DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2011

FORM 2 MATHEMATICS (Non Calculator Paper) TIME: 30 minutes

Name: _____ **Class:** _____

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

INSTRUCTIONS TO CANDIDATES

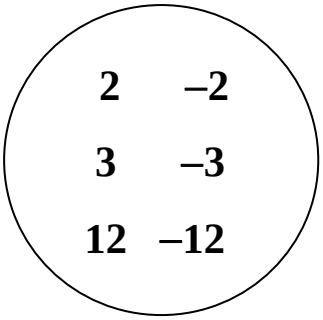
- **Answer ALL questions.**
- **This paper carries a total of 25 marks.**
- **Calculators and protractors are NOT ALLOWED.**

1. Complete the following by choosing a number from the circle.

a) $\square + (-8) = (-6)$

b) $6 \times (-2) = \square$

c) $12 \div \square = (-4)$



(3 marks)

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2. Complete the following:

a) $3 \times 0.001 =$ _____

b) $4.2 \times 100 =$ _____

c) _____ $\div 10 = 56$

(3 marks)

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3. a) Write all the **factors of 24**. ____, ____, ____, ____, ____, ____, ____, ____.

b) Write all the **factors of 30**. ____, ____, ____, ____, ____, ____, ____, ____.

c) Write the common factors of 24 and 30. ____, ____, ____, ____.

(3 marks)

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4. a) Find the value of $8a + 2b$, when $a = 3$ and $b = -2$.

Ans. _____

b) Expand $6(3 - 2y)$.

Ans. _____

(3 marks)

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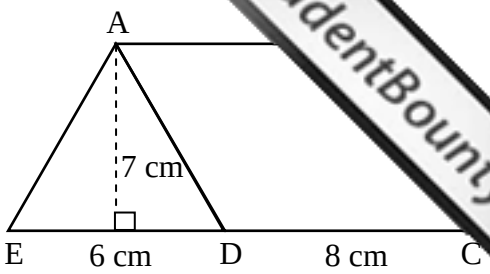
5. The diagram shows a parallelogram ABCD and a triangle ADE.



a) Find the area of **triangle ADE**.

Ans. _____ cm^2

b) Find the area of **parallelogram ABCD**.

Ans. _____ cm^2

(2 marks)

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6. Five athletes took part in a long jump competition. The results obtained were as follows:

NAME	DISTANCE in metres
Attard Martina	4.97
Darmanin Elaine	5.53
Gatt Janet	5.32
Izzo Petra	4.85
White Nicole	5.07

a) Who jumped the **longest** distance? Ans. _____

b) What is the **median** distance? Ans. _____

c) What is the **range**? Ans. _____

(3 marks)

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7. a) Which of these fractions is **less** than $\frac{1}{2}$?

$\frac{16}{28}$ $\frac{23}{15}$ $\frac{40}{88}$ $\frac{60}{72}$

Ans. _____

b) Philip had 96 days of summer holidays.

He spent $\frac{3}{8}$ of his summer holidays in Italy.

How many days did he spend in Italy?

Ans. _____ days

(2 marks)

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8. A chocolate box has the shape of a cuboid.

a) Calculate the volume of the chocolate box.

Ans. _____ cm^3.

b) The chocolates inside the box weigh 300 g. One chocolate weighs 15 g.
How many chocolates are there inside the box?

Ans. _____ chocolates

(2 marks)

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9. A bag contains 2 **red** buttons, 3 **yellow** buttons and 4 **green** buttons.
Jake picks a button from the bag.
What is the probability that the button is **red**?

Ans. _____

(1 mark)

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10. Ms Tonna uses a spreadsheet to keep a record of the number of students attending the Computer, Drama and Sports Clubs on Monday and Tuesday.

	A	B	C	D
1		Monday	Tuesday	Club Total
2	Computer Club	29	25	54
3	Drama Club	27	34	
4	Sports Club		58	104
5	Day Total			

a) On the spreadsheet, fill in cells **D3** and **B4**.

b) Ms Tonna wants to know the total number of students attending a club on Tuesday.
Which one of the following formulae should she type in cell **C5**?

=C2*C4	**=SUM(C2:C4)**	**=C2+C4**

Ans. _____

(3 marks)

END OF PAPER

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FORM 2 **MATHEMATICS(Main Paper)** **TIME: 1h 30 min**

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	Total Main	Non Calc	**Global Mark**
Mark																

Name: _____ **Class:** _____

CALCULATORS ARE ALLOWED BUT ALL NECESSARY WORKING MUST BE SHOWN.

ANSWER ALL QUESTIONS.

1. Evaluate:

a) $7.5^2 + 14.45 =$ Ans. _____

b) $\dfrac{\sqrt{47.61}}{4.6} =$ Ans. _____

(4 marks)

2. Match each quadrilateral with its description.

Rectangle **Rhombus** **Trapezium**

a) (i) This shape has only **one pair** of parallel sides. _____

(ii) This shape has four equal sides and the opposite sides are parallel.

_____

(iii) This shape has four right angles. _____

b) (i) The **rectangle** has rotational symmetry of order _____.

(ii) The **rhombus** has _____ lines of reflective symmetry.

(4 marks)

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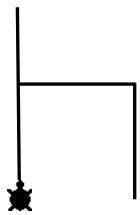
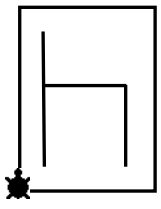
3. Noel uses LOGO to draw this diagram.



a) Fill in the missing commands in his LOGO program.

PD FD 100 BK 40 RT ____ FD 60 ____ 90 FD ____ PU HOME

b) Noel wants to draw a rectangle **round his diagram.**
Suggest a length and a breadth, in turtle steps, that Noel should use for this rectangle.



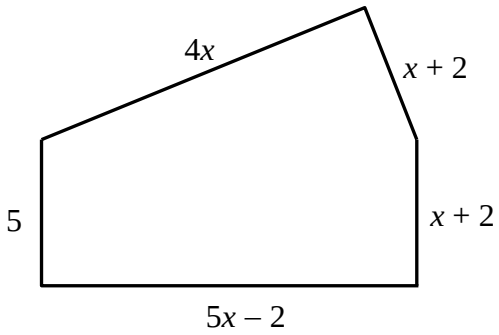
Length: _____ turtle steps.

Breadth: _____ turtle steps.

(5 marks)

Name: _____ Class: _____

4. **All the sides of the quadrilateral are measured in centimetres.**



a) Write an expression, in x, for the perimeter of this shape.
Simplify the expression.

b) The perimeter of the shape is 40 cm. Write an equation for the perimeter.

c) Solve the equation.

x = _____

(5 marks)

5. Rachel bought **five** bottles of lemonade and a packet of crisps.
One bottle of lemonade costs ***x*** **cent** and
a packet of crisps costs **80 cent**.

Which **one** of the following expressions represents the total cost of **five bottles of lemonade and a packet of crisps**?
(Hint: Remove the brackets first)

$5(x + 80)$	$5(x + 10) + 10$	$5(x + 20) - 20$

Ans. _____

(4 marks)

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6. a) Dylan spends $\frac{2}{5}$ of his pocket money on chocolates, $\frac{11}{30}$ on football stickers and saves the rest. What fraction of his money does he save?

Ans. _____

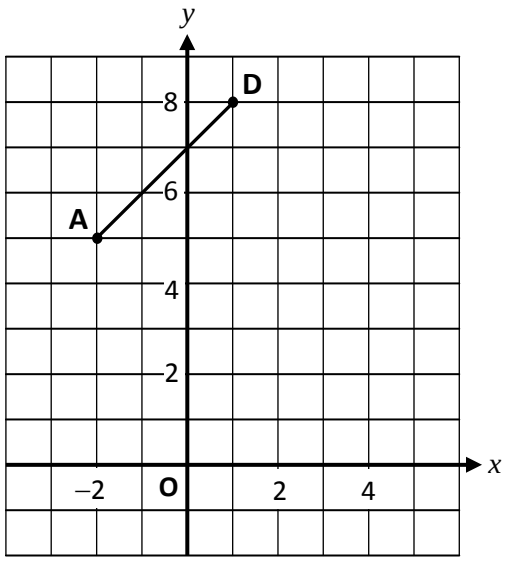
b) A mobile phone costs €156. During a sale, the price of the mobile phone went down by 25%. What is the sale price of the mobile phone?

€ _____

(6 marks)

Name: _____ Class: _____

7.



Fill in:

a) The point **A** has coordinates (_____, _____).

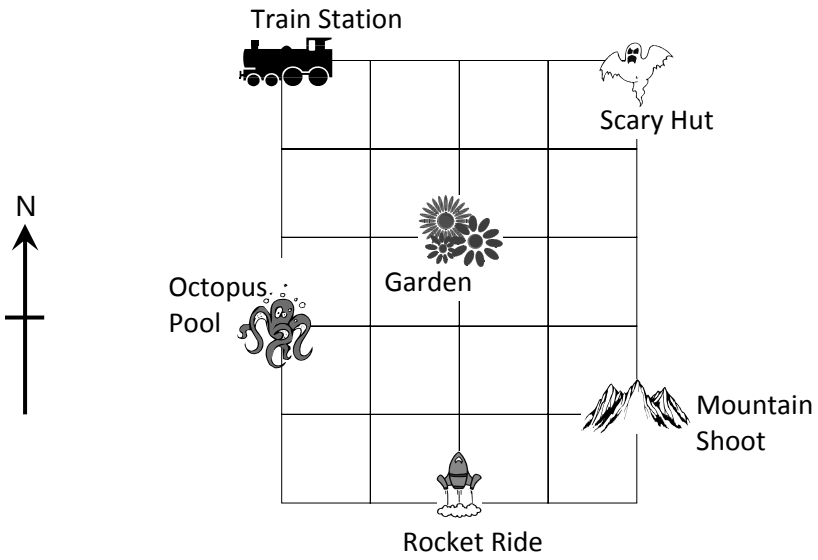
b) Plot and label point **B** (1, 2) on the grid above.

c) The points **A, B, C** and **D** form a square. Complete the square. Label point **C**.

d) The coordinates of point **C** are (_____, _____).

(6 marks)

8. a) This is the plan of an adventure park.



Fill in:

(i) Scary Hut is due East of the _____.

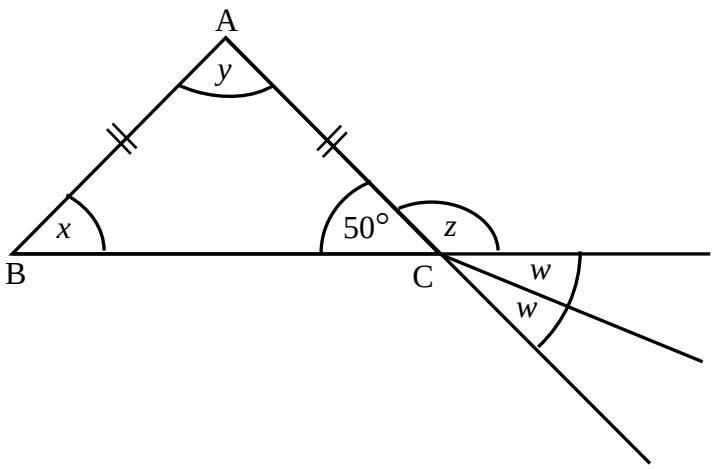
(ii) The Mountain Shoot is due _____ of the Scary Hut.

(iii) The three figure bearing of the Scary Hut from the Garden is _____(045°, 060°, 090°).

(iv) The three figure bearing of the Rocket Ride from the Octopus Pool is _____ (045°, 135°, 270°).

b) Triangle ABC is an isosceles triangle.

(i) Find the size of the angles marked with letters x, y and z.



x = _____ °

y = _____ °

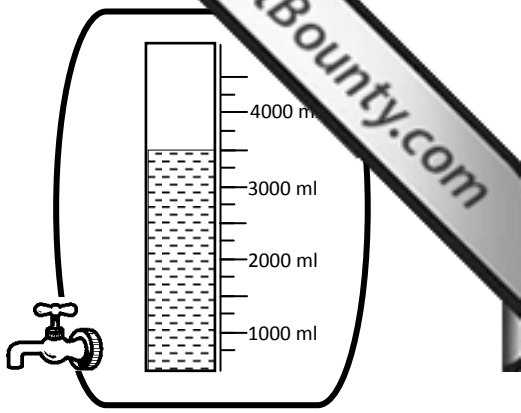
z = _____ °

(ii) Fill in: $\boldsymbol{w} + \boldsymbol{w}$ = _____ °. Work out the value of $\boldsymbol{w}$.

w = _____ °

(11 marks)

9. a) (i) The tank in the diagram contains _____ millilitres of oil.



(ii) The oil is poured into a **bottle** and into a **can** in the ratio 3 : 4.

How many millilitres of oil are there in the **bottle**? _____ ml

b) A handbag costs **€21**. Katia has **€252** saved.
Write down the ratio of the cost of the **handbag** to Katia's **savings**.
Write your answer in its simplest form.

cost of handbag : savings

_____ : _____

_____ : _____

Ans. _____ : _____

(5 marks)

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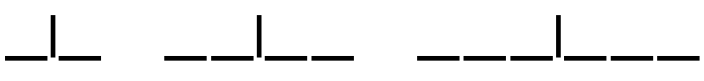
10. This is a pattern made using sticks.



Pattern 1 Pattern 2 Pattern 3 Pattern 4

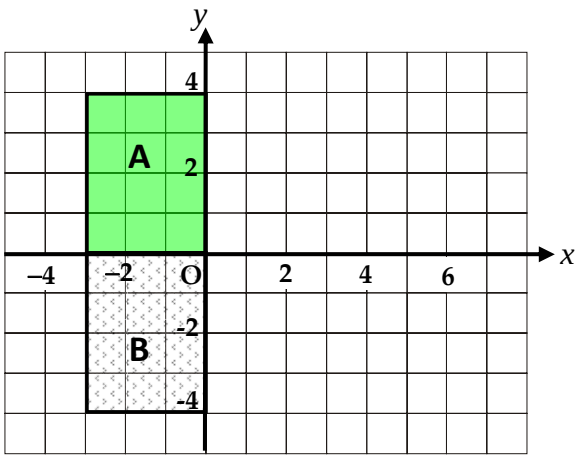
a) Draw the 4th pattern.

b) Complete the table below:

Pattern Number	1	2	3	4	5	8
Number of sticks	3					

(6 marks)

11.



a) Translate rectangle **A**, 6 right and 4 down. Label it **C**.

b) Rotate rectangle **A** through 90° clockwise about **O**. Label it **D**.

c) Describe the transformation that maps **A** to **B**.

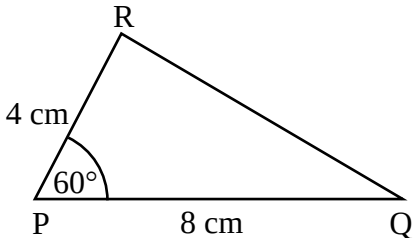
_____

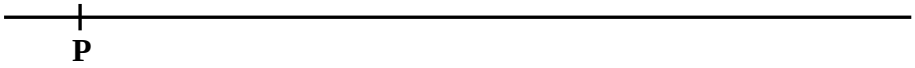
d) Describe the transformation that maps **C** to **B**.

_____

(8 marks)

12. a) **Use ruler and compasses only to construct triangle PQR.**





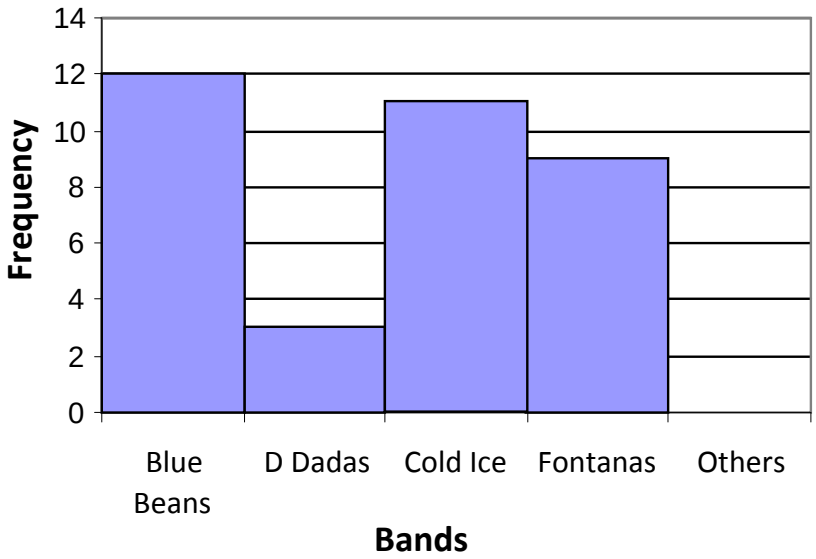
b) Measure **side RQ** and **angle Q**.

RQ = _____cm angle Q = _____°.

(5 marks)

13. Robert made a survey on the favourite bands of 40 students.

The bar chart represents some of his data.



a) Complete the frequency table below, showing the results obtained by Robert.

Band	Blue Beans	D Dadas	Cold Ice	Fontanas	Others	**Total 40**
Frequency		3				

b) Complete the bar chart for **Others**.

c) What **fraction** of the students who took part in the survey chose **Blue Beans**? Give your answer in its simplest form.

Ans. _____

d) What is the **probability** that a student chooses **Fontanas** as her favourite band?

Ans. _____

(6 marks)

END OF PAPER