DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION

Department for Curriculum Management and eLearning

Educational Assessment Unit

Annual Examinations for Secondary Schools 2013

FORM 5	MATHEMATICS SCHEME D	TIME: 20 minutes
	Non Calculator Paper	

Name: _____ **Class:** _____

Mark

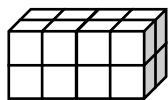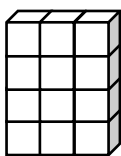## Instructions to Candidates

- **Answer ALL questions.**

- **This paper carries a total of 20 marks.**

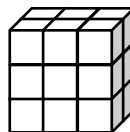- **Calculators and protractors are not allowed.**

1. a) Which object is made up of **most** cubes?

A   B   C

Object _____

b) How many cubes make up **object A**?

_____cubes

(2 marks)

2. Rita has the following coins in her pocket.

a) How much money does Rita have?

€_____

b) She wants to buy a shirt costing €5.
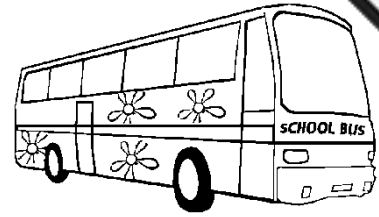   How much **more** money does she need?

_____ cent

(3 marks)

Name: _____ **Class**: _____
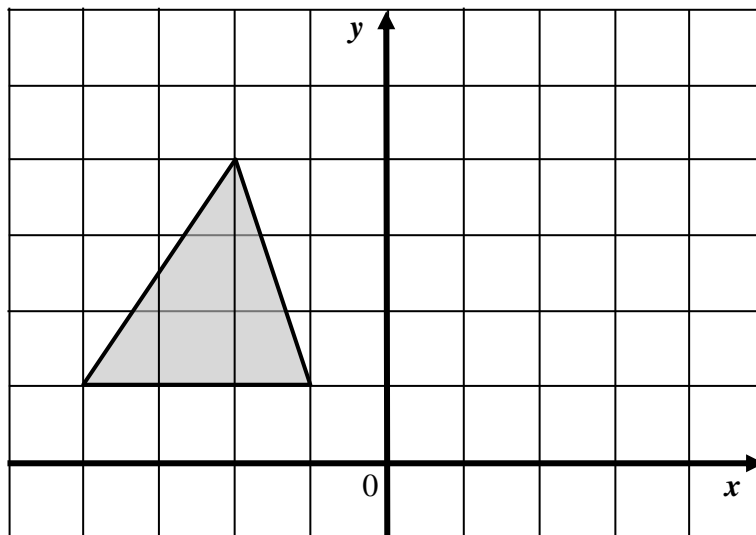
3. A bus took some students to camp.

    It left the school at 10:15 am.

    The trip took **one and a half** hours.

    At what **time** did the bus get to the camp?

    _____ : _____ am

    (1 mark)

4. **Reflect** the triangle in the **y-axis**.

    (1 marks)

5. The following are **ages** (in years) of a group of athletes.

    15,   18,   20,   22,   26

    What is the **median** age?

    Median = _____years

    (1 mark)

6. A bag of 4 apples costs €2.00.

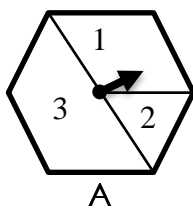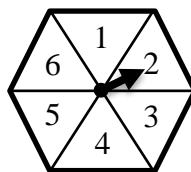   a) Work out the cost of **one** apple.

   Cost = _____

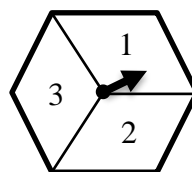   b) How many apples can be bought with €7.50?

   _____ apples

   (3 marks)

7. Sandra spins these arrows.
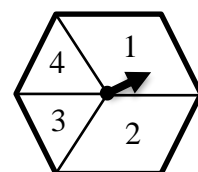
   a) Which arrow is **most likely** to land on a 3?

   Arrow_____

   b) With arrow **C** the **probability** of getting a 2 is:

   _____

   (2 marks)

8. **Fill in** the missing **input/output** machines.

a)

INPUT			OUTP
4	× 2	− 5	

b)

INPUT			OUTPUT
12	÷ 4	+ 7	

c)

INPUT			OUTPUT
	× 3	−1	11
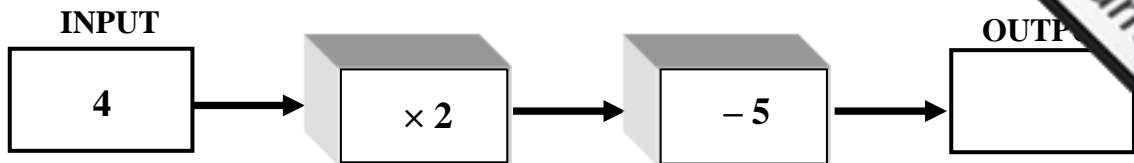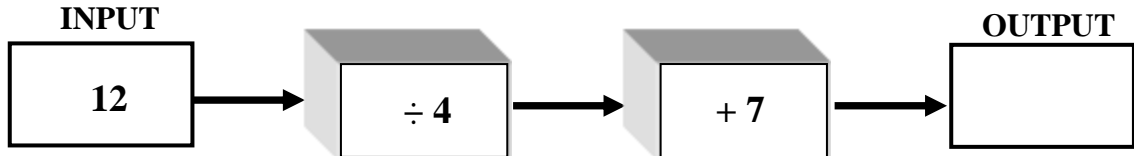
(3 marks)

9. This fuel gauge shows the amount of petrol in the tank.

a) About how many litres of petrol are there in the tank?

_____litres

b) How many litres are there in the tank when **full**?

_____litres

(2 marks)

10.

November 2013

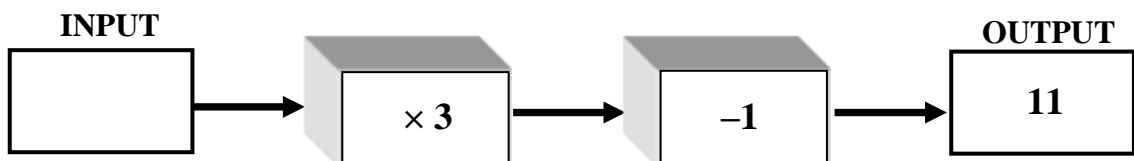| Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Complete the following using the calendar above.

a) John goes for football training every **Tuesday** and **Friday**.

During this month he will have _____ training sessions.

b) John celebrates his birthday on 26 **October** 2013.

This day will be a _____.

(2 marks)

END OF PAPER

FORM 5   **MATHEMATICS SCHEME D**   **TIME: 1h 40min**
Main Paper

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

Name: _____   Class: _____

Instructions to Candidates

- **Answer ALL questions.**

- **This paper carries a total of 80 marks.**

- **Calculators are allowed. Show all necessary working.**

1. a) Write **three thousand five hundred and eighty six** as a number.

   _____

   b) Use your calculator to **work out** the value of:

   i) $25.4 - 11 \times 3$ =   _____.

   ii) $5^2 + 2^3$ =   _____.

   iii) $7.5 \div (-4 - 11)$ =   _____.

   (4 marks)

2. a) Arrange these decimals in **ascending** order (**smallest to large**)

    1.305   13.5   13.05   1.35   0.13

    _____   _____   _____   _____   _____

    b) **Round** these numbers as indicated in the brackets.

        i) 7.625   (correct to 1 decimal place)   =   _____

        ii) 48.67   (to the nearest whole number)   =   _____

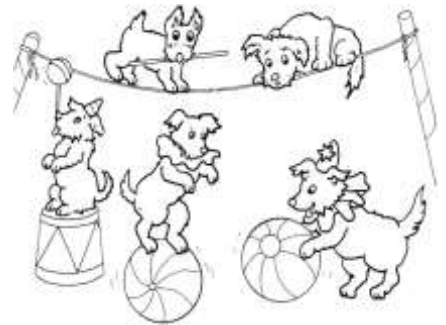   iii) 523.8   (to the nearest 10)   =   _____

                                                                (6 marks)

3. Mark has 5 dogs and a 15 kg bag of dog food.
    Each dog eats **100 g** of dog food **each day**.

    Fill in.

    a) Mark needs _____ g of dog food **each day** to feed his dogs.

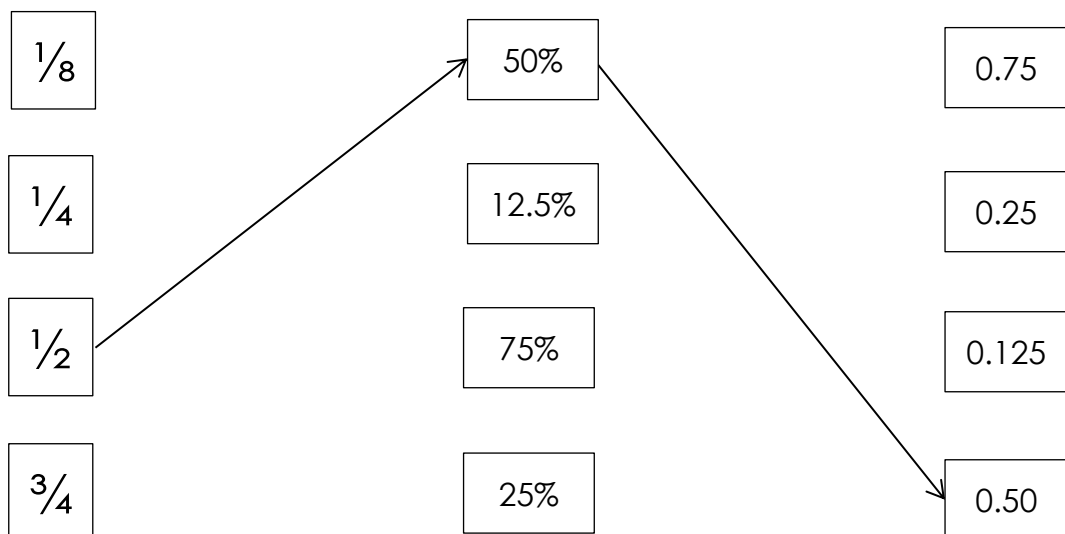   b) 1 kg of dog food will last for _____ days .

    c) The 15 kg bag of dog food will last for _____ days.

                                                                (3 marks)

4. **Match** fractions with decimals and percentages using **arrows** as shown.

⅛	50%	0.75
¼	12.5%	0.25
½	75%	0.125
¾	25%	0.50

                                                                (3 marks)
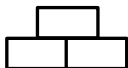
Name: _____   Class: _____

5. Alex is making this brick pattern.

Pattern 1   Pattern 2   Pattern 3   Pattern 4

a) **Draw** pattern 4 in the space provided above.

b) **Fill in** the table below.

Pattern	1	2	3	4	5	
Bricks Used	1	3				11

c) **Pattern 8** is made up of _____ bricks.

d) Alex needs 19 **bricks** to make pattern _____.

(6 marks)

6. **Movie Cinema** has the following **film** program.

| FILM	STARTS AT			LENGTH
Pirates	10:30 am	1:30 pm	3:30 pm	1 hour 35 minutes
A School Story	10:00 am	1:05 pm	4:00 pm	2 hours 50 minutes
Lost on an Island	10:40 am	1:15 pm	4:30 pm	1 hour 40 minutes
The Old House	11:45 am	2:15 pm	4:45 pm	2 hours

a) Mark **arrives** at the cinema at 10:50 am. Which morning **film** can he watch?

_____

b) At what **time** does the **last** movie show **end**?

_____:_____ pm

c) Sara **arrives** at the cinema at **1:00 pm**. Her mother will pick her up at **3:00 pm**. Which **movie** can Sara watch from start to finish?

_____

7. A rectangular field is (2x – 3) m long and x m wide.

   a) **Complete** the **expression** for the perimeter of the field.

   $2x$

   x

   $2x – 3$

   P = 2x – 3 + x + _____ m

   b) **Simplify** the expression in question (a).

   _____ m

   c) The **perimeter** of the field is 36 m.
      Complete the equation and **solve** it to find the value of x.

   _____ = 36

   x = _____ m

   d) Use your answer in question (c) to work out the **length** of the field.

   _____ m

   (7 marks)

8. Alison has a euro **coin** and a **dice**.
   She first tossed the coin.

   a) i) What is the **probability** of getting heads?

   _____

   ii) Alison tosses the coin **60** times.
       Estimate the number of heads Alison is likely to get.

   _____

   Alison then throws the **dice** shown.

   b) i) Which of the following is **more** likely to occur?
         Underline the correct answer. Getting a:

   a prime number   **a square number**

   ii) Give a reason for your answer.

   _____

   _____

9. On the graph below, **plot** the points: **A** (–4, –2), **B** (0, 0) and **C** (8, ...

a) **Join** the points to form a line.
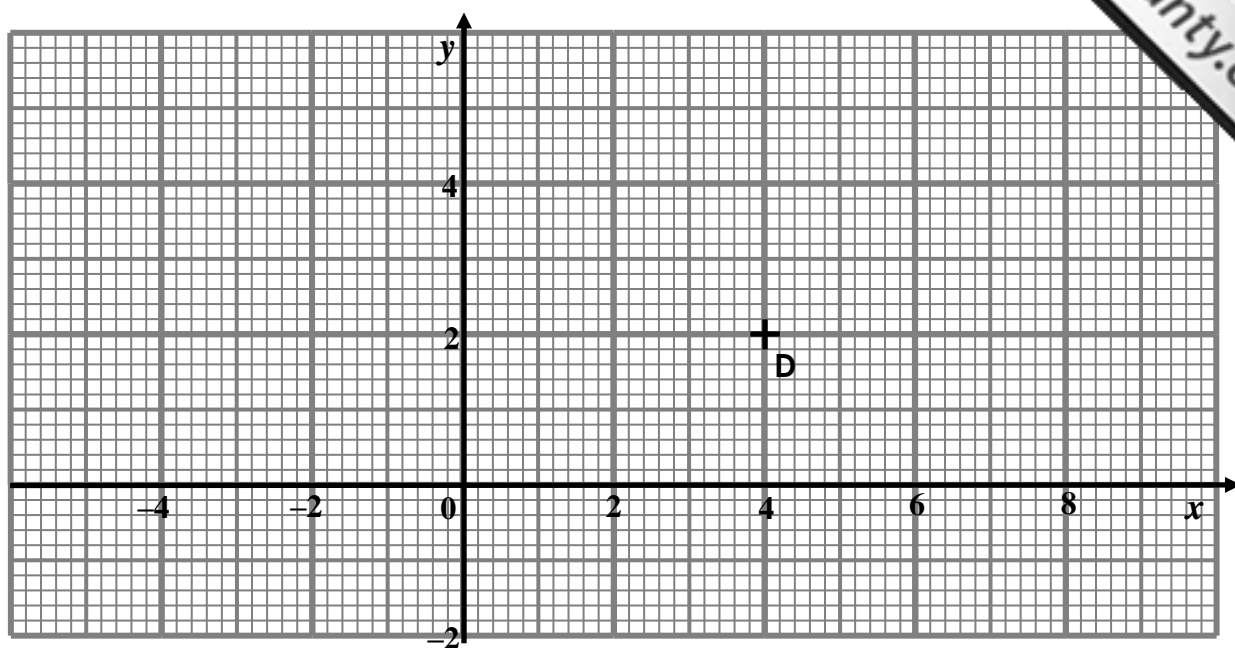
b) Write down the **coordinates** of point **D**.

D = (_____, _____)

c) Work out the **gradient** of the line.

Gradient = _____

d) <u>Underline</u> the correct **equation** of the line.
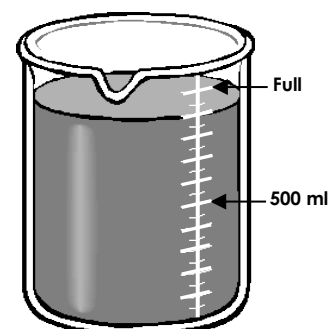
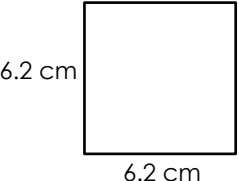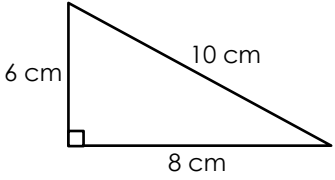$y = 2x + 4$ $y = \frac{1}{2}x - 2$ $y = \frac{1}{2}x$

(7 marks)

10. a) Petra filled a **beaker** with an amount of water.

Fill in.

i) The beaker has _____ ml of water.

ii) The beaker has _____ l of water when **full**.

iii) With another _____ ml of water the beaker will be **full**.

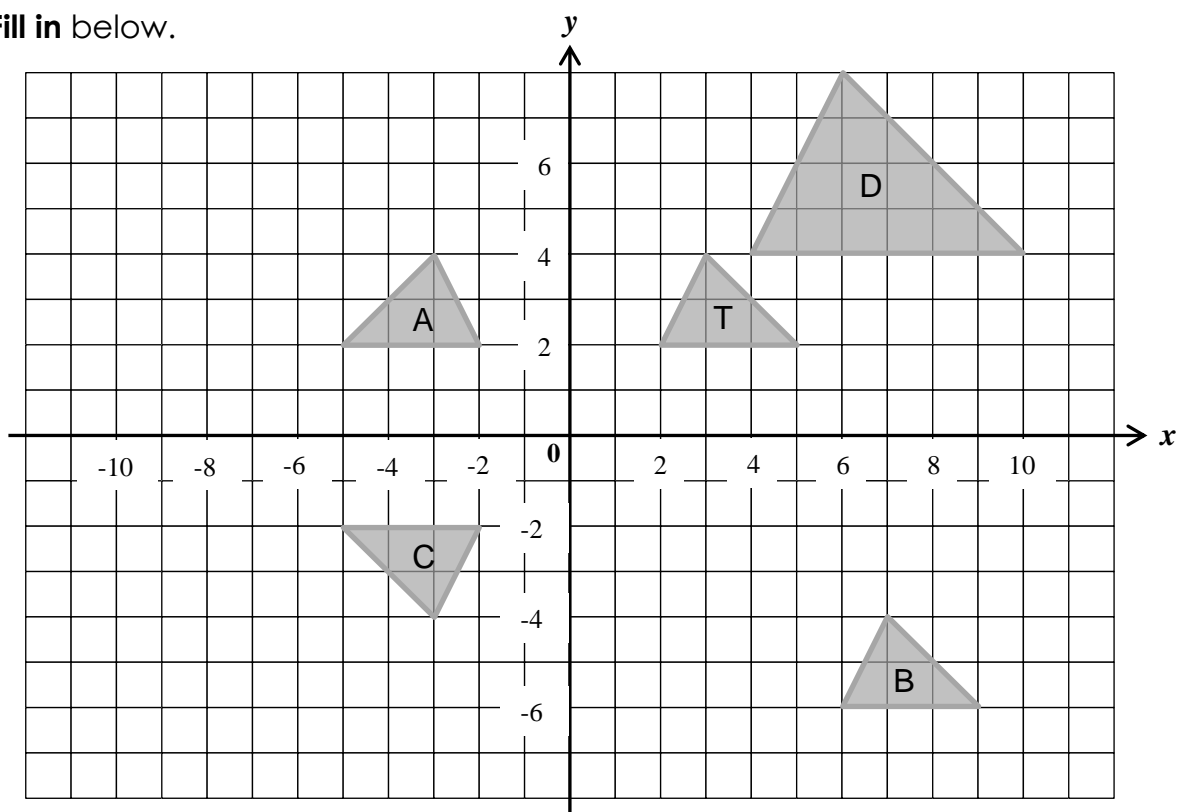b) **Complete** the table below showing **working** and **answer**.

| SHAPE	PERIMETER	AREA
6.2 cm, 6.2 cm (square)	_____ cm	_____ cm²
6 cm, 10 cm, 8 cm (right triangle)	_____ cm	_____ cm²

(9 marks)

11. **Fill in** below.

a) Triangle _____ is a **reflection** of triangle T in the **y**-axis.

b) Triangle D is an **enlargement** of triangle T by scale factor _____.

c) Triangle _____ is a **rotation** of triangle T by _____° about the origin.

d) Triangle B is a **translation** of triangle T by _____ squares right and 8 squares
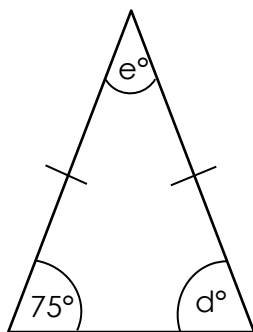
   _____.

(6 marks)

12. **Work out** the angles marked with a letter in the diagrams. **Show** a_____king.
Note: Diagrams are **not** drawn to scale.

a)

115° m°

m = _____°

b)

e°

75° d°

d = _____°

e = _____°

c)

95°

80°

h°

75°

h = _____°
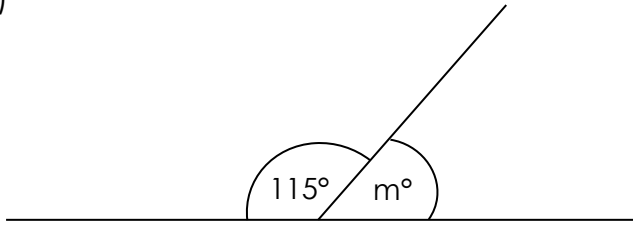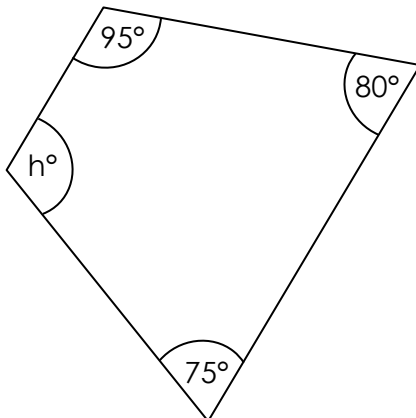
(6 marks)

13. The table shows the **food items** sold from the tuck shop.

Food	Pea Cake	Cheese Cake	Sausage Roll	Cheese Pie	Meat Pie
Frequency	12	14	10	7	16

a) **Complete** the bar chart below to represent this information.
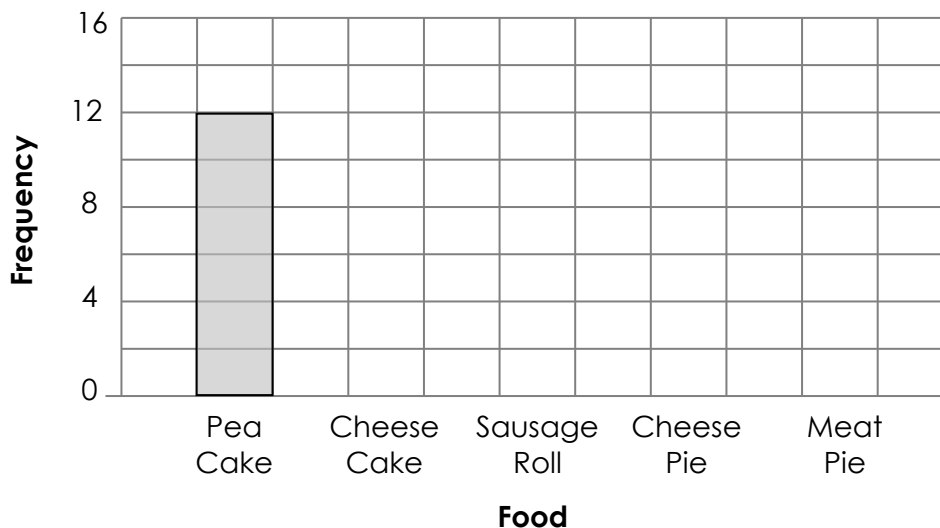
b) **Fill in**.

i) The **total number** of food items sold at the tuck shop is _____.

ii) The most **popular** food is _____.

iii) The **total** number of **pies** sold is _____.

iv) The tuck shop sold _____ more **cakes** than **pies**.

v) The shop sold **twice** as many _____ as _____.

(10 Marks)

END OF PAPER