

a) A new born baby will be a girl.

b) You will live to be 200 years old.

c) It will rain on Christmas Day in Malta.

d) You will get a number less than 7 if you throw an ordinary dice.

_____ (3marks)

7. ABC is a triangle in which AB = 7 cm, AC = 6 cm and angle A = 60º.

a) Use the line below and make AB 7 cm long.

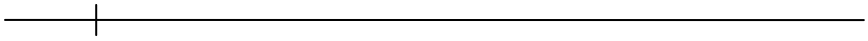
b) At point A construct an angle of 60 º.

c) Draw AC 6 cm long.

d) Join B to C.

e) Measure the length of side BC. Ans: BC = _____ cm.

f) What type of triangle is ABC? _____



A

_____ (7marks)

8. a) Printer **A** prints **one** sheet every 15 seconds. How many sheets can it print in 1 minute?

Ans _____

b) Printer **B** prints one sheet every 20 seconds. How many sheets can it print in 1minute?

Ans _____

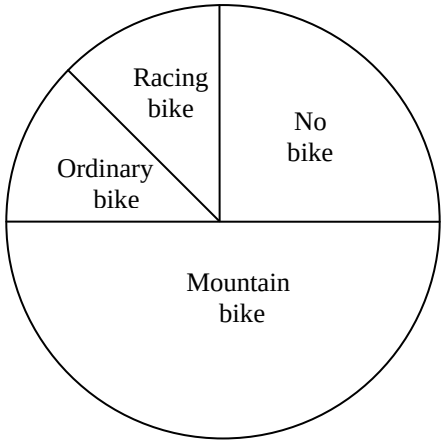
c) Write the number of sheets that each printer prints per minute as a ratio:

Printer A : Printer B

_____ : _____

_____ (3marks)

9. James asks his class what kind of bicycle they have. There are 32 children in th
class. The pie chart shows these different types of bicycles.



a) Write down the most popular type of bicycle. _____

b) Write down the number of children who do not have a bicycle. _____

c) Complete the following table:

Type of Bicycle	Mountain	Racing	Ordinary	No Bike
No. of students				

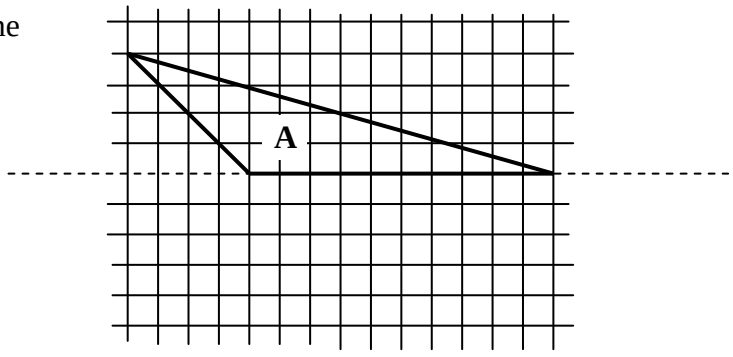
d) A boy is picked at random. What is the probability that he owns a **racing** bicycle?

_____

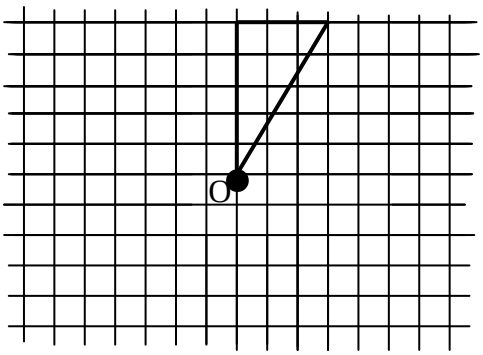
_____ (6marks)

10. a) Draw the image of shape **A** in the line of symmetry shown.

Line of symmetry



b) Complete the windmill below to make it have rotational symmetry of order 4 about O.

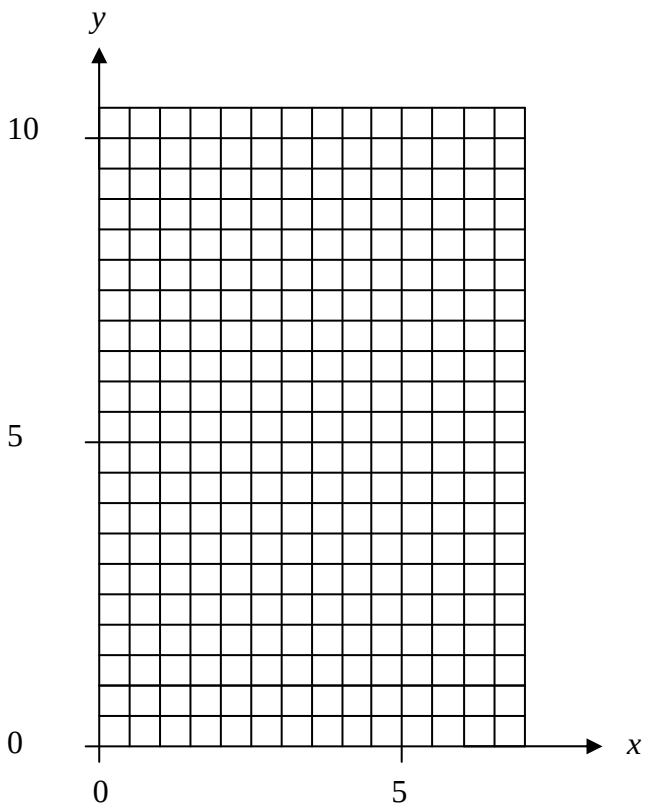


_____ (5marks)

11. a) Fill in the missing numbers to form the coordinates for $y = x + 3$.

x		y	Coordinates
0 →	+ 3	→ 3	(0 , 3)
1 →		→	(1 ,)
2 →		→	(2 ,)
→		→ 6	(, 6)
→		→ 7	(, 7)
5 →		→	(5 ,)

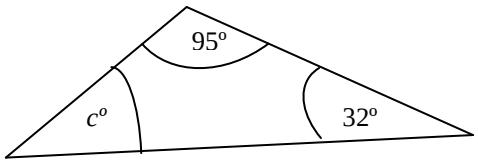
b) Plot the points on the grid below.

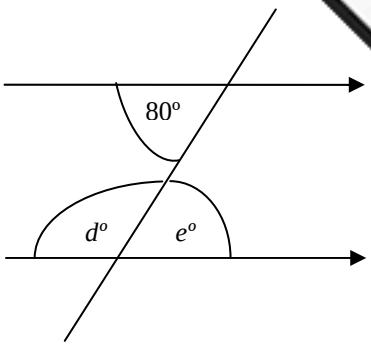


c) Join the points, using a ruler, to form a straight line.

_____ (6marks)

12. Calculate the marked angles. Give brief reasons for your answers.





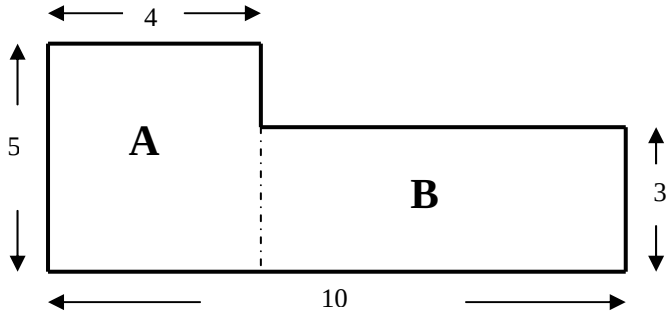
Ans: c = _____ Reason _____

d = _____ Reason _____

e = _____ Reason _____

_____ (6marks)

13. The diagram shows a shape made up of 2 rectangles.



(All measurements shown are in centimetres)

a) Calculate the area of rectangle A.

Ans _____

b) The width of rectangle B is 3cm. What is its length?

Ans _____

c) Calculate the area of rectangle B.

Ans _____

d) What is the **total** area of the shape?

Ans _____

_____ (4marks)

14. Solve the following equations:

a) $x + 4 = 9$ b) $2y - 7 = 19$

Ans: $x =$ _____ Ans: $y =$ _____

_____ (5marks)

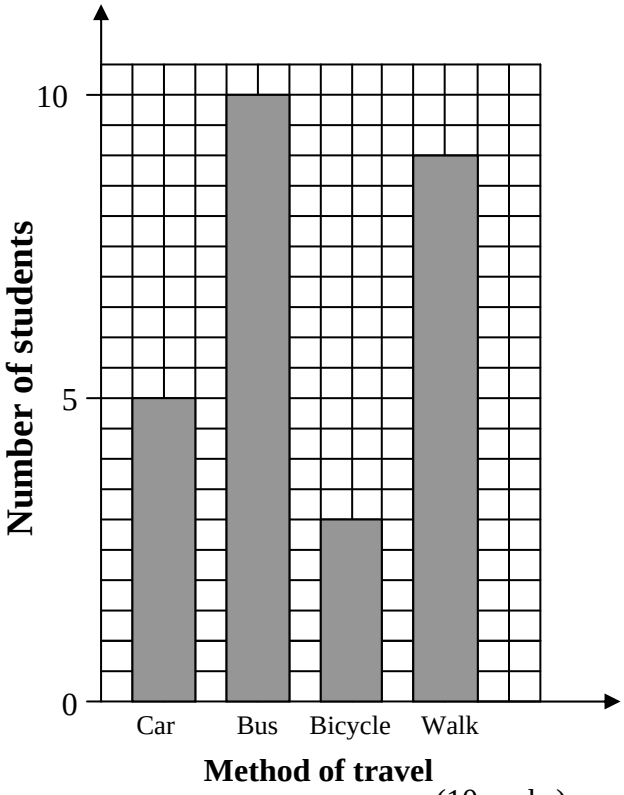
15. a) The pocket money given to 12 students in a class is:

60c	70c	80c	90c	90c	€1.35
€1.40	€1.45	€1.55	€1.60	€1.75	€2

i) Find the total amount of pocket money given to these students.
ii) Find the mean amount of pocket money given to these 12 students.
iii) What is the mode?
iv) What is the range?

Ans: i) _____ ii) _____ iii) _____ iv) _____

b) Sarah has drawn a bar chart. This shows how the students of a particular class go to school.



i) How many children walk to school?

Ans: _____

ii) What is the most common way to travel?

Ans: _____

iii) How many children are in this class?

Ans: _____

_____ (10marks)