DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2013

6

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

Name: _____   **Class:** _____

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

Instructions to Candidates

- **Answer all questions.**

- **This paper carries a total of 25 marks.**

- **Calculators and protractors are NOT ALLOWED.**

1. (a) The temperature in Vienna is −3°C. What will the temperature be if:

    (i) it goes up by 5°C?   Ans: _____

    (ii) it goes down by 6°C?   Ans: _____°C

  (b) Work out the following:

    (i) $(-18) \div 9 =$ Ans: _____

    (ii) $-7 \times -20 =$ Ans: _____

_____(4 marks)

2. (a) Fill in the missing quantities:

    (i) $\dfrac{3}{7} = \dfrac{\quad}{21}$ (ii) $\dfrac{18}{24} = \dfrac{\quad}{4}$

  (b) Work out the following:

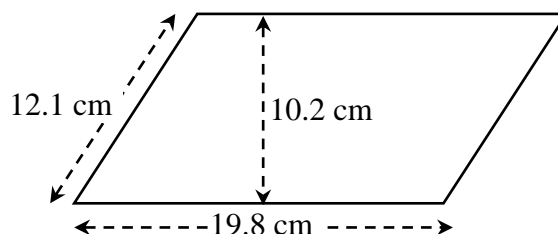   (i) $\dfrac{2}{3} + \dfrac{1}{15} =$ Ans: _____

    (ii) $\dfrac{5}{6} - \dfrac{3}{4} =$ Ans: _____

_____(6 marks)

3. The area of this parallelogram is about:

  A. 240 cm^2
  B. 60 cm
  C. 200 cm^2
  D. 120 cm^3

12.1 cm   10.2 cm

19.8 cm

                                    Ans: _____

_____(2 marks)

4. Write in order, **smallest first**.

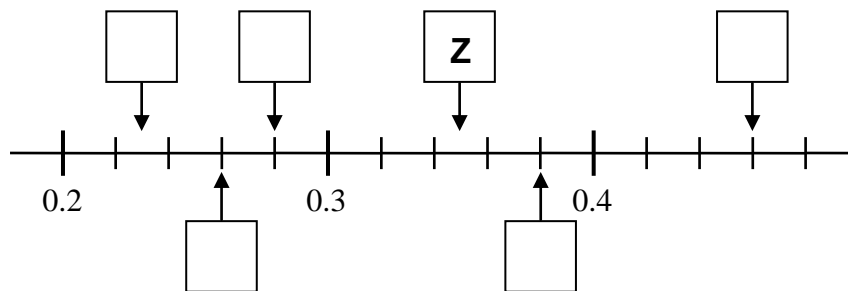33%,   0.3,   0.03,   0.32

Ans: _____

_____ (1 mark)

5. On the scale below:

(i)   Mark an **X** in the square representing 0.38.

(ii) Mark a **Y** in the square representing 0.23.

(iii) Read the value represented by **Z**.   Ans: **Z** =_____

0.2   0.3   0.4

_____(3 marks)

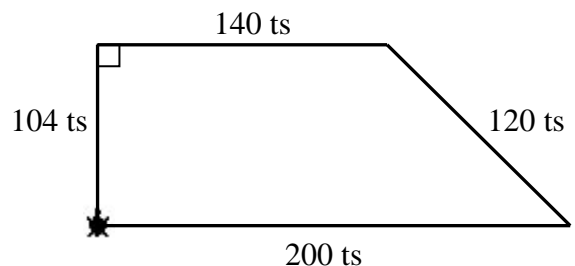6. Julian records the number of ice-creams sold over 5 days.

12   8   10   7   13

Calculate the **mean** number of ice-creams sold.

Ans: _____

_____(1 mark)

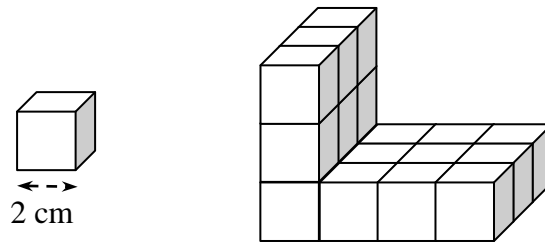7. Fill in the missing LOGO commands
to draw this shape:

All lengths are given in turtle steps (ts).

140 ts

104 ts   120 ts

200 ts

PD FD104 RT____ FD140 RT60 FD____ HOME
_____(2 marks)

8. The solid is made up of cubes side 2 cm.

2 cm

(i) Find the volume of **one** cube.

Ans: _____cm^3

(ii) Find the volume of the **solid shape**.

Ans: _____cm^3

_____(3 marks)

9. (i) Multiply $2 \times 3^2 \times 5$.

Ans: _____

(ii) Write 80 as a product of its prime factors.

Ans: 80 = _____

(iii) Find the HCF of 80 and 90.

Ans: _____

_____(3 marks)

End of Paper

Annual Examinations for Secondary Schools 2013

FORM 2				MATHEMATICS							TIME: 1h 30min			

Main Paper

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	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. Use your calculator to work out:

   (a) $(47 + 13) \times 4$

   Ans: _____

   (b) $\dfrac{17 - 5.2}{3.6}$, correct to 1 decimal place.

   Ans: _____

   (c) $\sqrt{44}$, correct to 2 decimal places.

   Ans: _____

   _____(5 marks)

2.   (a) Simplify: $5p + 2p - 4p$ (b) Expand: $3(3p + 2)$

          Ans: _____   Ans: _____

     (c) Solve: $3x = 27$ (d) Solve: $5a - 2 = 33$

          Ans: _____   Ans: _____
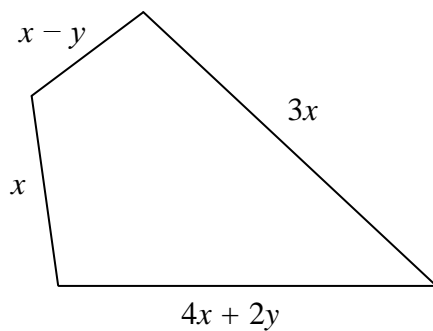

_____(6 marks)

3.   (a) If $\mathbf{X} = 3a + 2b - c$. Find the value of $\mathbf{X}$ when $a = 5$, $b = 3$ and $c = 2$?

                                    Ans: $\mathbf{X} =$ _____

     (b) Write and simplify an expression for the perimeter, $\mathbf{P}$, of the quadrilateral.

$x - y$
$3x$
x
$4x + 2y$

                                    Ans: $\mathbf{P} =$ _____
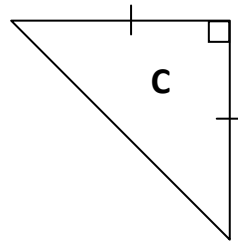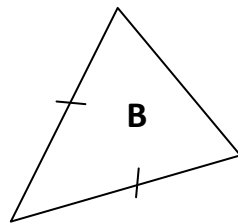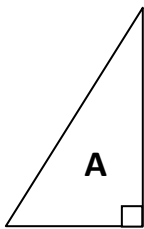

_____(4 marks)

Name_____   Class_____

4.   (a) Draw at least 4 more parallelograms
           on the grid to show that it tessellates.
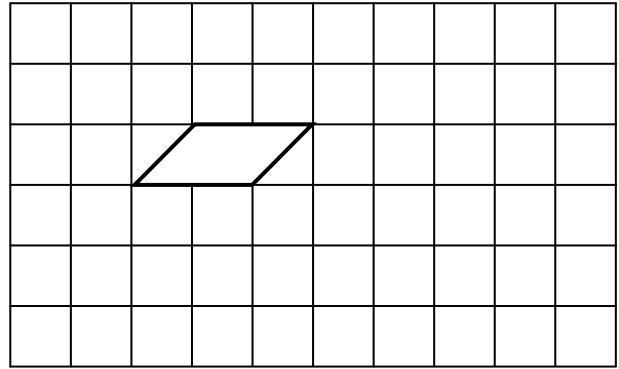
(b)
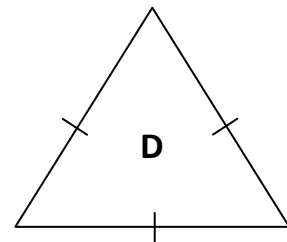
(i) Underline the correct word:

     Triangle **B** is (a scalene, an isosceles, an equilateral) triangle.

(ii) Fill in:
           • Triangle _____ is a scalene triangle.

           • Which **two triangles** have **only one** line of symmetry? ____ and _____

           • Triangle **D** has rotational symmetry of order _____.

_____(6 marks)

5. Gemma is playing a number game with 12 cards. She picks a card at random i̇ following cards:

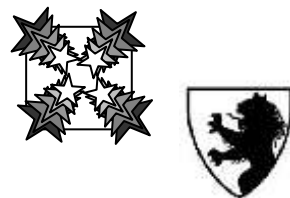| 15	4	5	18
14	7	12	6
16	10	11	9

What is the probability that the first card selected is:

(i)   an even number?   Ans: _____

(ii) a multiple of 3?   Ans: _____

(iii) a prime number?   Ans: _____

(iv) not a prime number?   Ans: _____

_____ (4 marks)

6. Two teams compete in a quiz. The ratio of the points gained by

   Bright Stars to Roaring Lions is 30 : 45.

   (i) Simplify completely the ratio **30 : 45**.

                                                          Ans: ____ **:** ____

   (ii) The two teams share €550 in the ratio of their points. How much does each team get?

                                              Ans: Bright Stars = € _____
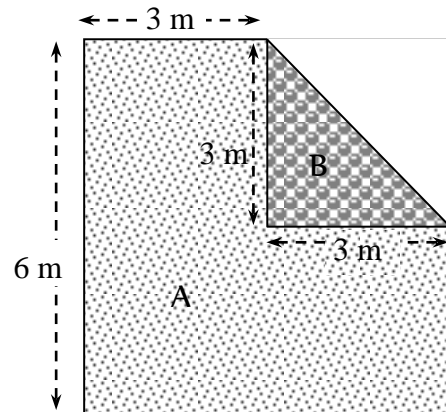
                                                      Roaring Lions = € _____

_____ (6 marks)

Name_____   Class_____

7. The diagram shows the plan of a yard. Space A is
    tiled and space B is covered with pebbles.

(i)   Calculate the area of space A.

Ans: _____m^2

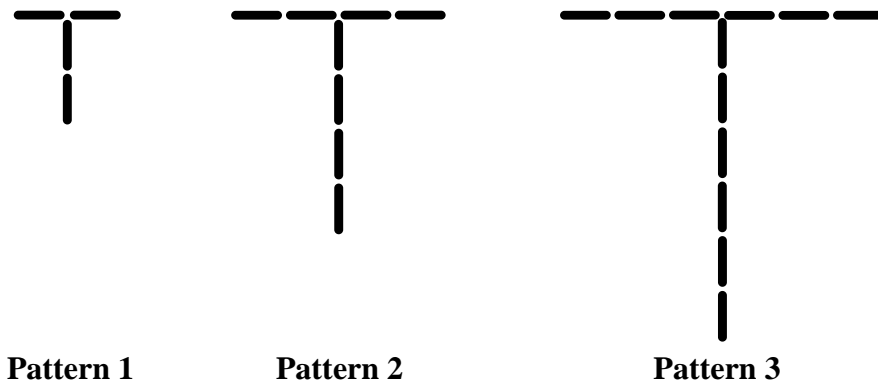(ii) Tiling costs €25 for every 1 m^2. Find the cost of tiling space A.

Ans: €_____

(iii) Calculate the area of space B.

Ans: _____m^2

_____(6 marks)

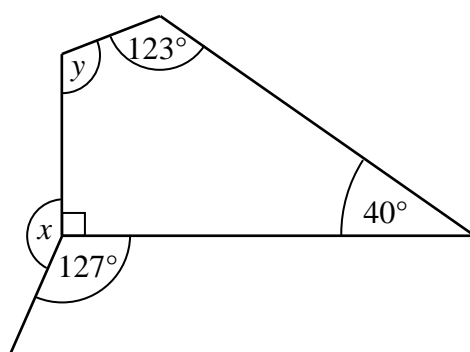8. The patterns in this diagram are made up of sticks.

Pattern 1   **Pattern 2**   **Pattern 3**

(i) Complete the table below:

Pattern number	1	2	3	4	5	6
Number of sticks	4	8	12			

(ii) How many sticks are there in pattern 10?

Ans: _____sticks

_____(4 marks)

9. (a) Find the size of each angle marked with a letter.

Ans: $x =$ _____$^{\circ}$

Ans: $y =$ _____$^{\circ}$
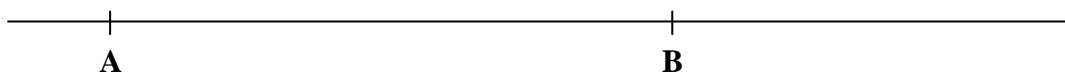
(b) Find the size of each angle marked with a letter.
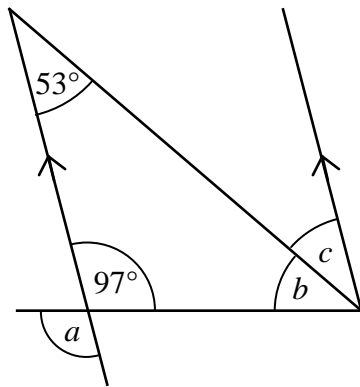
Ans: $a =$ _____°

Ans: $b =$ _____°

Ans: $c =$ _____°

_____(8 marks)

10. (i) Using **ruler and compasses only** construct an angle of 90° at B.

(ii) Mark point C, such that BC = 9 cm long.

(iii) Join AC to form ΔABC.

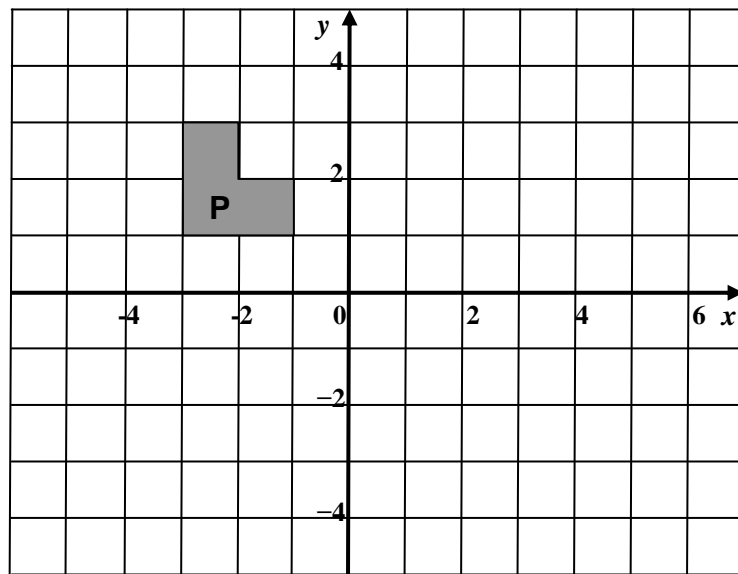**A**   **B**

(iv) Measure angle A.   Ans: _____°

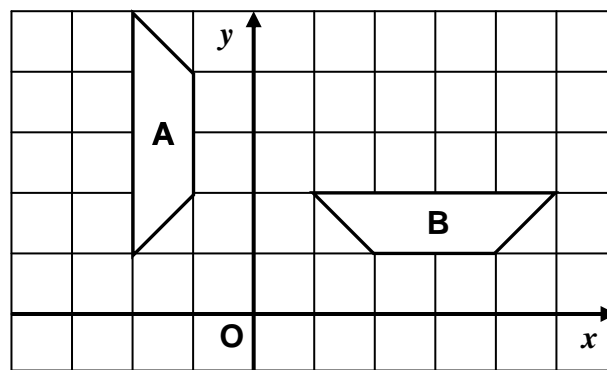(v) Measure side AC.   Ans: _____cm

_____(6 marks)

11.

(a) In the grid **above**:

(i) Reflect shape **P** in the *x* axis. Label it **X**.

(ii) Translate shape **P** 5 right and 3 down. Label it **Y**.

(b)

Underline the correct answer from each bracket:

In the diagram, shape **A** is rotated through (0°, 90°, 180°)

(clockwise, anticlockwise) about the origin to form shape **B**.

_____(6 marks)

12. A group of 150 students were asked to choose an after school activity.

        4% chose cooking.
        24% chose music.
        30% chose football.
        The rest chose drama.

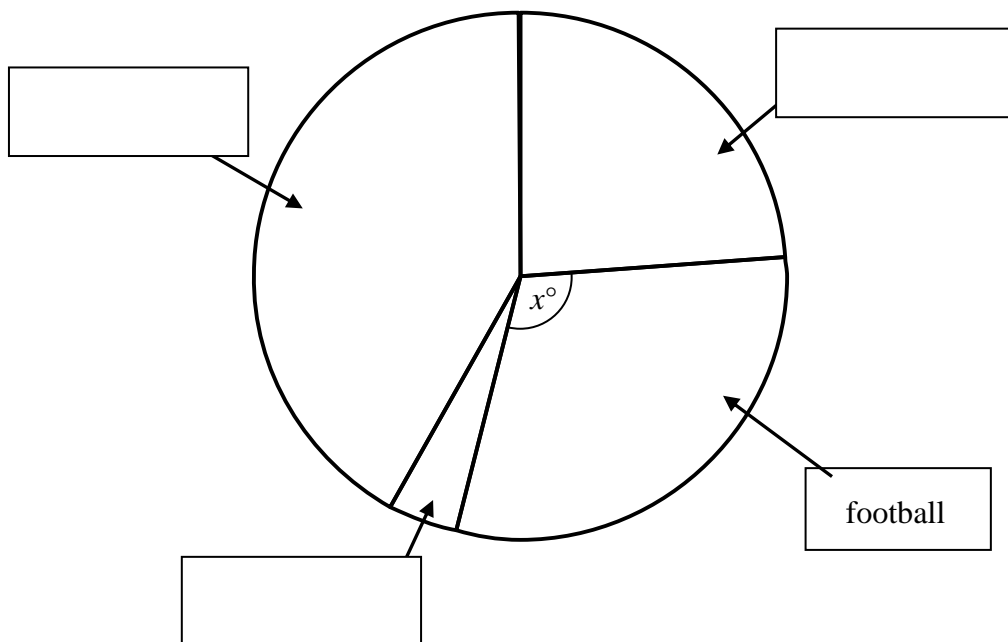(a) What percentage of the students chose drama?

Ans: _____%

(b) How many students chose football?

Ans: _____students

(c) How many students chose music?

Ans: _____students

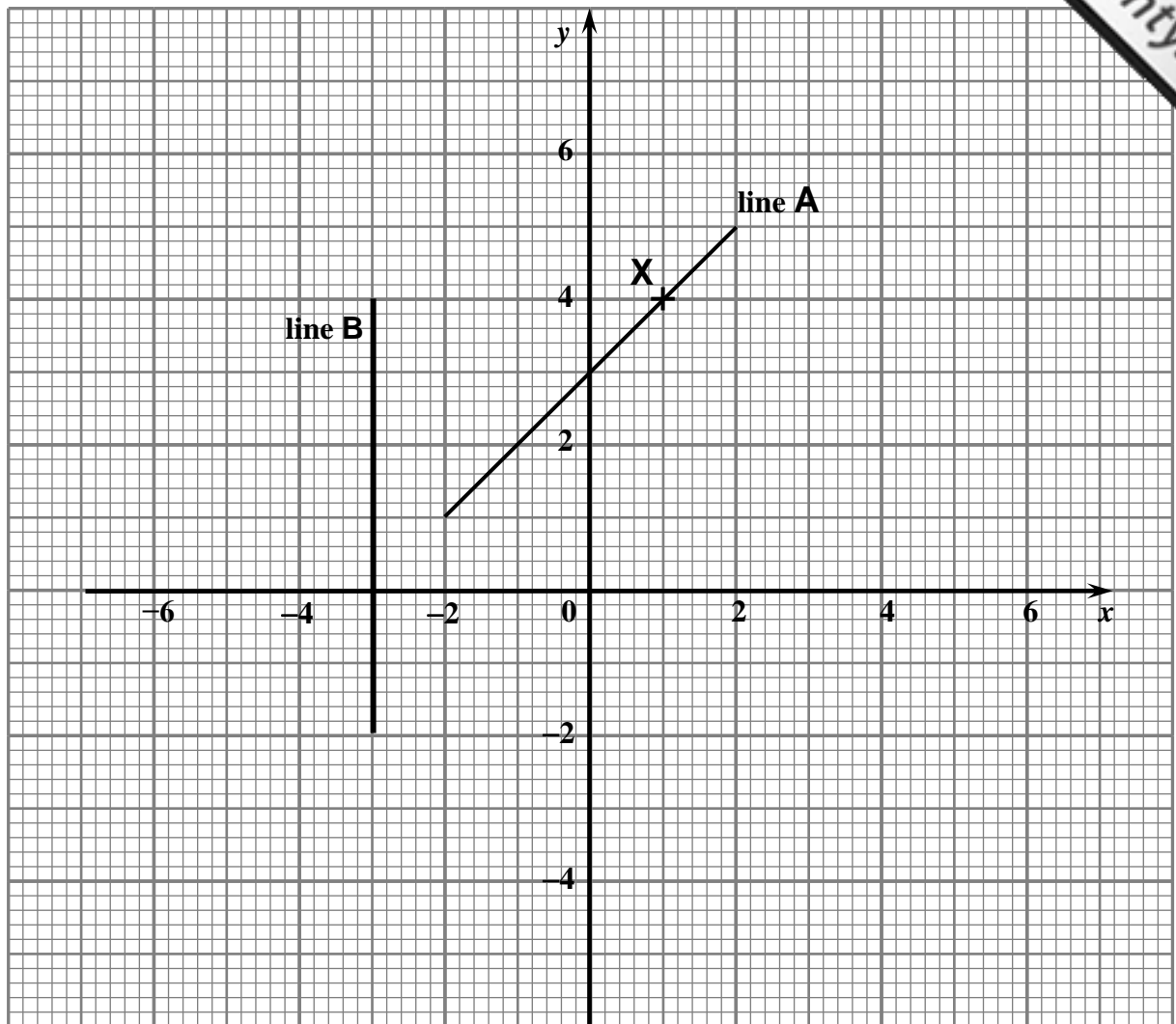(d) The pie chart represents the activities chosen by the students.

    football

(i) Label the pie chart with the activities: **cooking, music and drama**.

(ii) Use a protractor to measure angle x.   Ans: $x =$ _____°

_____(9 marks)

13.

(a) Write down the co-ordinates of point **X**.   Ans: **X**(____,____)

(b) Circle the correct answers.

    (i)   The equation of **line A** is: $y = x$ $y = x + 3$ $y = x - 3$

    (ii) The equation of **line B** is: $x = -3$ $y = x + 3$ $y = 3$

(c) On the graph above, plot the points $(-1, -3)$, $(0, -2)$ and $(3, 1)$
     Joint all the points to form a straight line.

_____(5 marks)

End of Paper