SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010
Directorate for Quality and Standards in Education
Educational Assessment Unit

FORM 4   **MATHEMATICS SCHEME C**   **TIME: 20 minutes**
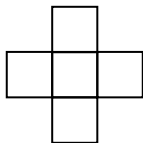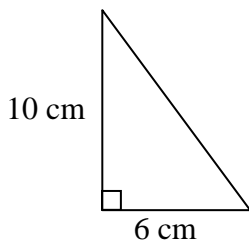**(Non-Calculator Paper)**

Name: _____   **Class: _____**

Mark

INSTRUCTIONS TO CANDIDATES

- **Answer all questions. There are 20 questions to answer.**

- **Each question carries 1 mark.**

- **Calculators, protractors and other mathematical instruments are not allowed.**

- **You are not required to show your working.**

- **Space for working is provided if you need it.**

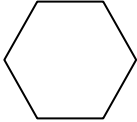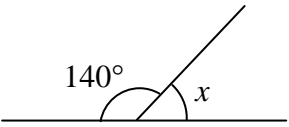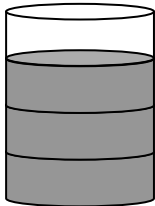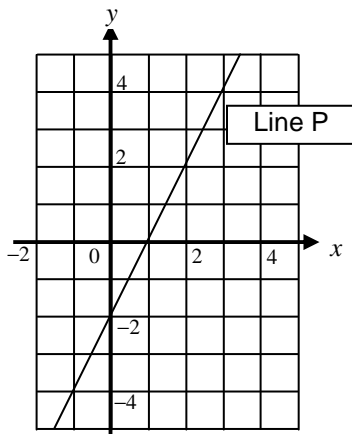| No.	QUESTION	SPACE FOR ... (IF REQUIR...
1.	The area of a rectangle of sides 5 cm and 10 cm is A) $20 \, cm^2$ B) $250 \, cm^2$ C) $50 \, cm^2$ D) $10 \, cm^2$ Answer: _____	
2.	Write down the **square** number between 27 and 38. Answer: _____	
3.	A hexagon has A) 8 sides B) 4 sides C) 6 sides D) 5 sides Answer: _____	
4.	Evaluate $23 - (-3)$ Answer: _____	
5.	This is the net of A) a cube B) a cylinder C) an open box D) a square pyramid Answer: _____	
6.	Change 3000 g to kilograms. Answer: _____kg	
7.	A box contains 100 marbles. 30% of the marbles are red. The rest are yellow. How many marbles are yellow? Answer: _____	
8.	What is the area of a triangle with sides as shown? 10 cm 6 cm Answer: _____ cm^2	

9.	Mary buys 10 stamps for €3. How much did she pay for each stamp? Answer: _____	
10.	A film starts at 8.00 p.m. It finishes at 10.45 p.m. How long is the film? Answer: ____hr ____min	
11.	Simplify $7p + 3q - 5p + 2q$. Answer: _____	
12.	Which one of these shapes is a quadrilateral? (A) (B) (C) Answer: _____	
13.	What is the size of angle x? Answer: _____	
14.	I select a letter at random from the word PLASTICS. The probability that I select S is (A) $\dfrac{1}{2}$ (B) $\dfrac{1}{4}$ (C) $\dfrac{1}{8}$ (D) $\dfrac{2}{3}$ Answer: _____	
15.	Which of these numbers is a **prime** number? (A) 39 (B) 255 (C) 41 (D) 410 Answer: _____	

16.	What fraction of this container is filled with water? Answer: _____	
17.	The turtle starts from the position shown. Sketch the figure drawn by the turtle for this set of LOGO commands: PD LT 90 FD 50 RT 90 FD 100	✱
18.	Write down the output of this function machine in the empty box. Input Output [2] → [×3] → [+ 2] → [ ]	
19.	Line P has equation (A) $y = 2x - 2$ (B) $y = 2x + 4$ (C) $y = 2x + 2$ (D) $y = 2x$ Answer: _____	
20.	Which one of the following angles is obtuse? (A) 45° (B) 97° (C) 89° (D) 30° Answer: _____	

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FORM 4　　　　　**MATHEMATICS SCHEME C**　　　　**TIME: 1h 40min**
MAIN PAPER

1	2	3	4	5	6	7	8	9	10	11	12	13	14		NC	Main	Total

Name: _____　　　　　　**Class:** _____

INSTRUCTIONS:
CALCULATORS ARE ALLOWED. SHOW ALL NECESSARY WORKING.
ANSWER ALL QUESTIONS.

_____

1.　　(a)　Work out the following numbers to the nearest whole number:

　　　　　(i)　276.53　　　　　　　　　　　　　　Answer: _____

　　　　　(ii)　516. 361　　　　　　　　　　　　　Answer: _____

　　　(b)　Write the following numbers to the nearest 10:

　　　　　(i)　3895　　　　　　　　　　　　　　　Answer: _____

　　　　　(ii)　10013　　　　　　　　　　　　　　Answer: _____

　　　　　　　　　　　　　　　　　　　　　　[4 marks]

_____

2.　　(a)　Give the value of:

　　　　　(i)　3.5×100　　　　　　　　　　　Answer: _____

　　　　　(ii)　$3.5 \div 100$　　　　　　　　　　　Answer: _____
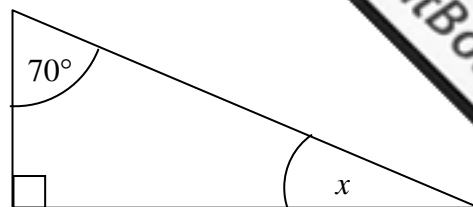
　　　(b)　What is the value of x if $x \times 1000 = 5700$?

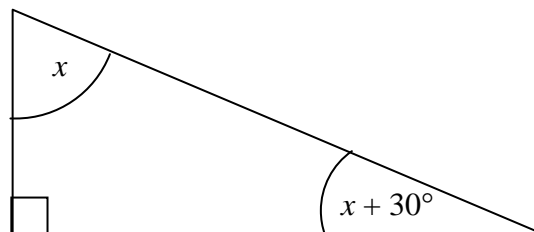　　　　　　　　　　　　　　　　　　　Answer: _____

　　　　　　　　　　　　　　　　　　　　　　[4 marks]

_____

3. (a) Underline the correct value for x.

    (A) 90°   (B) 20°   (C) 45°

    (b) (i) Complete the following equation:

    $$x + 30° + \_\_\_\_\_ = 90°$$

    (ii) Simplify and solve the equation to find x.

    [4 marks]

_____

4. (a) Arrange in order of size starting with the smallest:

    23.4   27.15   21.61   22

    Answer: _____

    (b) Which is the largest number in the following list?

    (A) 12×10   (B) 3×100   (C) 51   (D) 12 ×10000

    Answer: _____

    (c) Work out 2×2×2 + 2×2×2×2

    Answer: _____

    [5 marks]

_____

5. Calculate the value of x, y and z.
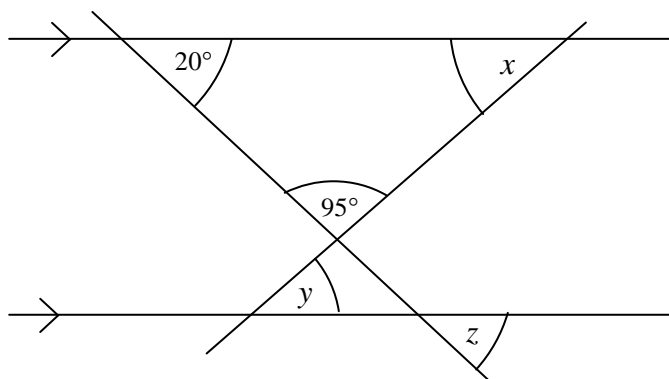
    $x = $ _____

    $y = $ _____

    $z = $ _____

    [4 marks]

_____

Name: _____   Class: _____   C

6.   Solve the equations:

        (a) $3x - 2 = x$

                                                    Answer: _____

        (b) $7x + 10 = 2x$

                                                    Answer: _____

                                                    [6 marks]

_____

7.   (a) I am paid €5 for every hour I work. How much will I earn if I work 23 hours?

                                                    Answer: €_____

        (b) Ten equally spaced poles are in a straight line. The distance from the first to the
             last pole is 81 m. What is the distance from pole to pole?

                                                    Answer: _____ m

        (c) What is the distance from the first to the fourth pole?

                                                    Answer: _____ m

                                                    [6 marks]

_____

8   (a) Change 3.3 kilometres into metres.

Answer: _____

(b) Calculate 15% of 2 hours.

Answer: _____ min

(c) Express $\dfrac{3}{5}$ as a percentage.

Answer: _____

[6 marks]

_____

9.   (a) Given that $a = 2x - bh$ calculate the value of a when $x = 6$, $b = 2$ and $h = 1$.

Answer: _____

(b) This recipe makes four pancakes.

(i)   How much flour would you need
      to make one pancake?

Answer: _____ g

> **Recipe for 4 pancakes**
>
> 80 g plain flour
> 200 ml milk
> 1 egg
> 4 spoonfuls jam
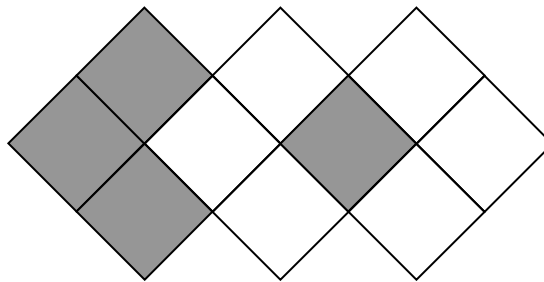
(ii) How much flour would you need for 5 pancakes?

Answer: _____ g

(iii) How many pancakes can you make with 240 g flour, 600 ml, 3 eggs and
      12 spoonfuls of jam?

Answer: _____ pancakes

[6 marks]

_____

10.   (a) A number of **square** tiles are arranged as shown.

       (i)   What is the percentage of white tiles?

                                             Answer: _____
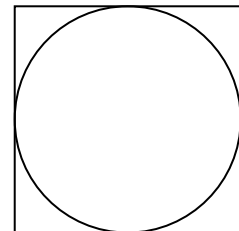
Each tile is of side 50 cm.

       (ii)   What is the perimeter in metres of the shape formed?

                                             Answer: _____

(b)   A square tile of side 20 cm has a circle
      drawn on it as shown.

      (i) What is the order of symmetry of the tile?

                                             Answer: _____

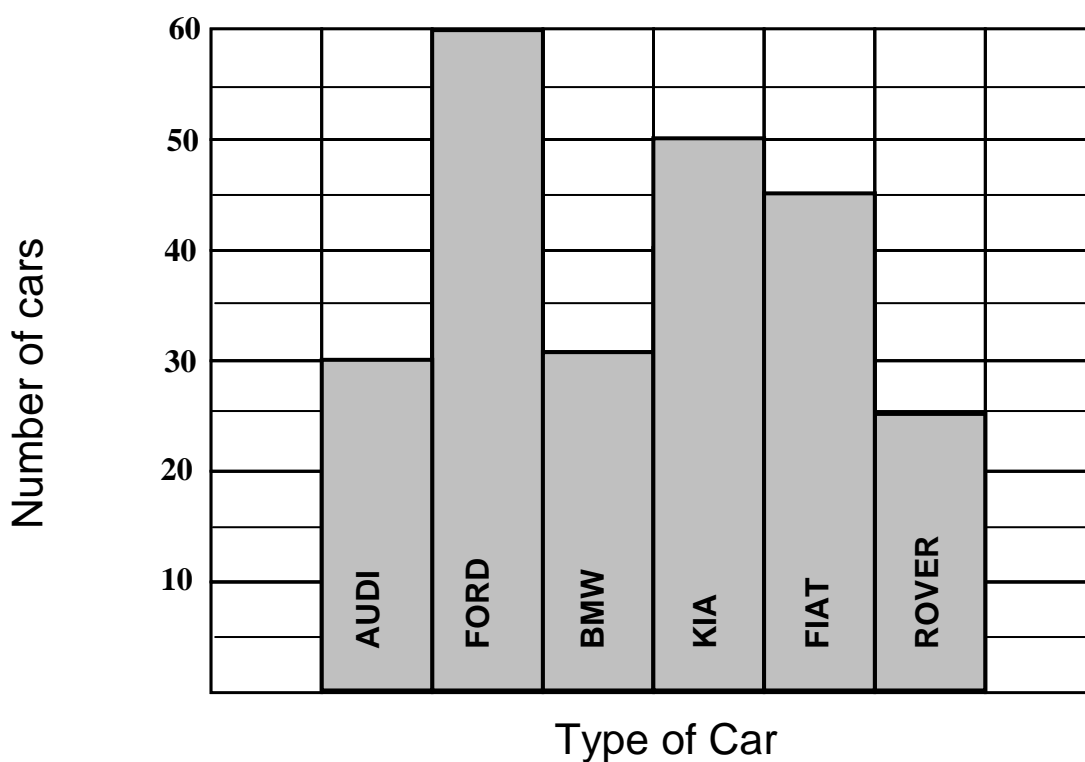   (ii) The circumference of the circle is _____ π cm.

      (iii) Taking $\pi = 3.14$ give the circumference correct to the nearest whole number.

                                             Answer: _____

[8 marks]

11. The bar chart shows the number of different types of cars sold by a de_____
year.

(a) Use the bar chart to complete the following table:

Type of Car	AUDI	FORD	BMW	KIA	FIAT	ROVER
Number sold		60	30		45	

(b) What was the total number of cars bought?

Answer: _____

(c) What was the mean number of cars sold per month?
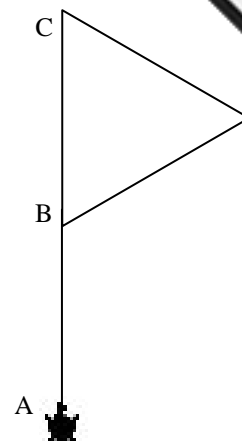
Answer: _____ cars

[6 marks]

12. The figure shows a flag in the form of an **equilateral** triangle.

    (a) Complete the following LOGO program which draws the flag.

    ```
    PD
    FD 200
    RT 120
    FD ____
    ___ 120
    FD ____
    ```

    C
    B
    A

    (b) Calculate the total number of turtle steps required to draw this shape.

    Answer: _____

    [6 marks]

_____

13. (a) A six-sided dice has the letters A, L, F, R, E and D on its faces, one letter on each face. Work out the probability that the dice shows:

    (i) a letter from the word RED.

    Answer: _____

    (ii) a letter from the word LEAF.

    Answer: _____

    (b) A coin is thrown 100 times to test whether it is a fair coin. 76 heads were obtained.
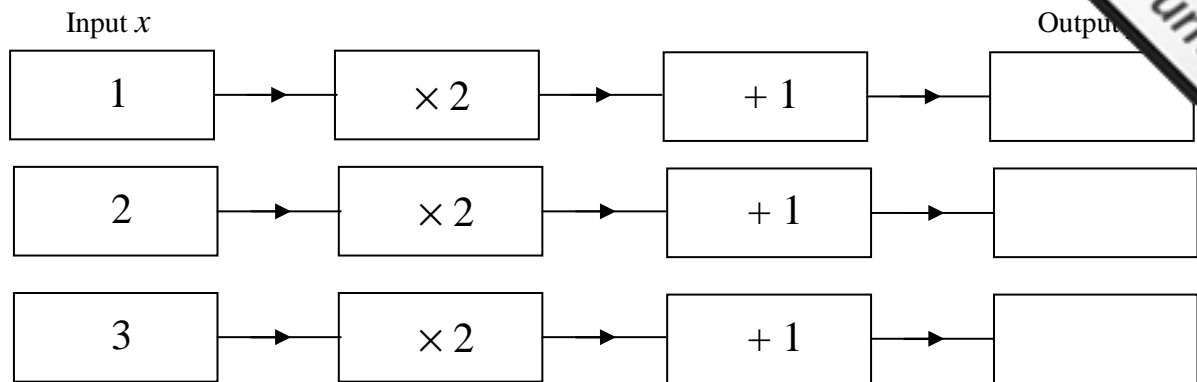   Do you think that the coin is fair? (Tick one of the boxes below and fill the space with a number.)

    YES [ ]   NO [ ]

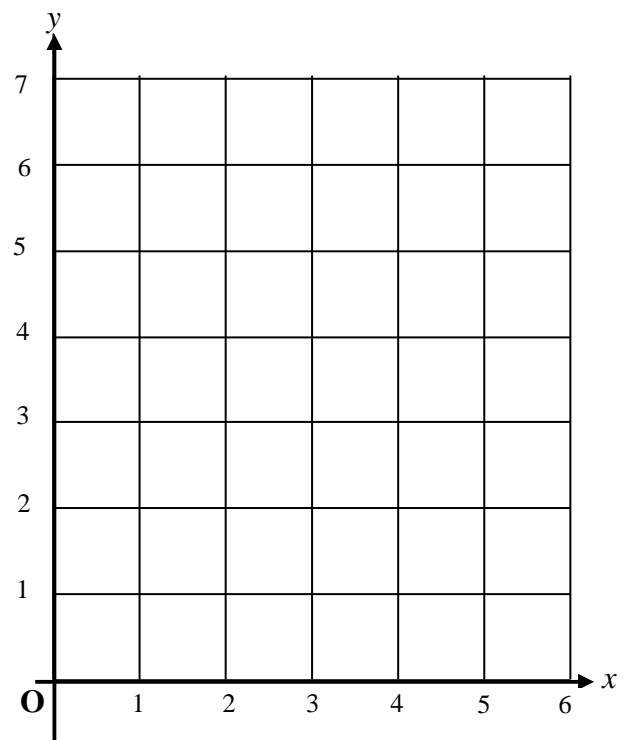   because about _____ heads should be obtained.

    [5 marks]

_____

14. (a) Complete the following function machines.

Input *x*   Output

| 1 | → | × 2 | → | + 1 | → | |

| 2 | → | × 2 | → | + 1 | → | |

| 3 | → | × 2 | → | + 1 | → | |

(b) Use your results in part (a) to complete the following pairs of co-ordinates:

(1, ___), (2, ___) and (3, ___)

(c) Plot these points on the grid
and use your ruler to join
them with a straight line.

(d) Continue your straight line to cut
the *y*-axis.

It cuts the *y*-axis at *y* = _____.

[10 marks]

_____

End of Paper