DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department of Curriculum Management
Educational Assessment Unit

LEVELS
6 – 7

Annual Examinations for Secondary Schools 2015

FORM 2 **MATHEMATICS** **TIME: 30 minutes**
Non Calculator Paper

Question	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Total**
Mark								

DO NOT WRITE ABOVE THIS LINE.

Name: _____ **Class: _____**

Instructions to Candidates

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

1. a) Express 28 as a product of its prime factors.

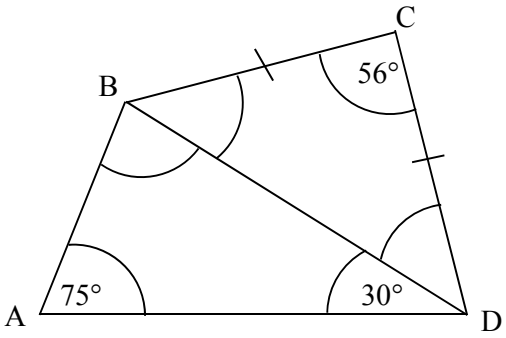
Ans: _____

b) Which are the two smallest common multiples of 6 and 9?

Ans: _____, _____

(4 marks)

2.



Work out:

a) Angle ABD

Ans: _____ °

b) Angle CBD

Ans: _____ °

c) How can you check that your answers are correct?

Ans: _____

_____

(5 marks)

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3. Complete this table:

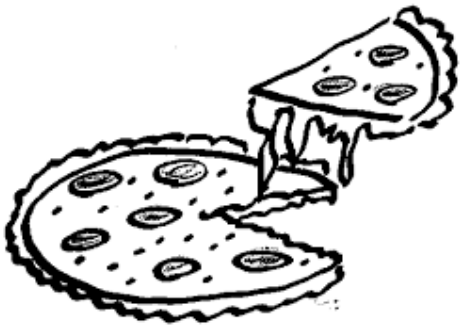
Fraction	Decimal	Percentage (%)
$\frac{4}{5}$		
	0.63	
		45%

(4 marks)

4. Elaine and Kevin had a pizza amongst them.

Elaine ate $\frac{1}{4}$ of the pizza while Kevin ate $\frac{1}{3}$.

What fraction of pizza was left?



Ans: _____

(3 marks)

5. Ms Borg parked her car at Level −1 in a supermarket building.

She uses the lift and goes up two levels.

At what level does she go out of the lift?

Ans: _____

(2 marks)

6. Work out the value of $4a - 2b$ when $a = 6$ and $b = 3$.

Ans: _____

(2 marks)

7. A survey about the number of children in each family was carried out.

Family	Number of Children
Family Borg	4
Family Gatt	3
Family Axisa	2
Family Vella	3
Family Zarb	1
Family Attard	5

a) Work out the mean number of children per family.

Ans: _____

b) Work out the range of the number of children in these families.

Ans: _____

c) What is the modal number of children in these families?

Ans: _____

(5 marks)

END OF PAPER

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Annual Examinations for Secondary Schools 2015

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

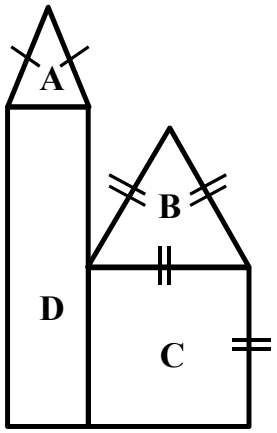
Question	1	2	3	4	5	6	7	8	9	10	11	Total Main	Non Calc	**Global Mark**
Mark														

DO NOT WRITE ABOVE THIS LINE.

Name: _____ **Class:** _____

CALCULATORS ARE ALLOWED BUT ALL NECESSARY WORKING MUST BE SHOWN.
ANSWER ALL QUESTIONS.

1.



Choose from these words to complete the sentences:

a square, an isosceles triangle, a rectangle, an equilateral triangle

a) Shape A is _____.

b) Shape B is _____.

c) Shape C is _____.

d) Shape D is _____.

(4 marks)

2. A fund raising activity raised €3200.

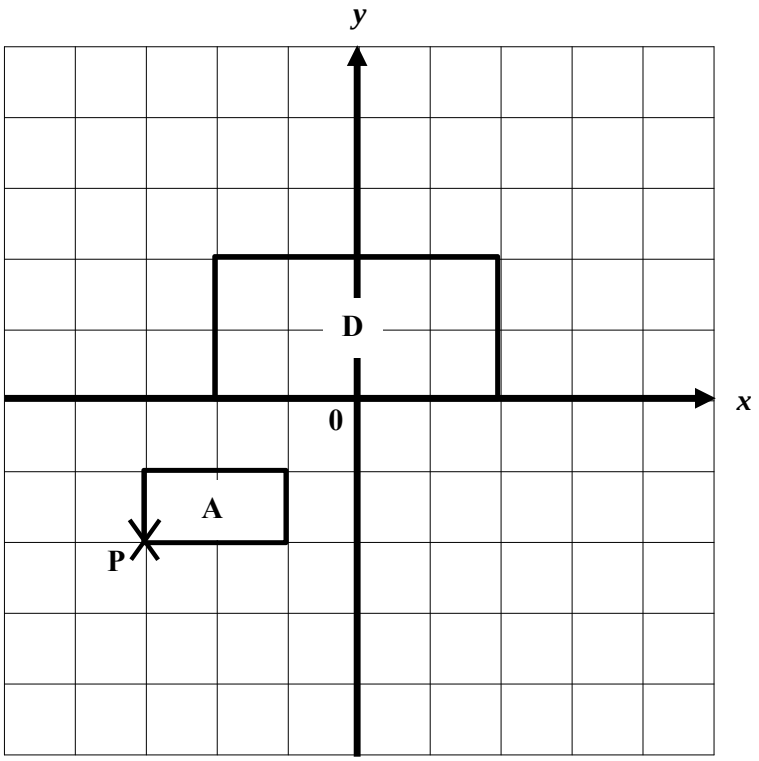
The money was divided in the ratio **4 : 3 : 1** amongst **The Children's Fund, The Charity Fund** and **The Administration Fund.**

How much money did **The Children's Fund** get?

Ans: €_____

(3 marks)

3.



a) Draw a **reflection** of shape A **in the *y*-axis** and label it B.

b) **Translate** shape A by $\binom{\mathbf{0}}{\mathbf{5}}$. Label the new shape C.

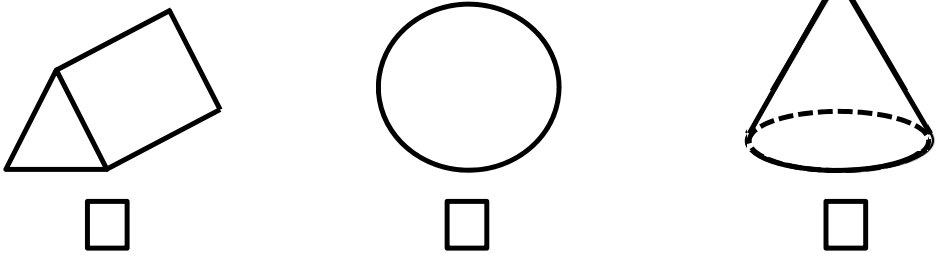
c) Shape D is the **enlargement** of shape A. By what **scale factor** is shape A enlarged? Give a reason for your answer or show your working.

Answer: _____

d) **Rotate** shape A **about point P**, **90° anticlockwise**. Label the new shape E.

(5 marks)

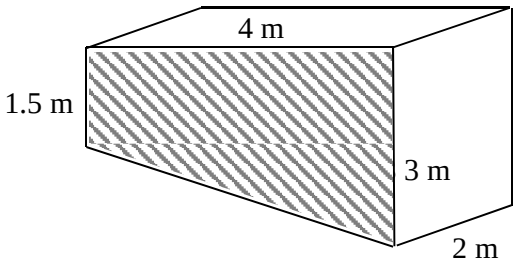
4. a) i) Which of the following shapes is a prism? Tick ✓ the right shape.



ii) What **shape** is its **cross section**?

Ans: _____

b) The cross section of the prism below is a trapezium.



i) On the diagram, divide the **cross section** into a rectangle and a triangle.

ii) Work out the **area** of the whole cross section.

Ans: _____ m^2

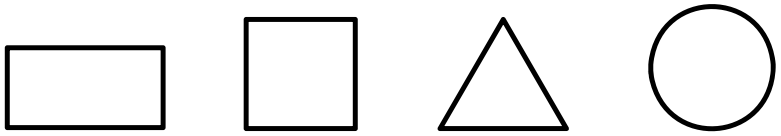
iii) The **length** of the prism is 2 m. Work out its **volume**.

Ans: _____ m^3

(9 marks)

5. a) Damian has to choose a shape for tiling the sitting room.

i) Which shape do you think he CANNOT choose and why?



rectangle square triangle circle

Ans: _____

_____

ii) Damian chooses the triangle. Show how he can use the tiles to cover the floor. Draw at least 4 pieces.

b) i) Name one thing that a square and a rhombus have in common.

Ans: _____

ii) Name one thing that a rhombus and a parallelogram have in common.

Ans: _____

iii) A triangle with only two angles equal is called an _____ triangle.

iv) A triangle with all its angles equal to 60° is called an _____ triangle.

(7 marks)

Name: _____ **Class:** _____

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6. a) Which of these fractions are equal?

$\frac{3}{4}$, $\frac{2}{3}$, $\frac{5}{10}$, $\frac{8}{12}$, $\frac{4}{16}$.

Ans: _____and_____

b) Fill in with $>$, $<$ or $=$.

i) 0.8 ☐ 0.08

ii) $\frac{2}{3}$ ☐ $\frac{5}{6}$

c) Put these numbers in order, **smallest first**.

0.8, 0.08, 8.0, 0.88. Ans:_____

d) 40 teenagers are members of a youth club. 55% of them are girls. How many girls are there?

Ans: _____girls

(6 marks)

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7. a) Work out: $\mathbf{2(8 + 3 \times 4)}$.

Ans: _____

b) Simplify: $\mathbf{4x + 3y - 2x + 6 + 2y - 4}$.

Ans: _____

c) Solve: $\mathbf{3x + 2 = 2x + 5}$.

Ans: _____

d) Joe is 3 years older than double Peter's age. Joe is 17 years old. How old is Peter?

Ans: _____years

(8 marks)

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8. a) The scale of a model car is 1 : 32.

i) The model is 12.5 cm long. How long is the car?

Ans: _____cm

ii) The real car is 176 cm wide. Work out the width of the model.

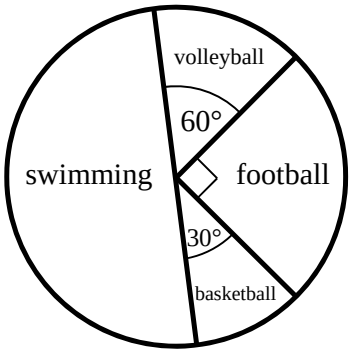
Ans: _____cm

b) A rectangular hall 12 metres long and 5 metres wide is to be drawn with a scale of **1 cm to represent 2 m**. Draw a scale drawing of this hall.

(6 marks)

9. There are 24 students in a class. Each student practises one sport from swimming, volleyball, football and basketball.

Use the pie chart to answer the following questions:



a) How many students play football?

Ans: _____ students

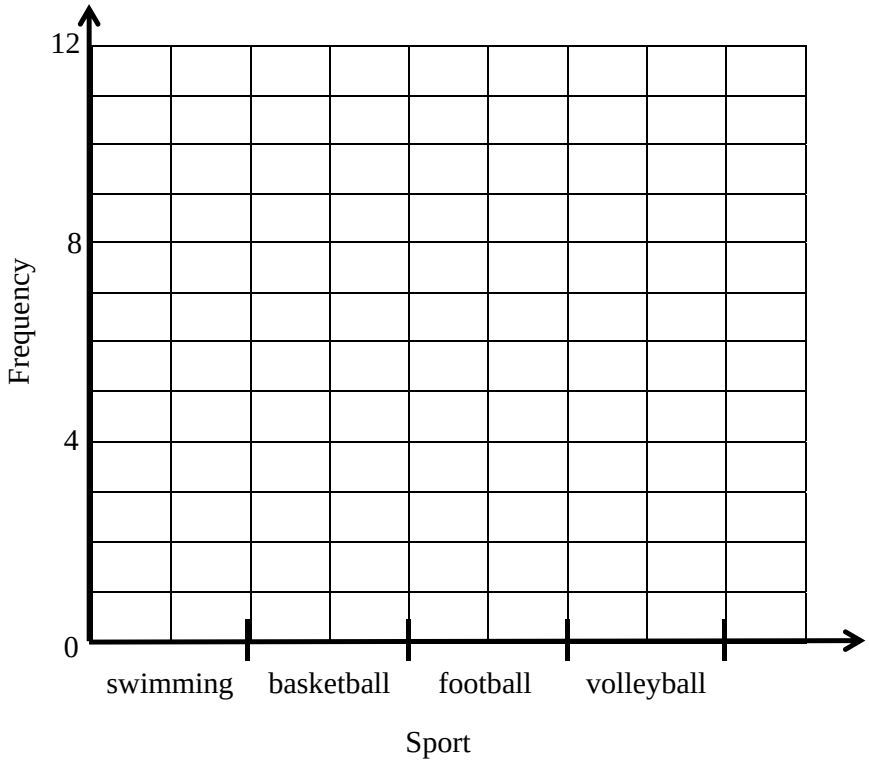
b) How many students practise swimming?

Ans: _____ students

c) Which sport is the least popular?

Ans: _____

d) Four students play volleyball. Draw a bar chart on the grid below to show the number of students practising each sport.



e) The teacher calls a student at random. Find the **probability** that this student:

i) plays football

Ans: _____

ii) plays basketball

Ans: _____

(11 marks)

10. a) Using ruler and compasses only, construct an equilateral triangle, ABC, whose sides are each equal to 5 cm.

b) Construct the perpendicular bisector of side AB. Name the midpoint, D.

c) What do you notice about this perpendicular and vertex C?

Ans: _____

_____

d) Measure AD and DB.

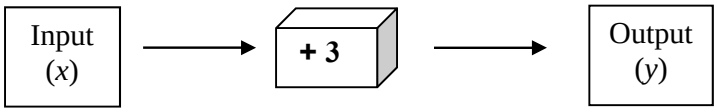
Ans: AD =_____cm

DB =_____cm

e) The order of symmetry of triangle ABC is _____.

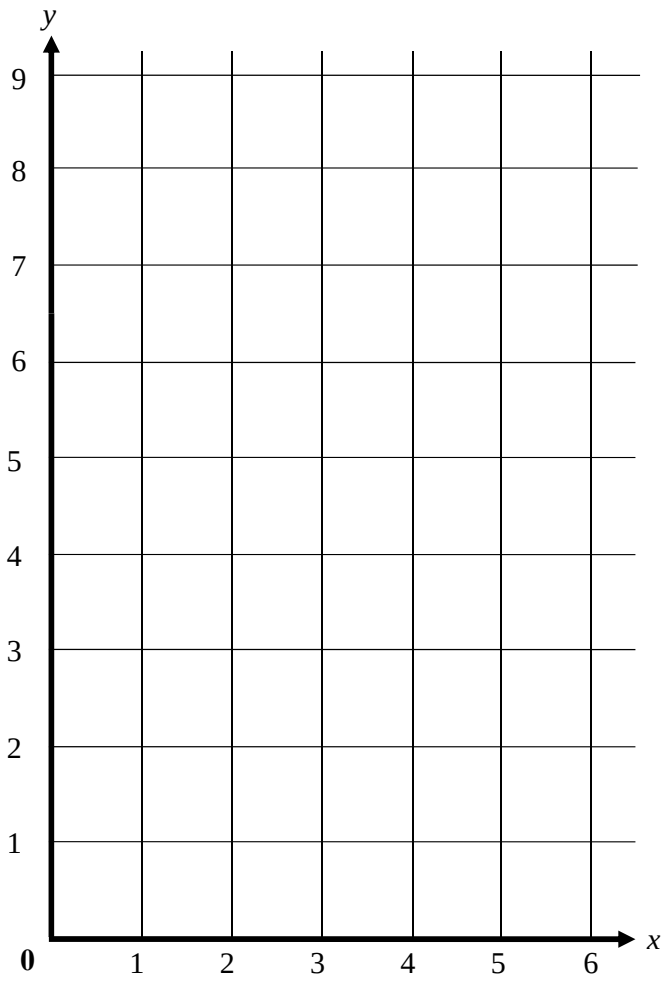
(6 marks)

11. a) i) Use the function machine to complete the table.



x	*y*
0	
2	
	9

ii) On the grid below plot the points (x, y) from the function machine. Join the points.



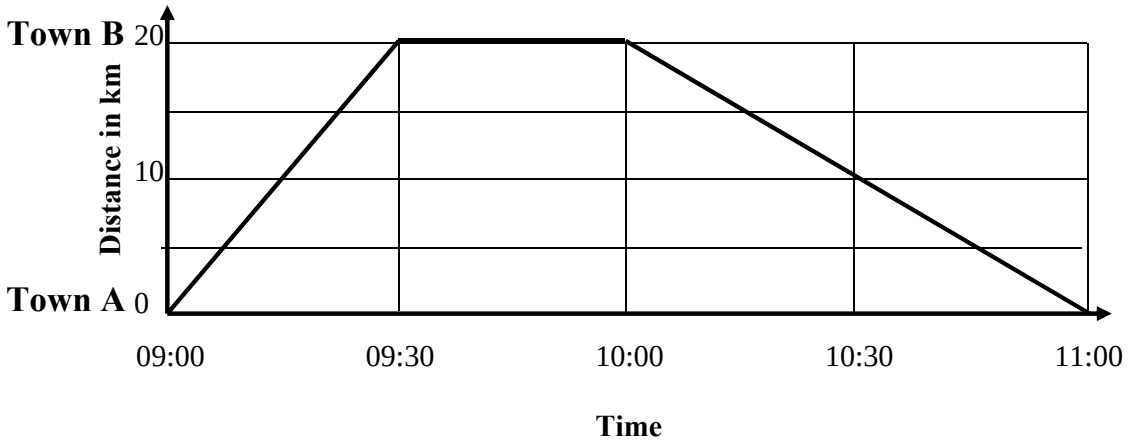
iii) Write down the equation of the graph.

y = _____

iv) Which one of the following points lies on the line? Underline it.

A(1, 5), B(3, 4), C(5, 8)

b) The travel graph shows the journey of a car from one place to another.



i) How far is Town B from Town A?

Ans: _____ km

ii) On the journey from Town A to Town B, how many minutes does it take to travel the first 10 km?

Ans: _____ min

(10 marks)

END OF PAPER