C

FORM 4   MATHEMATICS (Non Calculator Paper)   TIME: 20 minutes

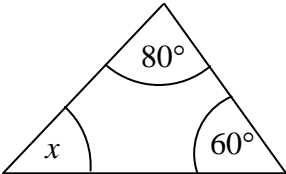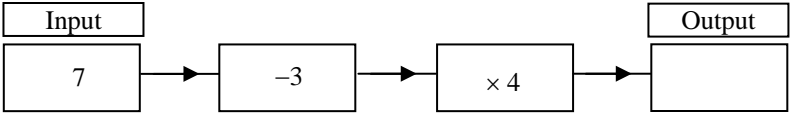**Name: _____**   **Class: _____**
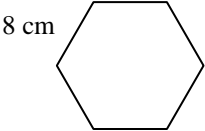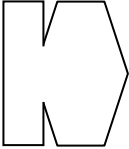
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INSTRUCTIONS TO CANDIDATES

- **Answer all questions.**

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

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

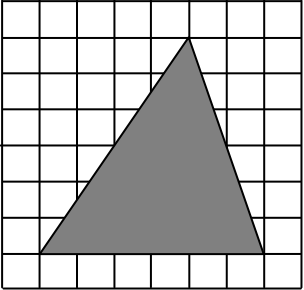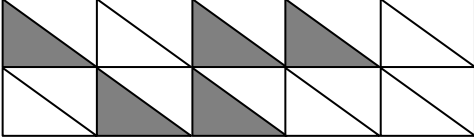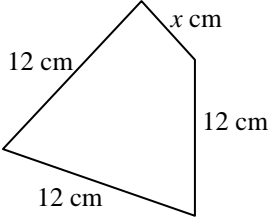| No.	QUESTION	SPACE FOR WORKING (IF REQUIRED)
1.	Change 23.25 km into metres. Answer: _____m	
2.	There are 200 children in a class. 25% of the children are boys. How many of the children are girls? Answer: _____	
3.	The value of 25×42 is A) 1000 B) 10250 C) 1050 D) 2250 Answer: _____	
4.	Which of these numbers is a **prime** number? A) 75 B) 211 C) 1221 D) 63 Answer: _____	
5.	Find the size of the angle marked x. Answer: _____°	
6.	Write down the output of this function (number) machine in the empty box. Input → 7 → −3 → × 4 → Output	
7.	Simplify: $9x - y + 6y - x$ Answer: _____	

8.	Simplify: $\dfrac{1}{4}$ of $\dfrac{2}{3}$ Answer: _____	
9.	8 cm The shape is a regular hexagon. What is its perimeter? Answer: _____cm	
10.	Write down the square number that is between 60 and 80. Answer: _____	
11.	Solve $5x + 3 = 13$. Answer: $x =$ _____	
12.	John selects a letter at random from the word IMPOSSIBLE. The probability that he selects the letter I is (A) $\dfrac{2}{5}$ (B) $\dfrac{1}{4}$ (C) $\dfrac{1}{5}$ (D) $\dfrac{1}{2}$ Answer: _____	
13.	I buy a game for €12.25. What change will I get if I pay with a €20 note? Answer: €_____	
14.	Draw the line of symmetry of the given shape.	
15.	The turtle starts from the position shown. Sketch the figure drawn by the turtle for this set of LOGO commands: PD FD 100 RT 90 FD 50	

16.	The gradient of the line $y = 2 - 5x$ is (A) 2 (B) 5 (C) –5 (D) –2 Answer: _____	
17.	What is the area of the triangle? (Each square is 1 cm by 1 cm.) Answer: _____ cm^2	
18.	What percentage is shaded? Answer: _____%	
19.	The perimeter of the shape shown below is 40 cm. What is the value of x? Answer: _____	
20.	Work out the median of the numbers shown below. 15 25 6 71 Answer: _____	

DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2011

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Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total Main	Non Calc	**Global Mark**
Mark																	
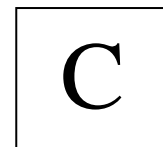
FORM 4   **MATHEMATICS (Main Paper)**   **TIME: 1h 40min**

Name: _____   Class: _____

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

1.   (a)   Write the following numbers correct to one decimal place:

(i)   345.252   Answer: _____

(ii)   415. 327   Answer: _____

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

(i)   2548   Answer: _____

(ii)   11521   Answer: _____

[4 marks]

2.   (a) Work out

(i) 5.3×10^3 Answer: _____

(ii) $155.5 \div 10^3$ Answer: _____

(b) Simplify:

$8y^7 \times y^{-2}$

Answer: _____

[4 marks]
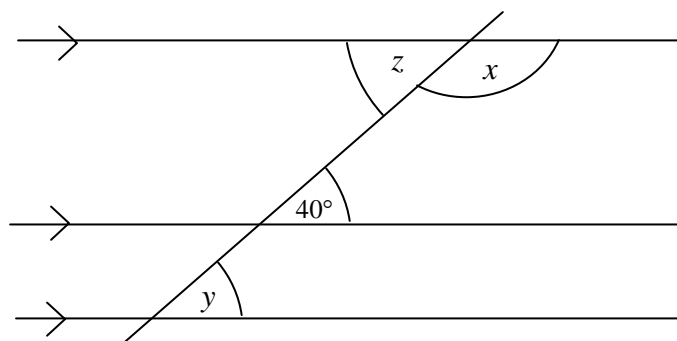
3. Solve the equations:

(a) $5x + 8 = x$

Answer: _____

(b) $6x = x + 10$

Answer: _____

[6 marks]

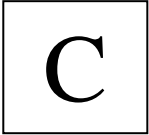4. Calculate the values of x, y and z.

$x =$ _____ $^\circ$

$y =$ _____ $^\circ$

$z =$ _____ $^\circ$

[4 marks]

Name: _____   Class: _____

5.   Given that $p = 3q - 2b$

        (a) Calculate the value of p when $q = 1$, $b = 2$.

                                                    Answer: _____

        (b) Calculate the value of p when $q = 2$, $b = -1$.

                                                    Answer: _____

                                                    [4 marks]

6.   (a) An aeroplane can carry 200 passengers when full. How many passengers is the
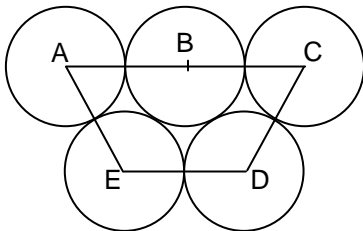   aeroplane carrying when it is ¼ full?

                                                    Answer: _____

        (b) An umbrella costs €2.80. How much do 30 umbrellas cost?

                                                    Answer: _____

                                                    [4 marks]

7.   The shape shown consists of five circles each of radius 4 cm.

        (a) Work out the length of the circumference of
            one circle, giving your answer correct to two
            decimal places ($C = 2\pi r$.)

                                                    Answer: _____

        (b) A, B, C, D and E are the centres of the circles. What is the perimeter of the
            shape ACDE?

                                                    Answer: _____

                                                    [4 marks]

8. (a) Work out 20% of 3 km. (Give your answer in metres.)

Answer: _____

(b) Change 2.45 kg into grams.

Answer: _____

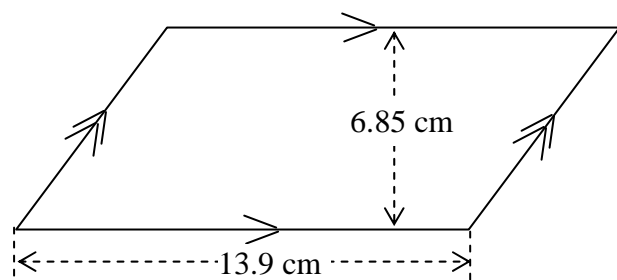(c) Express 30% as a fraction in its simplest form.

Answer: _____

[6 marks]
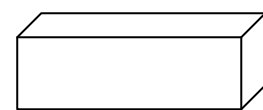
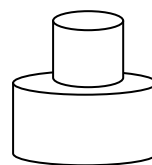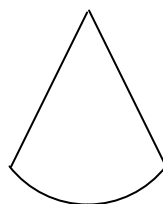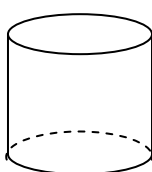9. (a) 15.01   15.10   10.05   10.50

(i) _____ is the largest.

(ii) _____ is the smallest.

(b) Work out the area of the parallelogram correct to two decimal places:

6.85 cm

13.9 cm

Answer: _____

(c) Which of the shapes shown below are prisms?
Tick the correct answers in the boxes provided.

☐   ☐   ☐   ☐ **[7 marks]**

10. (a) A box contains 10 red counters and 5 blue counters. One counter is picked at random. Write down the probability of picking a blue counter.

Answer: _____

(b) A **fair** coin is tossed 150 times. Estimate the number of times the coin shows a Head.

Answer: _____

[4 marks]
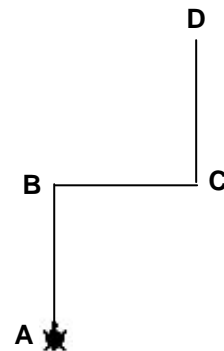
11. Jonathan draws the diagram below using LOGO.
∠ABC and ∠BCD are both **right angles**, and all the lines are equal.

(a) Complete the LOGO program which draws the shape.
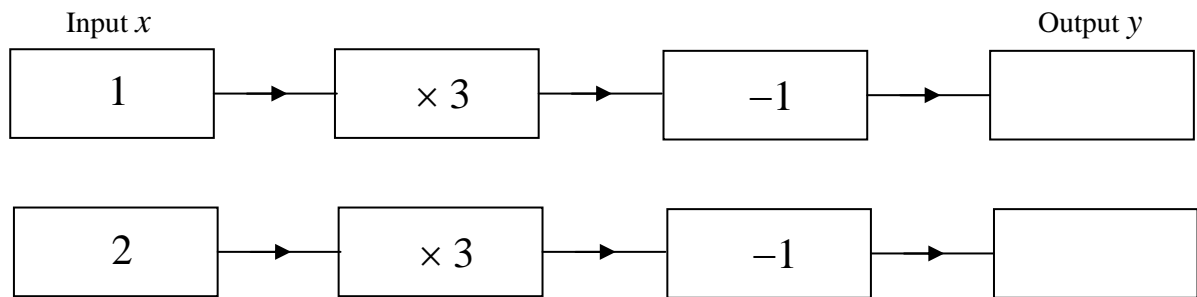
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PD

FD 100

RT _____

FD _____

_____ 90

FD 100
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(b) Write down the perimeter of the shape drawn.

Answer: _____

[5 marks]
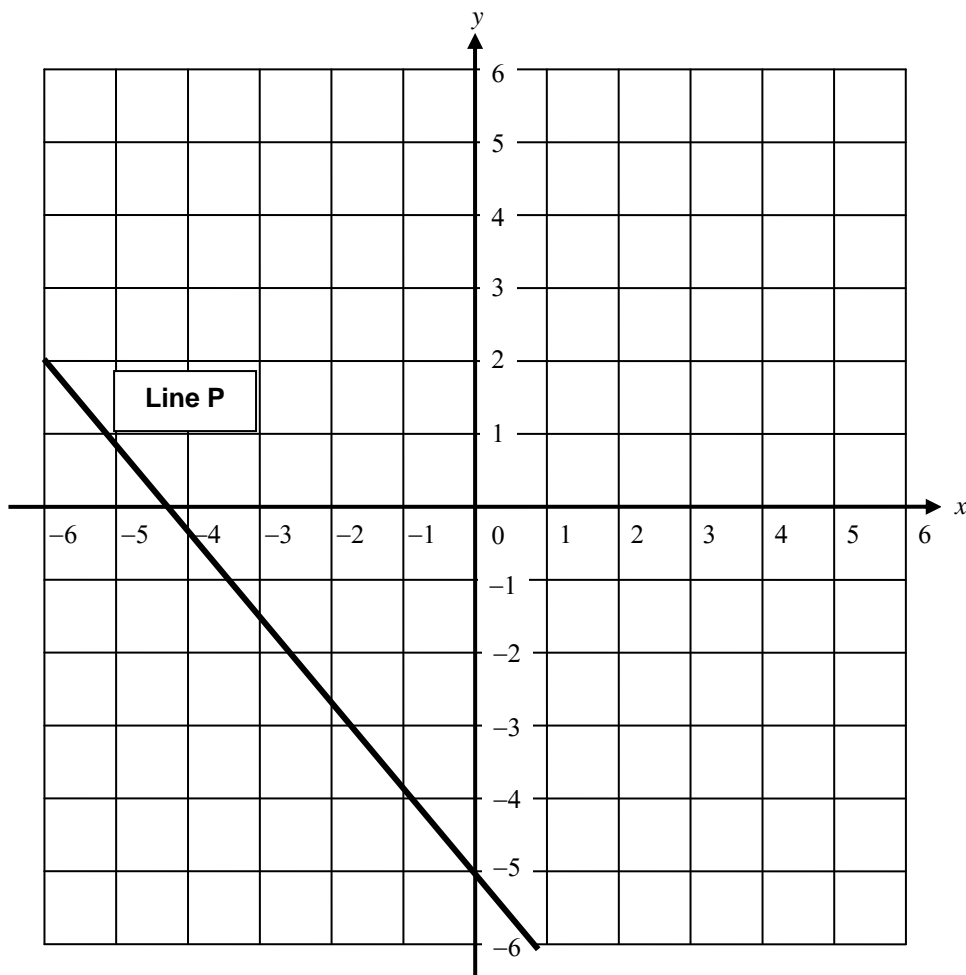
12   (a)   Complete the following function (number) machines.

Input *x*

| 1 | → | × 3 | → | −1 | → | |

Output *y*

| 2 | → | × 3 | → | −1 | → | |

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

(1, ___), (2, ___)

(c)   Plot these points on the graph below and use your ruler to draw a line passing through these points and crossing line P.
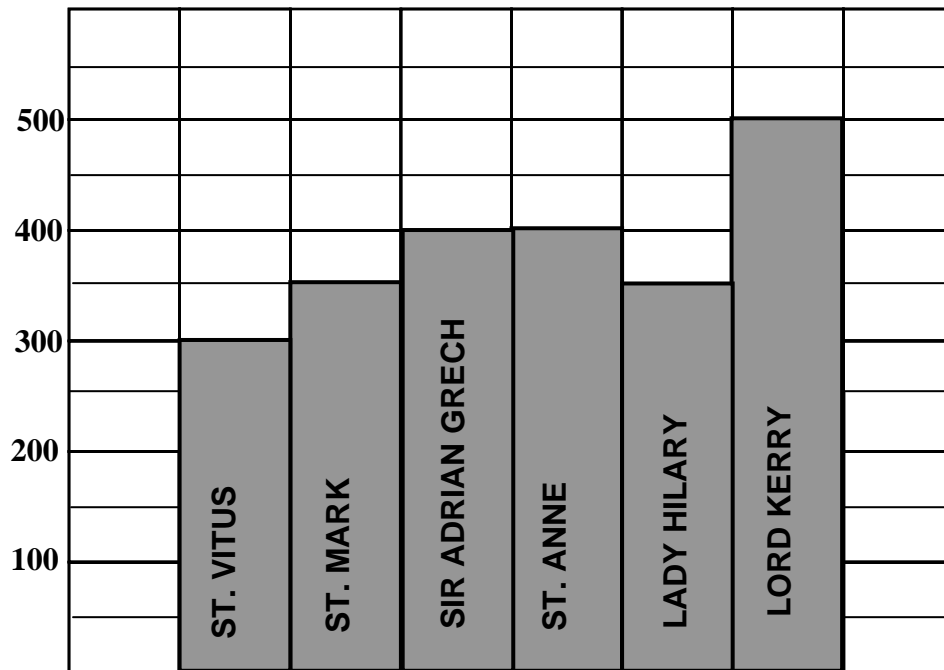

(d)   Use your graph to find the values of *x* and *y* where the line meets line P.

Answer: *x* = _____ , *y* = _____.

[8 marks]

13   The bar chart shows the number of students in six different schools.

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

School	St. Vitus	St.Mark	Sir Adrian Grech	St. Anne	Lady Hilary	Lord Kerry
Number of Students	300		400			500

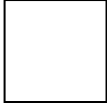(b)   What is the total number of students in all six schools?

Answer: _____

(c)   Find the total number of students in Lord Kerry's school as a fraction of the total. Give your answer correct to two decimal places.

Answer: _____

[8 marks]

14. The walls of a bathroom are covered with **1500** tiles.
There are three types of tiles: white tiles, tiles with a flower design, and tiles with a butterfly design.

(a) Complete the table below.

		Amount used	Cost per tile
	White tiles	70%	€0.50
	Flower design	12%	€2.50
	Butterfly design	____%	€3.00

(b) How many white tiles are used?

Answer: _____

(c) How many tiles with a flower design are used?

Answer: _____

(d) How many tiles with a butterfly design are used?

Answer: _____

(e) Find the total cost of the tiles.

Answer: _____

[12 marks]

End of Paper