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

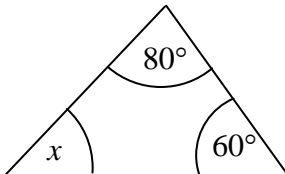
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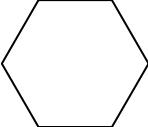
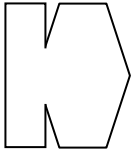

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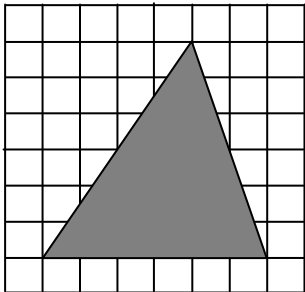
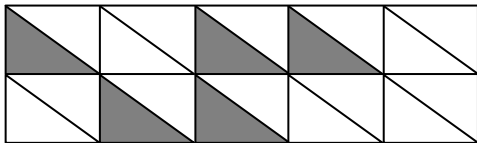
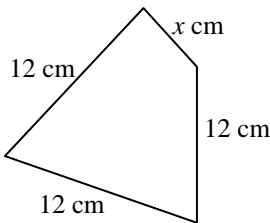
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INSTRUCTIONS TO CANDIDATES

- **Answer all questions.**
- **This paper carries a total of 20 marks.**
- **Calculators and protractors are NOT ALLOWED.**

No.	QUESTION	SPACE FOR WORKING 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 . <div></div> Answer: _____°	
6.	Write down the output of this function (number) machine in the empty box. <div><div>Input</div><div>7</div><div>→</div><div>-3</div><div>→</div><div>× 4</div><div>→</div><div>Output</div><div></div></div>	
7.	Simplify: $9x - y + 6y - x$ Answer: _____	

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

16.	<p>The gradient of the line $y = 2 - 5x$ is</p> <p>(A) 2 (B) 5 (C) -5 (D) -2</p> <p>Answer: _____</p>	
17.	<p>What is the area of the triangle? (Each square is 1 cm by 1 cm.)</p>  <p>Answer: _____ cm²</p>	
18.	<p>What percentage is shaded?</p>  <p>Answer: _____ %</p>	
19.	<p>The perimeter of the shape shown below is 40cm. What is the value of x?</p>  <p>Answer: _____</p>	
20.	<p>Work out the median of the numbers shown below.</p> <p>15 25 6 71</p> <p>Answer: _____</p>	

FORM 4

MATHEMATICS (Main Paper)

TIME: 1h 40min

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total Main	Non Calc	Global Mark
Mark																	

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) $5x + 8 = x$

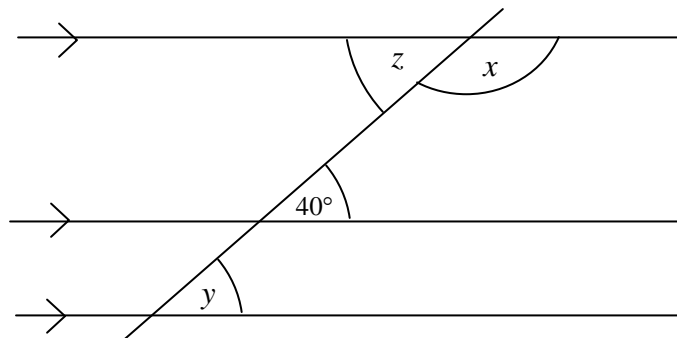
Answer: _____

(b) $6x = x + 10$

Answer: _____

[6 marks]

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



$x =$ _____^o

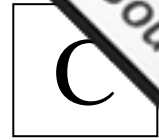
$y =$ _____^o

$z =$ _____^o

[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 $\frac{1}{4}$ full?

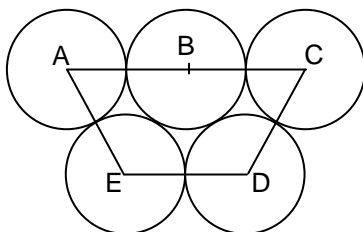
Answer: _____

(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: _____

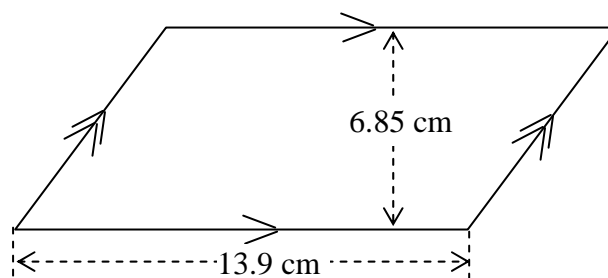
[6 marks]

9. (a) 15.01 15.10 10.05 10.50

(i) _____ is the largest.

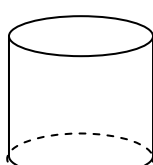
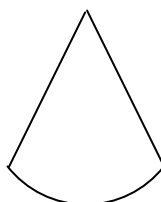
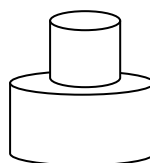
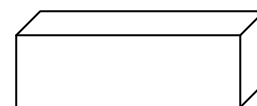
(ii) _____ is the smallest.

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



Answer: _____

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


☐

☐

☐

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[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.

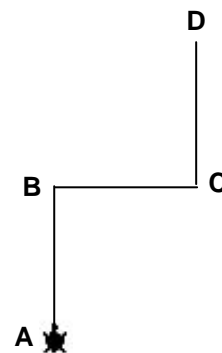
Answer: _____

[4 marks]

11. Jonathan draws the diagram below using LOGO.
 $\angle ABC$ and $\angle BCD$ are both **right angles**, and all the lines are equal.

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

PD
FD 100
RT _____
FD _____
_____ 90
FD 100

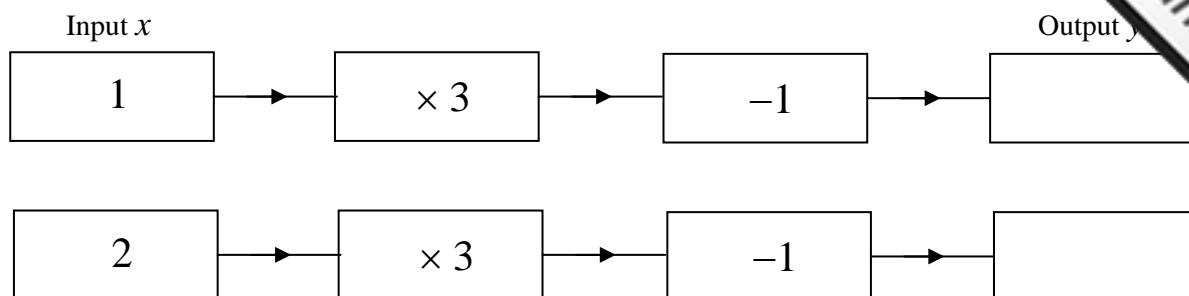


- (b) Write down the perimeter of the shape drawn.

Answer: _____

[5 marks]

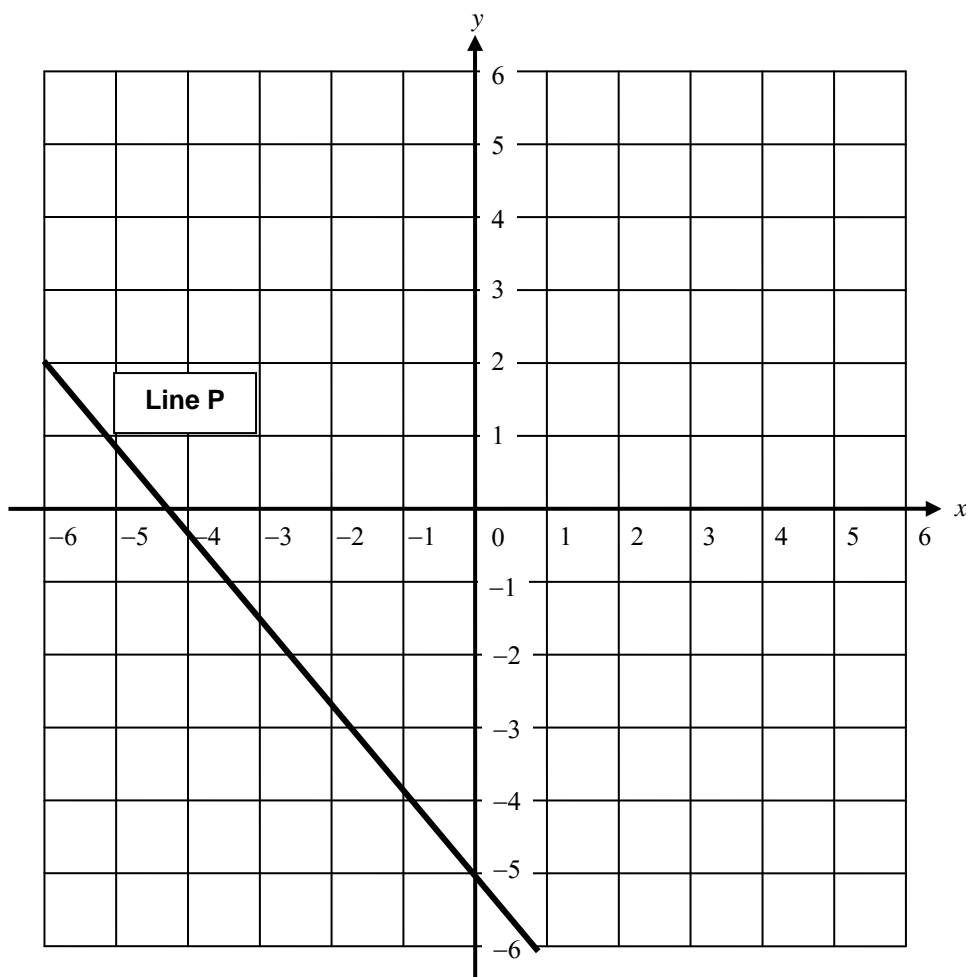
- 12 (a) Complete the following function (number) machines.



- (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.

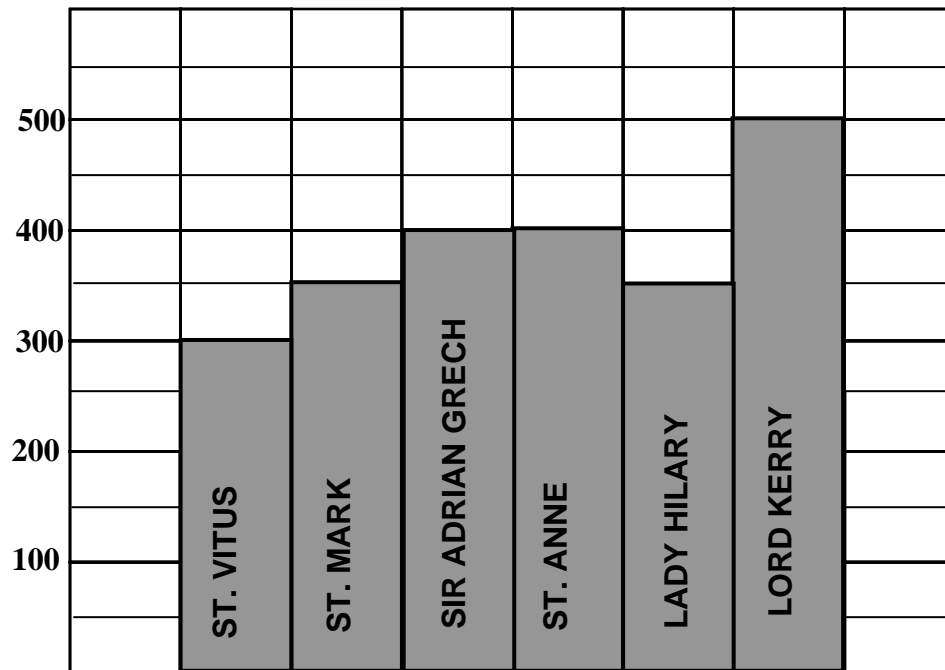


- (d) Use your graph to find the values of x and y where the line meets line P.

Answer: $x = \underline{\hspace{2cm}}$, $y = \underline{\hspace{2cm}}$.

[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