DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2012

C

FORM 3 **MATHEMATICS SCHEME C** **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) Change 1¼ hours into minutes.

Ans_____

   (b) Work out: $4 - 8$

Ans_____
(2 marks)

2. (a) Put these heights in order, the highest first:

15 m, 85 m, −20 m, −70 m, 0 m

_____,_____,_____,_____, _____

   (b) Complete:

1 , 6 , 11 , 16 , _____, _____

(3 marks)

3. (a) A packet of toffees weighs 16 grams. Work out the weight of 15 packets.

Ans _____g
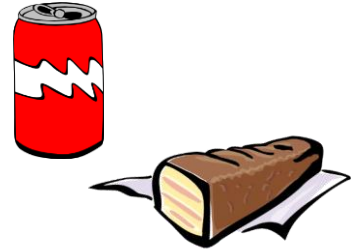
   (b) Calculate 60% of 300 kg.

Ans _____kg

(2 marks)

4. Marija and her friends want to buy 4 bars of chocolate and 3 drinks. Each chocolate costs 85c and each drink costs 63c.
   (a) What is the total cost?
   (b) What change do they get from €10?

Ans (a)_____ , (b)_____
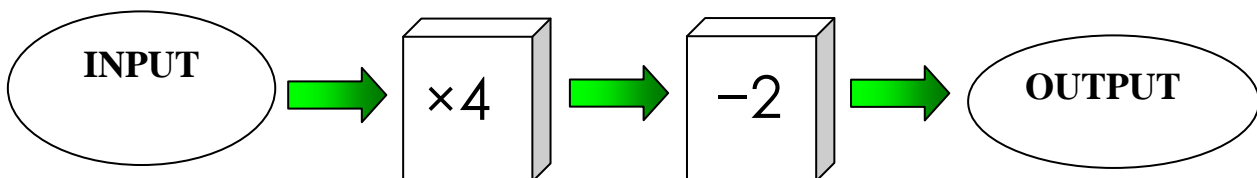
(3 marks)

5. (a) Simplify: $3x - y + 4y + 4x$

Ans_____

   (b) Expand: $4(5a + 9)$

Ans _____

(2 marks)

6. Look at this number machine.

INPUT ➡ ×4 ➡ −2 ➡ OUTPUT

   (a) Work out the output when the input is 6.   Ans _____

   (b) If the output is 38 what is the input?   Ans _____
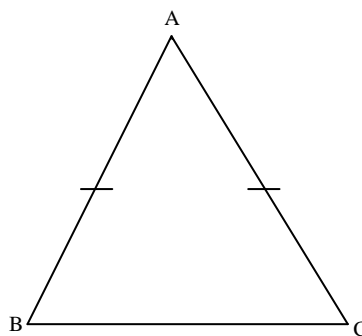
(3 marks)

7. A field is 30 m long and 25 m wide.
   (a) What is the area of the field?
   (b) The field is divided in the ratio 2:3.
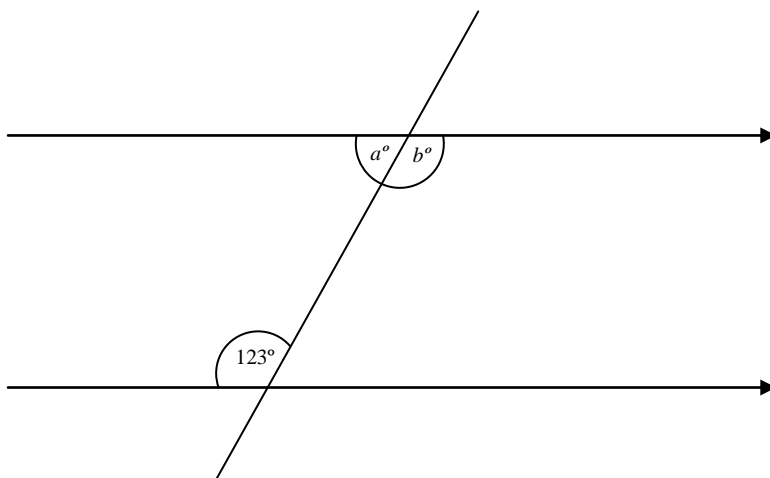   What is the area of the smaller part?

Ans (a)_____, (b)_____

(3 marks)

8. (a) ABC is an isosceles triangle. AB is equal to AC. Angle ABC is equal to 55°.
      Calculate: (i) angle ACB
                 (ii) angle BAC.

   (b) In the diagram below calculate the angles marked with letters.
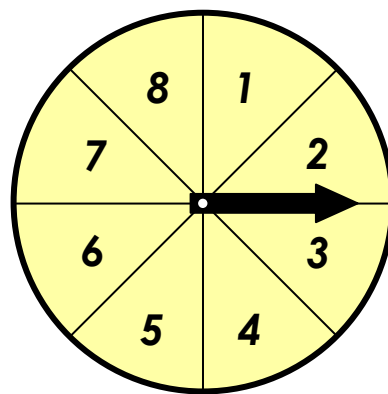

Ans a =_____, b =_____

(4 marks)
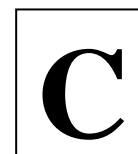
9. What is the probability that the spinner will show:

    (a) an even number? _____

    (b) a number greater than 8?_____

    (c) a number less than 2?_____

<div align="right">(3 marks)</div>

DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2012

C

FORM 3   **MATHEMATICS SCHEME C**   **TIME: 1h 30min**
                  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:** _____

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

1a) Write these fractions in their simplest form:

(i) $\dfrac{5}{10} =$

(ii) $\dfrac{6}{18} =$

b) Fill in the empty spaces:

(i) $\dfrac{1}{15} = \dfrac{}{30}$

(ii) $\dfrac{1}{4} = \dfrac{6}{}$

(4 marks)

2. Round a) 12.8 to the nearest whole number.   _____
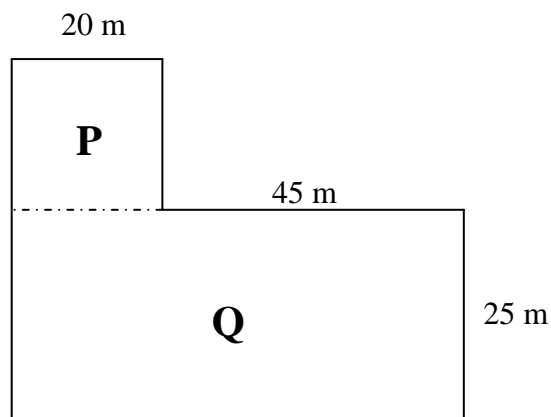
b) 225 to the nearest hundred. _____

c) ⅓ to one decimal place. _____

(3 marks)

3. The diagram represents a field. It can be divided into square P and rectangle Q.

20 m

P

45 m

Q

25 m

   a) Work out the area of square P.

Ans_____m^2

   b) Work out the area of rectangle Q.

Ans_____m^2

   c) Express the area of P as a fraction of the **total** area.

Ans_____

(4 marks)

4. Choose from (trapezium, triangle, square, equilateral) to complete the following:

   a) A _____ has four equal angles.

   b) Each angle in an _____ triangle is equal to 60º.

   c) A _____ has only one pair of parallel sides.

   d) The sum of the 3 angles of a _____ is 180º.

(4 marks)

5. Use a ruler and a protractor to draw these angles accurately:

_____   _____
         Angle of 70º   **Angle of 130º**

(4 marks)

6. a) Complete the table of values for $y = x + 1$

x	0	1	2	3	4	5
$y = x + 1$	1					
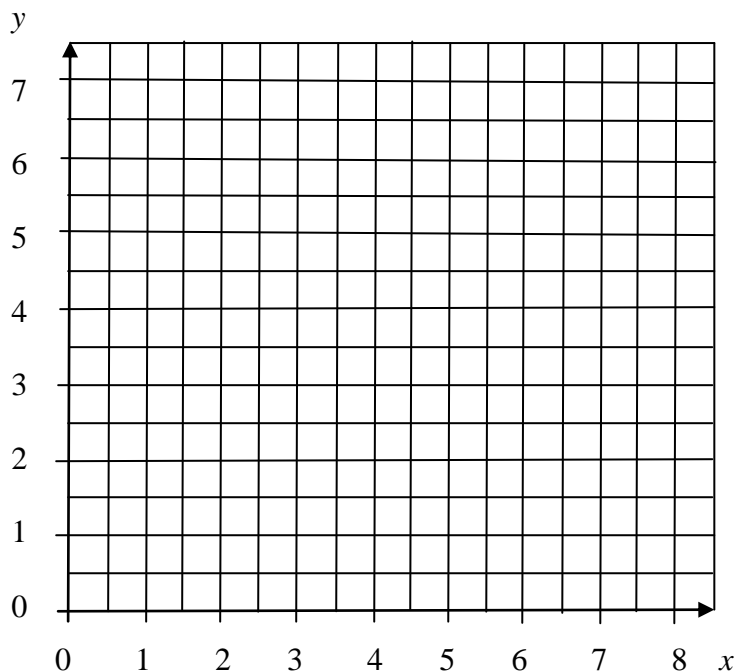
b) Plot the values of x and y on the above graph.
   Draw the line through these points.

c) Where does the line cut the y axis?   Ans $y =$ _____

d) What is the value of y when $x = 1.5$?   Ans $y =$ _____

e) What is the value of x when $y = 7$?   Ans $x =$ _____

(9 marks)

7. The figure shows a triangular prism. One face is a right-angled triangle. The height of the triangle is 25 cm and the base is 20 cm long.

a) Work out the area of this triangular face.

25 cm

The thickness of the prism is 6 cm.

b) Calculate the volume of the prism.

20 cm

6 cm
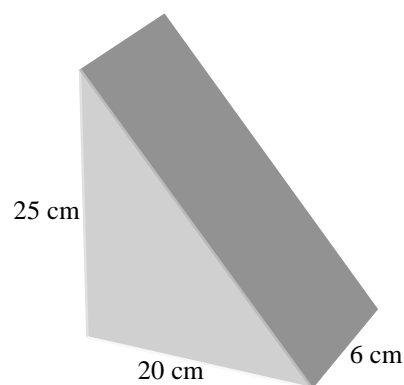
Ans a)_____

b)_____

(5 marks)

_____

8. Thomas asks his friends how many CDs they have.

5, 12, 14, 22, 27, 8, 14, 18, 22, 32, 4, 22, 25, 38, 49, 8, 57, 34, 9, 7.

Thomas is completing this table from the information collected.

Number of CDs	Tally	FREQUENCY
1 - 10	ɬɬɬ l	6
11 - 20	llll	
21 - 30		
31 - 40		
41 - 50		
51 - 60		

a) Complete the above frequency table.

b) How many friends did Thomas ask?   Ans_____

No.8 continued

c) Draw and label a bar chart on the grid provided to show the data.
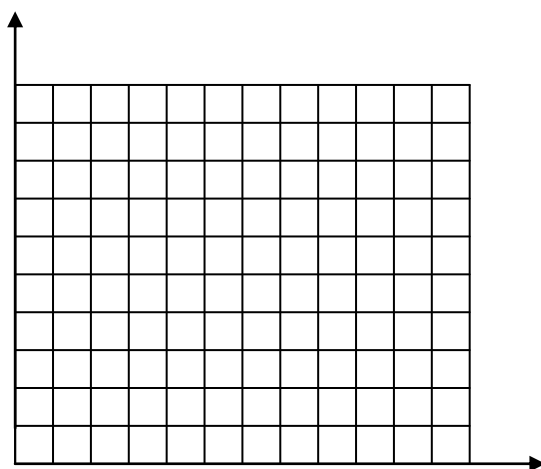
(8 marks)

9. Use a **pair of compasses** to bisect angle ABC below.

A

B   C
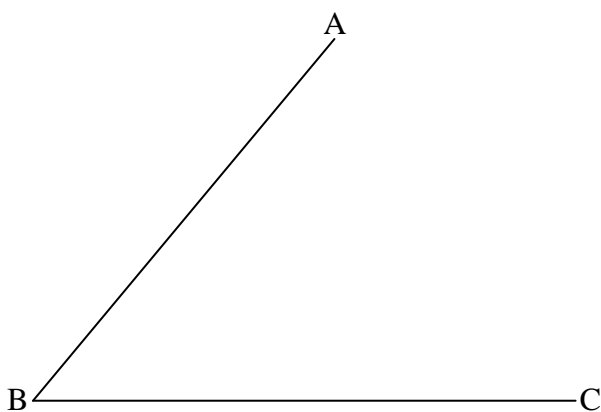
(3 marks)

10. a) Fill in using 10 or 100 in each of the following:

(i) $7.5 \times$ _____ $= 75$

(ii) $75 \div$ _____ $= 0.75$

b) Match the following cards:

| $3a - a$ | | $3y + 10$ |

| $3 + 4y - y + 7$ | | $2a$ |

(4 marks)

11. a) Solve the equations (i) $p + 7 = 15$ (ii) $3q - 4 = 11$

Ans (i) $p =$ _____,(ii) $q =$ _____

b) (i) Translate triangle A 5 units
   to the right and 5 units down.
   Label it B.

   (ii) Reflect B in the dotted line.
   Label it C.

(7 marks)

_____
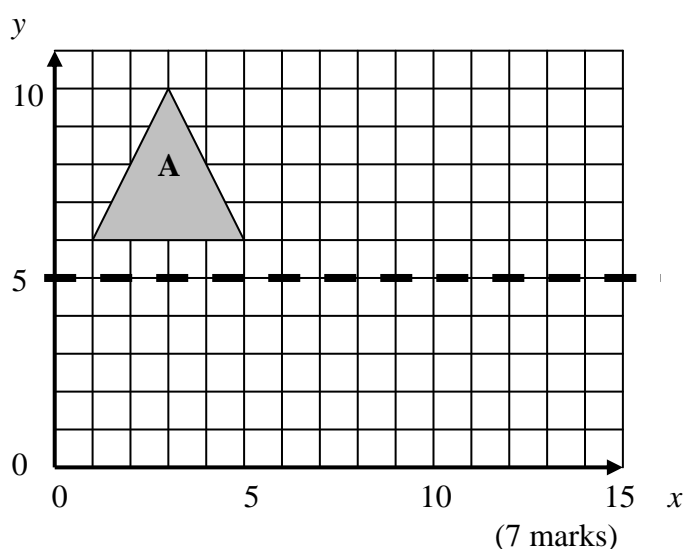
12. Mary and Peter **sailed** on a boat from Malta to Gozo and back. This is a travel graph
    of their trip.

    a) How long did they take to
        arrive at Gozo?

    b) For how long did they stay
        in Gozo?

    c) How long was the return
        trip?

    d) Why do you think the return
        trip took longer?
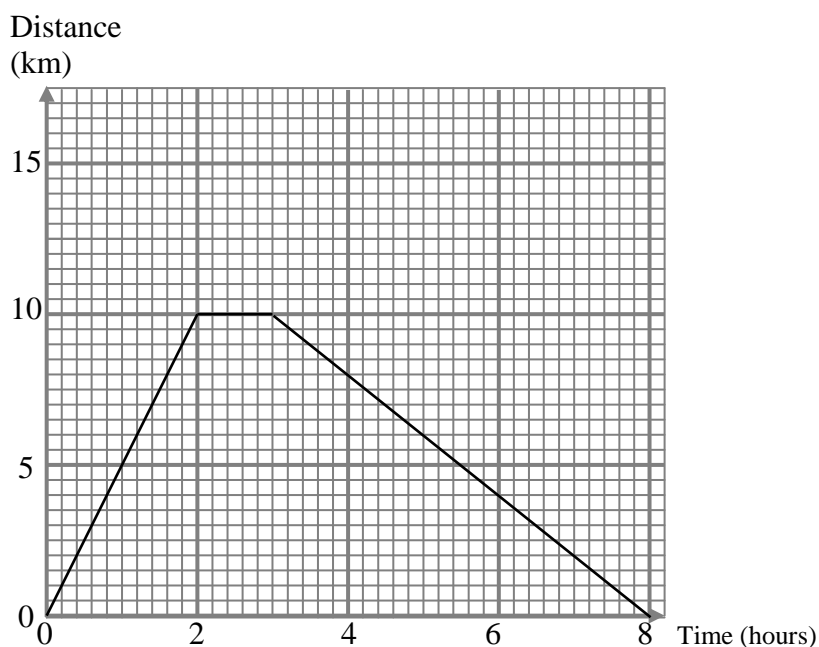
Ans a)_____ b)_____ c)_____d)_____

_____

(4 marks)

_____

13. a) Look at these four nets. What shape does each net make?
(Write your answer on the line provided.)
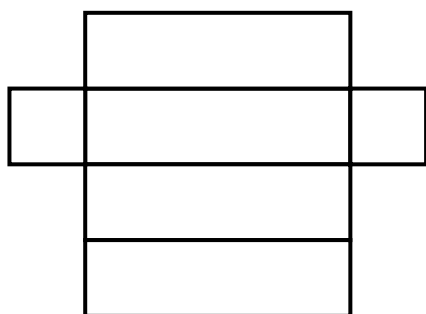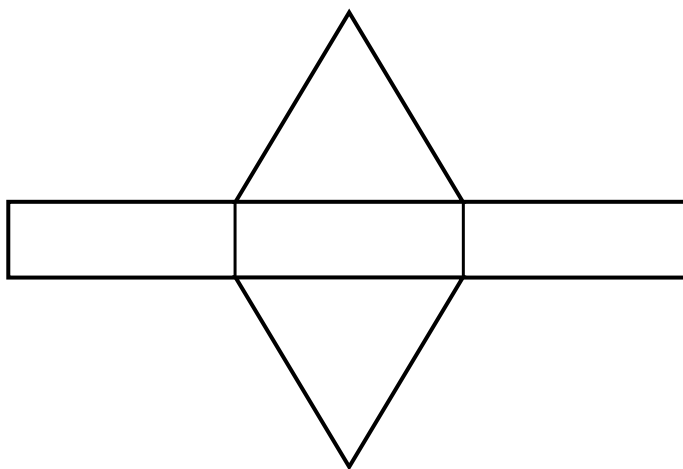
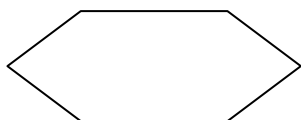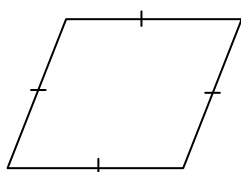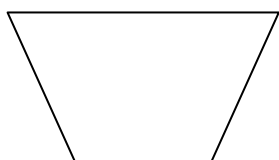Ans_____   Ans_____

b) State which of the polygons below are regular and which are not.
Write YES or No in the space provided.
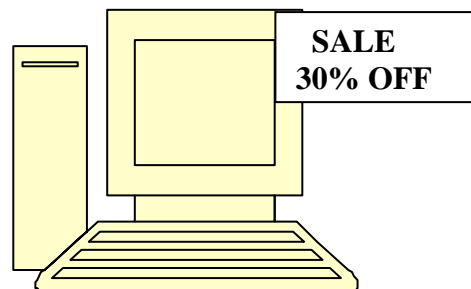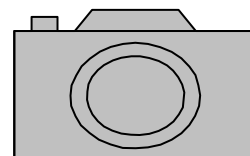
_____

_____

_____

_____
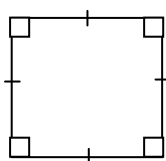
(6 marks)

_____

14. a) In a sale, the price of a computer is decreased by 30%. The cost of the computer is €500. What is the sale price?
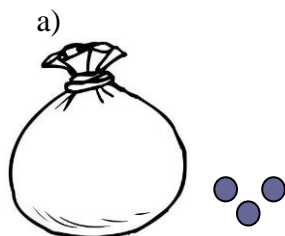
**SALE
30% OFF**

b) VAT is worked out at 18%. The cost of a camera before adding VAT is €180. What is the selling price after VAT has been added?
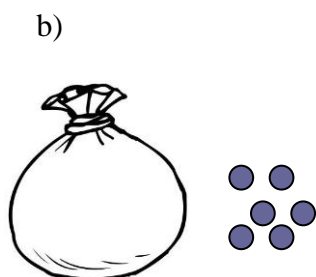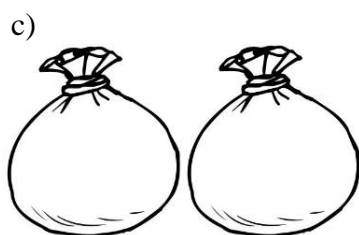
Ans a) _____, b)_____   (6 marks)
_____

15. There are *m* marbles in the bag. Write down the **TOTAL** number of marbles in each of the following. The first one has been done for you.

a)

<u>*m* + 3</u>

b)

_____

c)

_____

(4 marks)

_____