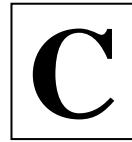


SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010

Directorate for Quality and Standards in Education
Educational Assessment Unit



FORM 4

MATHEMATICS SCHEME C
(Non-Calculator Paper)

TIME: 20 minutes

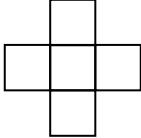
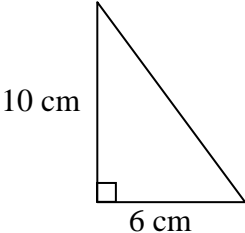
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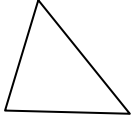
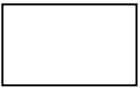
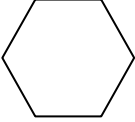
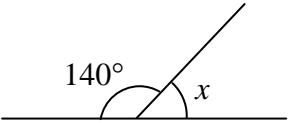
Class: _____

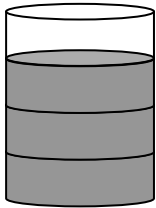
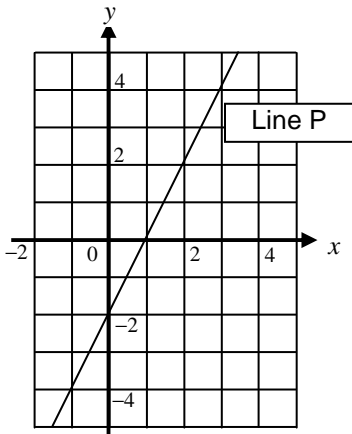
Mark

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.**

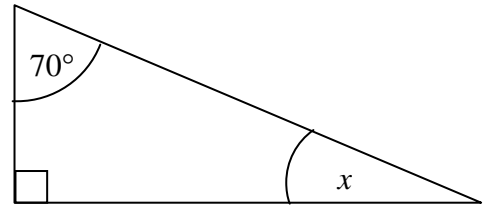
No.	QUESTION	SPACE FOR WORKING (IF REQUIRED)
1.	<p>The area of a rectangle of sides 5 cm and 10 cm is</p> <p>A) 20 cm^2 B) 250 cm^2 C) 50 cm^2 D) 10 cm^2</p> <p>Answer: _____</p>	
2.	<p>Write down the square number between 27 and 38.</p> <p>Answer: _____</p>	
3.	<p>A hexagon has</p> <p>A) 8 sides B)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

9.	<p>Mary buys 10 stamps for €3. How much did she pay for each stamp?</p> <p style="text-align: right;">Answer: _____</p>	
10.	<p>A film starts at 8.00 p.m. It finishes at 10.45 p.m. How long is the film?</p> <p style="text-align: right;">Answer: ____ hr ____ min</p>	
11.	<p>Simplify $7p + 3q - 5p + 2q$.</p> <p style="text-align: right;">Answer: _____</p>	
12.	<p>Which one of these shapes is a quadrilateral?</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  (A) </div> <div style="text-align: center;">  (B) </div> <div style="text-align: center;">  (C) </div> </div> <p style="text-align: right;">Answer: _____</p>	
13.	<p>What is the size of angle x?</p> <div style="text-align: center;">  </div> <p style="text-align: right;">Answer: _____</p>	
14.	<p>I select a letter at random from the word PLASTICS. The probability that I select S is</p> <p>(A) $\frac{1}{2}$ (B) $\frac{1}{4}$ (C) $\frac{1}{8}$ (D) $\frac{2}{3}$</p> <p style="text-align: right;">Answer: _____</p>	
15.	<p>Which of these numbers is a prime number?</p> <p>(A) 39 (B) 255 (C) 41 (D) 410</p> <p style="text-align: right;">Answer: _____</p>	

16.	 <p>What fraction of this container is filled with water?</p> <p style="text-align: right;">Answer: _____</p>	
17.	<p>The turtle starts from the position shown. Sketch the figure drawn by the turtle for this set of LOGO commands:</p> <p>PD LT 90 FD 50 RT 90 FD 100</p> <p style="text-align: right;">★</p>	
18.	<p>Write down the output of this function machine in the empty box.</p> <pre> graph LR Input[Input] --> Box1[2] Box1 --> Box2["×3"] Box2 --> Box3["+ 2"] Box3 --> Output[Output] </pre>	
19.	 <p>Line P has equation</p> <p>(A) $y = 2x - 2$ (B) $y = 2x + 4$ (C) $y = 2x + 2$ (D) $y = 2x$</p> <p style="text-align: right;">Answer: _____</p>	
20.	<p>Which one of the following angles is obtuse?</p> <p>(A) 45° (B) 97° (C) 89° (D) 30°</p> <p style="text-align: right;">Answer: _____</p>	

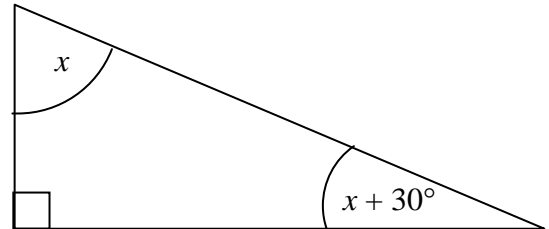
3. (a) Underline the correct value for x .

- (A) 90° (B) 20° (C) 45°



(b) (i) Complete the following equation:

$$x + 30^\circ + \underline{\hspace{2cm}} = 90^\circ$$



(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 $2 \times 2 \times 2 + 2 \times 2 \times 2 \times 2$

Answer: _____

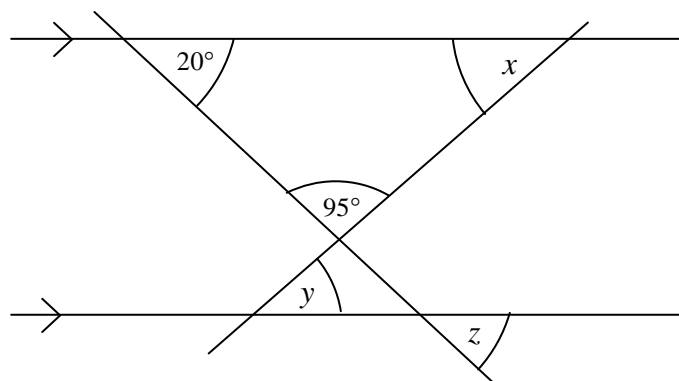
[5 marks]

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: _____ m

(b) Calculate 15% of 2 hours.

Answer: _____ min

(c) Express $\frac{3}{5}$ 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?

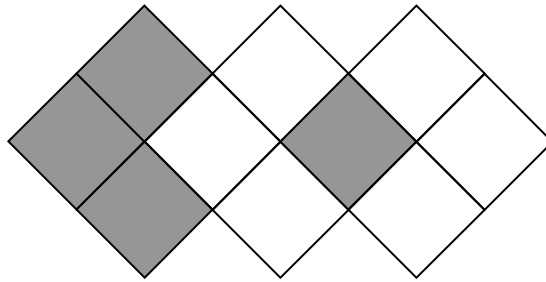
Answer: _____ g

(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: _____

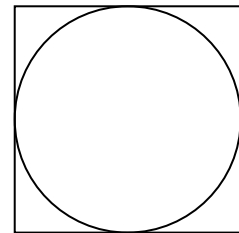
Each tile is of side 50 cm.

(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: _____

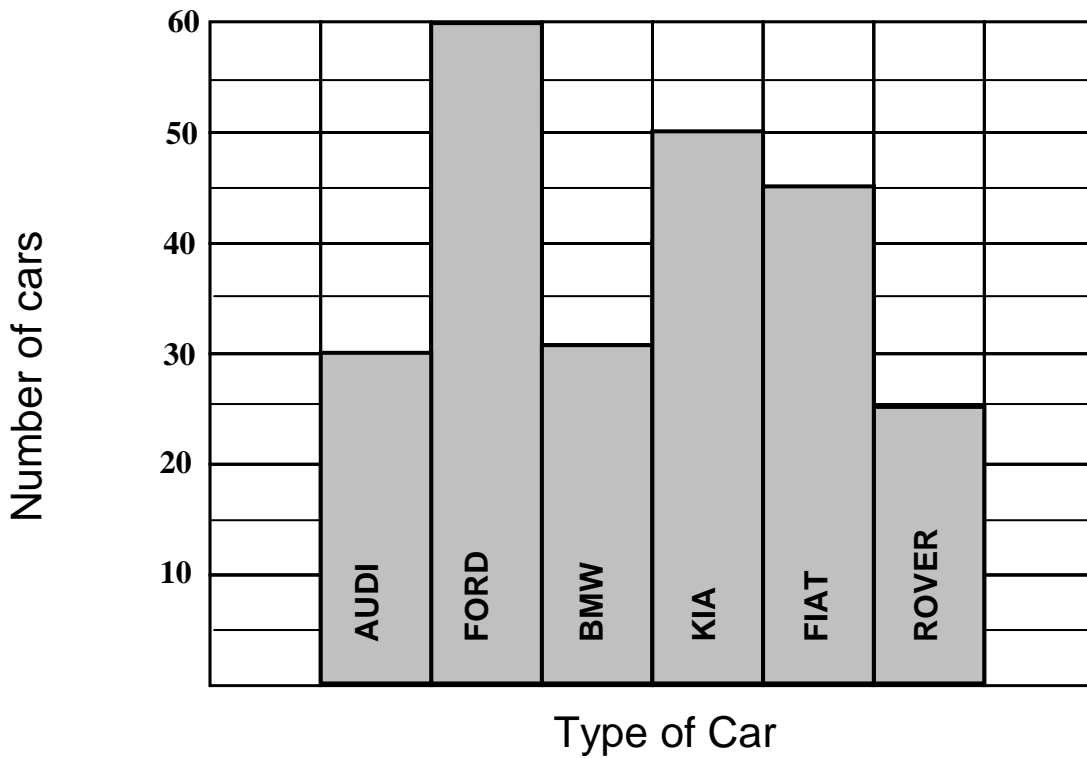
(ii) The circumference of the circle is _____ π cm.

(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 dealer in one 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?

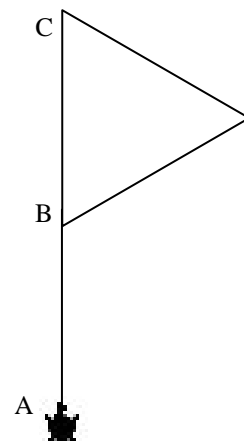
Answer: _____ cars

[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 ____
```



(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.

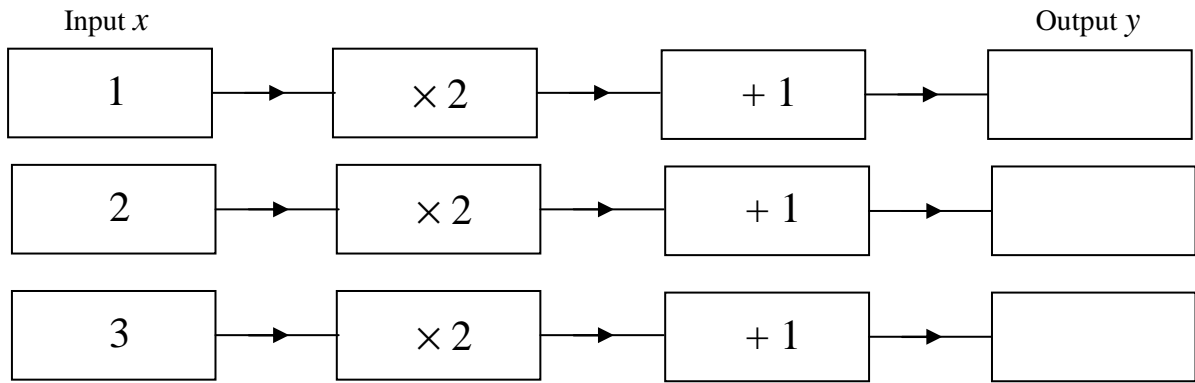
Do you think that the coin is fair? (Tick one of the boxes below and fill the space with a number.)

YES NO

because about _____ heads should be obtained.

[5 marks]

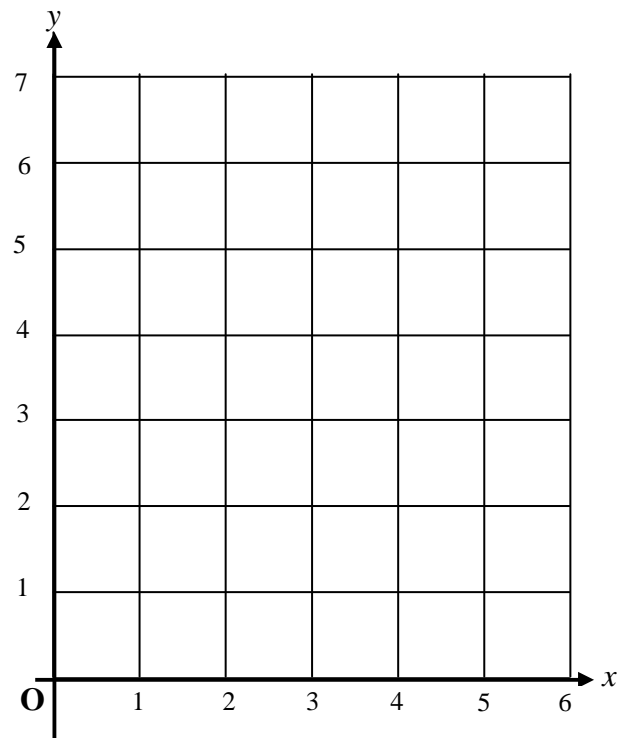
14. (a) Complete the following function machines.



(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 $y = \underline{\hspace{2cm}}$.

[10 marks]

End of Paper