SECONDARY SCHOOL ANNUAL EXAMINATIONS 2011
Directorate for Quality and Standards in Education
Educational Assessment Unit

FORM 5   **MATHEMATICS SCHEME C**   **TIME: 20 minutes**
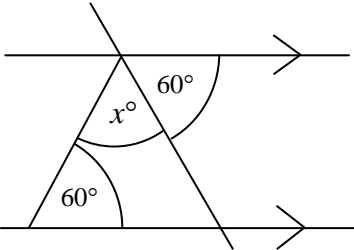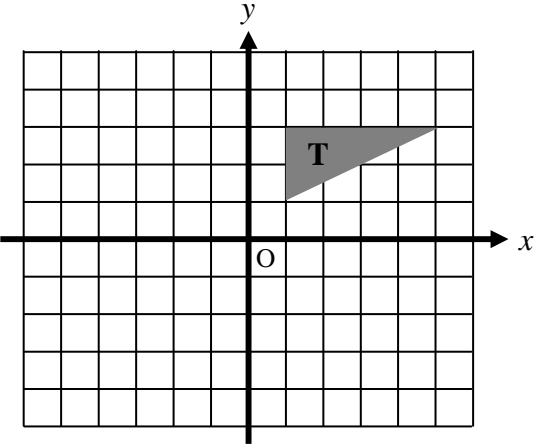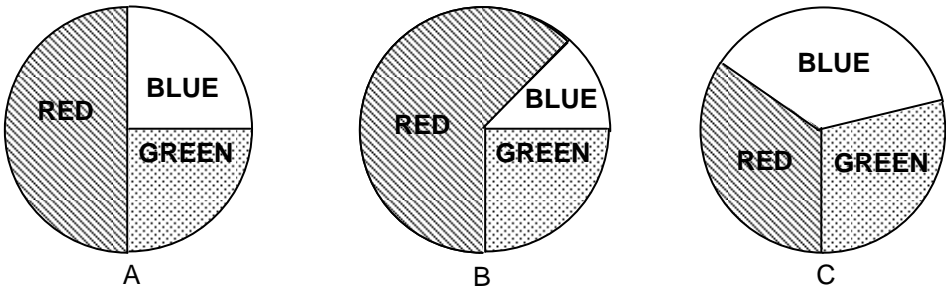**Non Calculator Paper**

Name: _____   Class: _____

Mark

INSTRUCTIONS TO CANDIDATES

- **Answer all questions.**

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

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

No.	QUESTION	SPACE FOR W... (IF REQUIRE...)
1.	One of these numbers is a prime number. Which one is it? A) 142 B) 139 C) 2515 D) 3909 Answer: _____	
2.	What is the sum of the exterior angles of a hexagon? Answer: _____	
3.	In a garden there are 300 trees. 15% of these are orange trees. How many orange trees are there? Answer: _____	
4.	Work out: $2 - \dfrac{1}{3}$. Answer: _____	
5.	The volume of a cube of side 4 cm is A) $16\,\text{cm}^3$ B) $8\,\text{cm}^3$ C) $64\,\text{cm}^3$ D) $10\,\text{cm}^3$ Answer: _____	
6.	Last night the temperature in Munich was $-12°C$. During the day it rose by $20°C$. What was the temperature during the day? Answer: _____ °C	
7.	Given that $z = 8x - 2$ what is the value of z when $x = 3$? Answer: _____	
8.	Mary, John and Lucy earn €1200, €1000 and €1010 per month respectively. What is the mean monthly wage? Answer: €_____	

9.	A film starts at 18.30 and ends at 21.00. How long is the film? Answer: _____hr _____min	
10.	 x cm 7 cm The area of the rectangle is 35 cm^2. What is the value of x? Answer: _____	
11.	Complete the following pattern: 12 24 36 ____	
12.	The approximate area of a circle of radius 5 cm is A) 25 cm^2 B) 75 cm^2 C) 125 cm^2 D) 15 cm^2 Answer: _____	
13.	What is the value of x? $60°$ $x°$ $60°$ Answer: _____	
14.	Simplify $5p - q + p - q$. Answer: _____	
15.	Calculate the simple interest on €2000 in 3 years at 5% p.a. Answer: _____	

16.	Which is the largest number? A) 6 B) $5\frac{1}{2}$ C) $\dfrac{32}{3}$ D) $\dfrac{13}{2}$ Answer: _____
17.	Draw the reflection of shape T in the *x* axis.
18.	In a box there are 30 red, 15 blue and 15 green marbles. Which is the correct pie chart? A B C Answer: _____
19.	The turtle is at the START position shown. Sketch the figure drawn by the turtle for the following LOGO commands: PD LT 90 FD 100 RT 90 FD 50
20.	In a hotel there are 25 Italians, 50 Germans and 125 English guests. One of the guests leaves the hotel. What is the probability that this guest is German? Answer: _____

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2011
Directorate for Quality and Standards in Education
Educational Assessment Unit

FORM 5   **MATHEMATICS SCHEME C**   **TIME: 1h 40min**

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.   Work out the following correct to two decimal places:

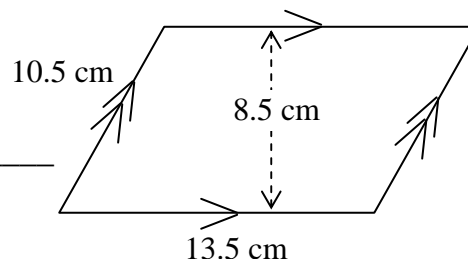(a) $29.52 \times 25.32 =$ _____

(b) $451.13 \div 18.54 =$ _____

[4 marks]

2.   The opposite sides of the shape shown are
 parallel.

(a) The shape is called a _____

(b) Work out the area of this shape.

10.5 cm

8.5 cm

13.5 cm

Answer: _____
cm^2

(c) Work out the perimeter of this shape.

Answer: _____ cm

[5 marks]

3. A vanilla ice-cream costs €1.25 and a chocolate ice-cream costs €2.50.

    (a) How much do I pay for 5 vanilla and 7 chocolate ice-creams?

    Answer: €_____

    (b) I am given a 5% discount for the above. How much do I save to the nearest cent?

    Answer: €_____

    (c) x is the number of vanilla ice-creams.
         y is the number of chocolate ice-creams.
         P is the amount paid.
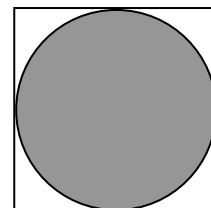   Complete the following formula:

    $$P = \underline{\hspace{2cm}} x + \underline{\hspace{2cm}} y$$

    [7 marks]

4. A circle fits exactly inside a square. The area of the square is 16 cm^2.

    (a) Work out the length of the sides of the square.

    Answer: _____cm

    (b) What is the radius of the circle?

    Answer: _____ cm

    (c) Work out the area of the circle giving the answer correct to 2 decimal places.

    Answer: _____ cm^2

    [5 marks]

5. (a) Factorise $x^2 + 4xy - x^2y^2$.

    Answer: _____

    (b) Expand $p(1 - 2p)$.

    Answer: _____
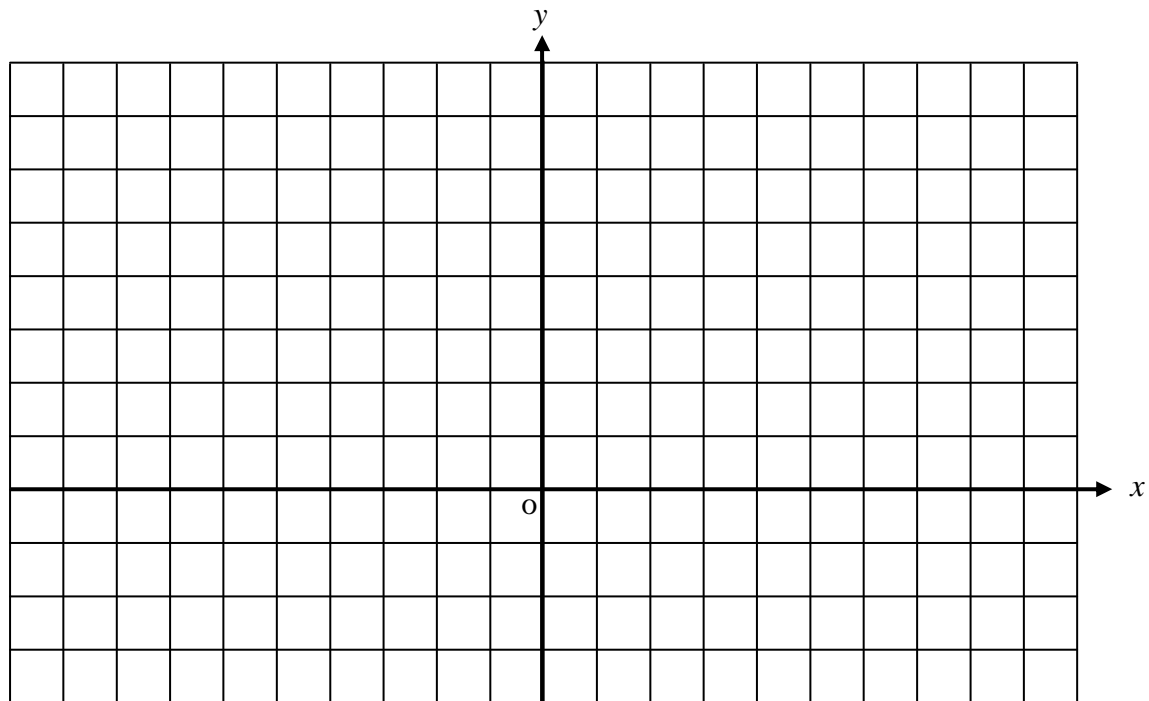
    (c) Work out the value of x:
         $3x - 5 = 1$

    Answer: _____

    [6 marks]

Name: _____   Class: _____   **C**

6.

The scale is 1 square ≡ 1 unit for both the *x* axis and the *y* axis.

(a) Draw the line which meets the *x* axis at *x* = −4 and the *y* axis at *y* = 2. Label it
     Line A.

(b) (i)   The *y* intercept of Line A is _____

     (ii) Work out the gradient of Line A.

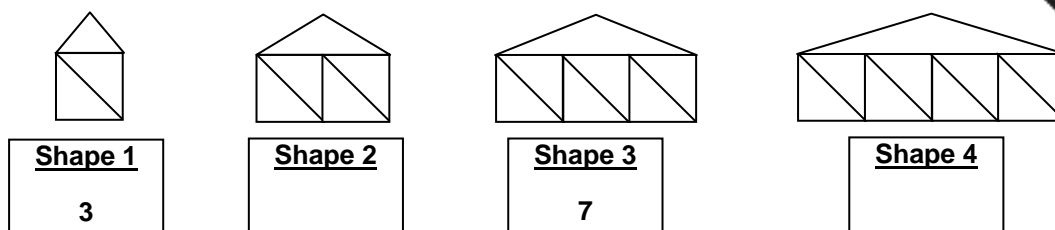   Answer: _____

     (iii) The equation of the line is *y* = ____*x* + _____.

(c) The equation of the line which cuts the *y* axis at *y* = 8 and is parallel to Line A is

     y = ___*x* + ____.

                                                              [6 marks]

7. (a) Write down in the boxes below the number of *triangles* in Shape 2 and

Shape 1	Shape 2	Shape 3	Shape 4
3		7	

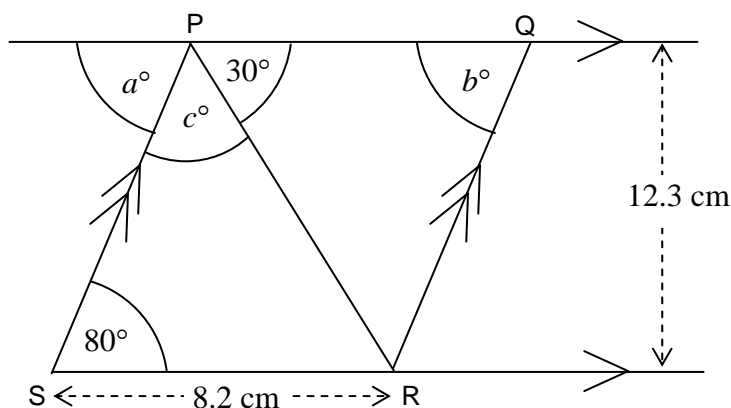(b) What is the number of triangles for Shape 5?

Answer: _____

(c) The rule for the number of triangles for the *n*th shape is $2n + 1$.
What is the number of triangles for shape 12?

Answer: _____

[4 marks]

8. PQ is parallel to SR and PS is parallel to QR.

(a) Work out the value of the angles marked *a*, *b*, and *c*.

a = _____   *b* = _____   *c* = _____

(b) Work out the area of triangle PRS.

Answer: _____ cm^2

[6 marks]

9. The floor of a room has **1200 white tiles** and **800 yellow tiles**.

(a) How many tiles are there altogether?

Answer: _____

(b) A fly lands on one of the tiles. What is the probability that this tile is white? (Give your answer in its simplest form.)

Answer: _____

(c) I remove 200 yellow tiles and replace them with 200 white tiles.
(i) How many white tiles are there now?

Answer: _____

(ii) How many yellow tiles are there now?

Answer: _____

(d) One of the tiles is broken. What is the probability that it is a white tile? (Give your answer in its simplest form.)
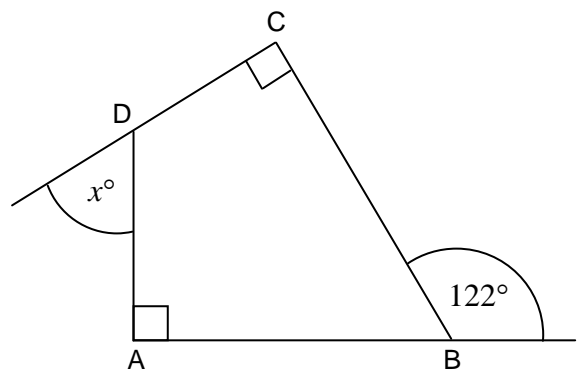
Answer: _____

[9 marks]

10. ABCD is a quadrilateral, right-angled at A and C.

(a) The sum of the exterior angles is _____ ° .

(b) Work out the size of the angle marked *x*.

$x =$ _____

[5 marks]

11. (a) Albert earns €120 less than Brenda every month.
If x represents Brenda's salary and y represents Albert's salary,
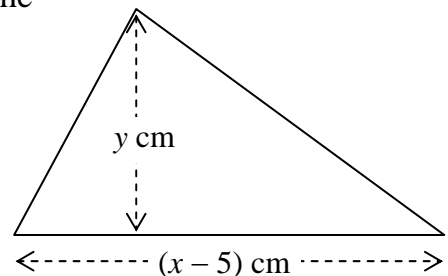
(i) complete the following equation:

y = x − _____

(ii) Brenda earns €1200 per month. How much does Albert earn per month?

Answer: €_____

(b) The height of a triangle is y cm and the length of the base is $(x - 5)$ cm.
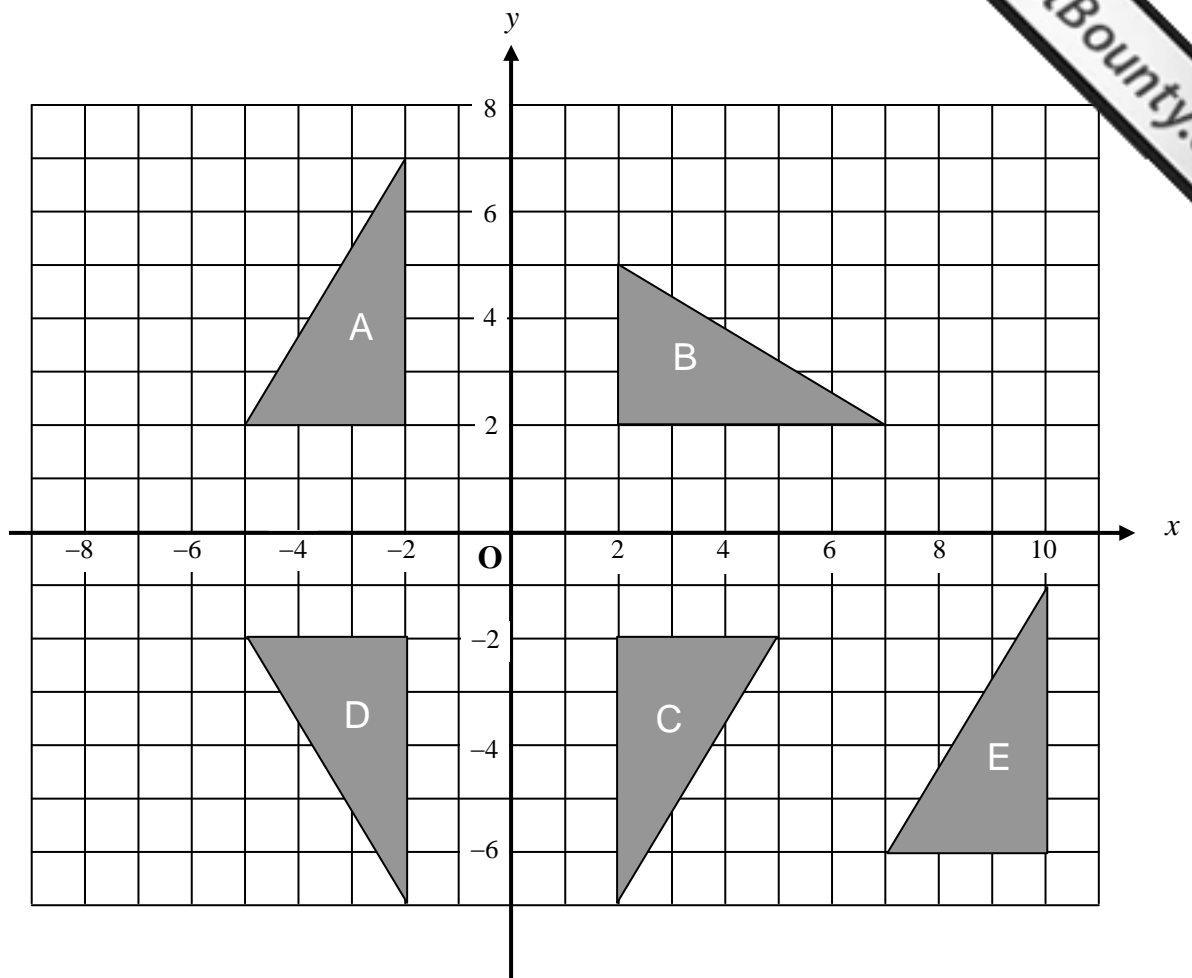
(i) Find the area A of the triangle in terms of x and y.

y cm

$(x - 5)$ cm

Answer: $A =$ _____ cm^2

(ii) The area of the triangle is 10 cm^2 and $x = 9$ cm.
Work out the value of y.

Answer: _____ cm

[8 marks]

12.

Complete:

(a)   Shape B is the _____ of Shape A by _____ degrees about the origin.

(b)   The reflection of Shape A in the *x* axis is Shape _____.

(c)   The translation of Shape A to Shape E is given by
       (Tick the correct answer.)

(i)   12 to the right   (ii) 12 to the right   (iii) 12 to the left
        9 down   8 down   8   down
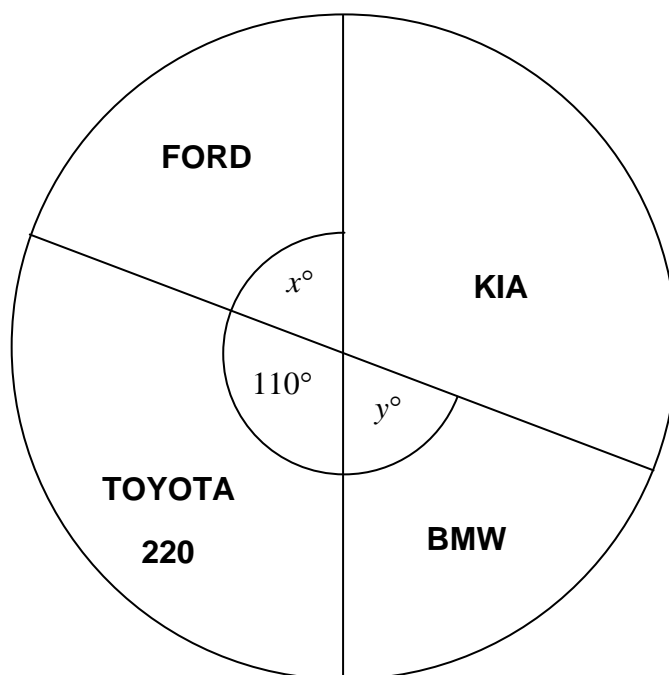
        ☐   ☐   ☐

[5 marks]

13.

The pie chart shows the number of different types of cars sold in a year by a car dealer.

(a) Work out the value of angles *x* and *y*.

Answer: *x* = _____   *y* = _____

(b) 1° ≡ _____ cars.

(c) Complete the following table:

Car Type	TOYOTA	FORD	KIA	BMW
Number	220			

(d) Work out the total number of cars sold.

Answer: _____

[10 marks]

End of Paper