SECONDARY SCHOOL
ANNUAL EXAMINATIONS 2008
Educational Assessment Unit – Education Division

C

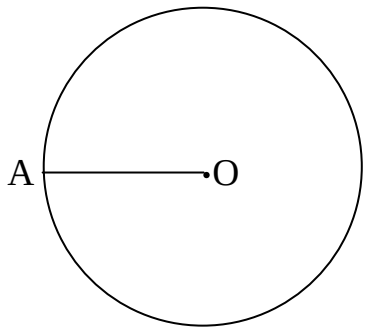
FORM 5 **MATHEMATICS – SCHEME C (Non-Calculator Paper)** **TIME: 20 minutes**

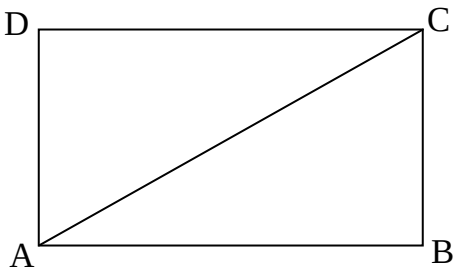
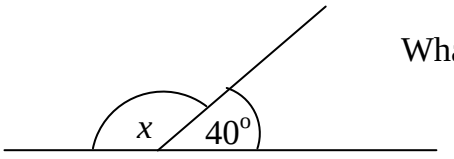
Name:_____ **Class:**_____

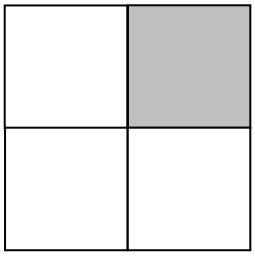
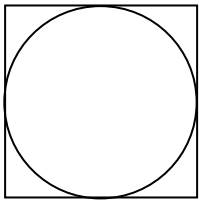
Mark

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. However space for working is provided if you need it.**

No.	QUESTION	SPACE FOR WORKING (IF REQUIRED)
1.	Work out: $15 \div 5 + 10$. Ans _____	
2.	An **octagon** is a flat shape with: (A) 4 sides (B) 5 sides (C) 6 sides (D) 8 sides. Ans _____	
3.	Write down an **even** number between 31 and 39. Ans _____	
4.	Simplify $1 - \frac{1}{5}$. Ans _____	
5.	Find 10% of €50. Ans €_____	
6.	What is the value of $2{\cdot}356 \times 100$? Ans _____	
7.	Given that $\boldsymbol{y} = 2x - 5$, find the value of y when $x = 6$. Ans _____	
8.	In a primary school, 60% of the children are girls. What percentage are boys? Ans _____	
9.	 O is the centre of the circle. OA is a: (A) radius (B) diameter (C) tangent (D) chord. Ans _____	

No.	QUESTION	SPACE FOR WORKING (IF REQUIRED)
10.	The turtle starts at the position shown. Sketch the figure drawn by the turtle for this set of LOGO commands. PD FD 200 BK 200 LT 90 FD 100	
11.	Robert was using a spreadsheet to find the perimeter of a right-angled triangle. In cell **A1** he typed the length of the base. In cell **B1** he typed the height of the triangle. In cell **C1** he typed the length of the hypotenuse. Choose the correct formula that Robert would type in cell **D1** to obtain the **perimeter of the triangle**. (A) = **A1 B1 C1** (B) = **A1** + **B1** + **C1** (C) = **A1 * B1** * **C1** (D) = (**A1**+**B1** + **C1**) *2. Ans _____	
12.	 The area of the rectangle ABCD is 18cm^2. What is the area of triangle ABC? Ans _____	
13.	Five football teams won the following points in their last 3 matches: 2, 5, 6, 9, 9. What is the **median** within this set of points? Ans _____	
14.	 What is the size of angle *x*? Ans _____	

No.	QUESTION	SPACE FOR WORKING (IF REQUIRED)
15.	 What percentage of the whole figure is the shaded part? Ans _____	
16.	Simplify $\frac{1}{2}$ of $\frac{1}{4}$. Ans _____	
17.	4 similar books together cost €240. What is the cost of one book? Ans _____	
18.	Change $\frac{22}{7}$ to a mixed number. Ans _____	
19.	Last Sunday, in Moscow, the temperature at 9pm was -10^{o}C. At midnight, the temperature fell by 4^{o}C. What was the temperature at midnight? Ans _____	
20.	 Which is the correct answer? (A) The area of the square is **equal** to the area of the circle. (B) The area of the square is **bigger** than the area of the circle. (C) The area of the square is **smaller** than the area of the circle. Ans _____	

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FORM 5 **MATHEMATICS – SCHEME C (Main Paper)** **TIME: 1h 40min**

1	2	3	4	5	6	7	8	9	10	11	12	13	Total Main	Non Calc.	**GLOBAL MARK**

DO NOT WRITE ABOVE THIS LINE

Name: _____ **Class:** _____

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

1. a) Write down the next two terms in each number pattern:

(i) 17, 22, 27, 32, _____, _____.

(ii) 24, 22, 20, 18, _____, _____.

b) Use the formula $V = 5n + 12$ to find the value of V when $n = 30$.

_____

(6 marks)

2 a) Work out the value of 15% of $€\,240$.

b) A radio costs $€\,240$. During a sale there is a discount of 15%.
What is the price of the radio during this sale?

c) Express $€\,3$ as a percentage of $€\,5$.

(6 marks)

3. a) Find the value of $\left(\frac{1}{2} + \frac{1}{4}\right) \times 8$.

b) Work out $\frac{1}{4} \div 5$.

c) Each child eats $\frac{1}{2}$ of a pizza. How many pizzas do10 children eat altogether?

(6 marks)

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4. Work out the value of each of the following:

a) $(-3) \times 5$ _____

b) $(-4) \times (-7)$ _____

c) $16 \div (-8)$ _____

d) $(-24) \div (-6)$. _____

(5 marks)

5. a) Factorise $25x - 5y$. _____

b) Expand $5(3x + 8)$. _____

c) Expand and simplify $2(5x - 6) + 3(x + 7)$. _____

(6 marks)

6. Marica used a spreadsheet to calculate the volume of a rectangular box of length 30 cm, breadth 20 cm and height 15 cm.

a) Enter these values in their respective cells.

	A	B	C
1	Length in cm	30	
2	Breadth in cm		
3	Height in cm		
4			

b) Underline a formula that Marica used to find the volume of the rectangular box.

(i) = B1 + B2 + B3 (ii) = B1 * B2 + B3

(iii) = B1 + B2 * B3 (iv) = B1 * B2 * B3.

c) Calculate the volume of the rectangular box.

_____

(6 marks)

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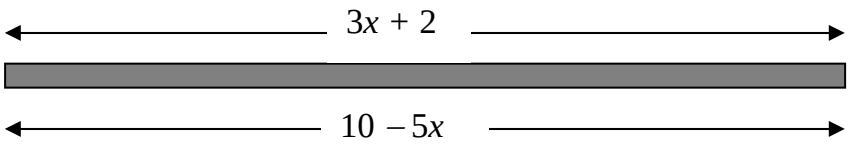
7. a) Solve the equation: $2x - 8 = x + 4$.

_____

b) The length of a plank is written in two ways as shown:



(i) Use this information to form an equation, in terms of x, for the length of the plank.

_____

(ii) Solve the equation to find the value of x.

_____

(5 marks)

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8. a) On the given line, mark a point Q such that PQ is 10 cm long.

b) Construct a triangle PQR such that PQ is 10 cm, PR is 8 cm and QR is 7 cm.

c) Use your protractor to measure:

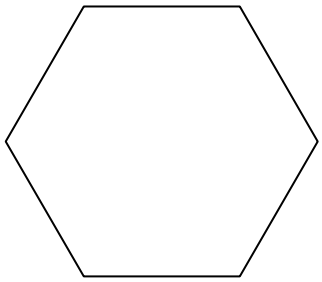
(i) Angle PQR _____

(ii) Angle PRQ. _____

P

(6 marks)

9.



The figure shows a regular hexagon. Work out:

a) the size of one **exterior** angle.

_____

b) the size of one **interior** angle.

_____

c) the **sum** of all interior angles of the hexagon.

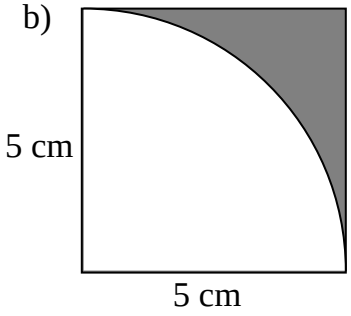
_____

(6 marks)

10. Give your answers correct to 1 decimal place.

a) Calculate the area of a circle of radius 5 cm.

b)



The figure shows a sector of a circle inside a square. The radius of the sector and the side of the square are each 5 cm long. Work out:

(i) the area of the sector

(ii) the shaded area.

(6 marks)

11. Julian noticed the colours of the cars that passed in front of his home last Sunday morning. The table shows his result.

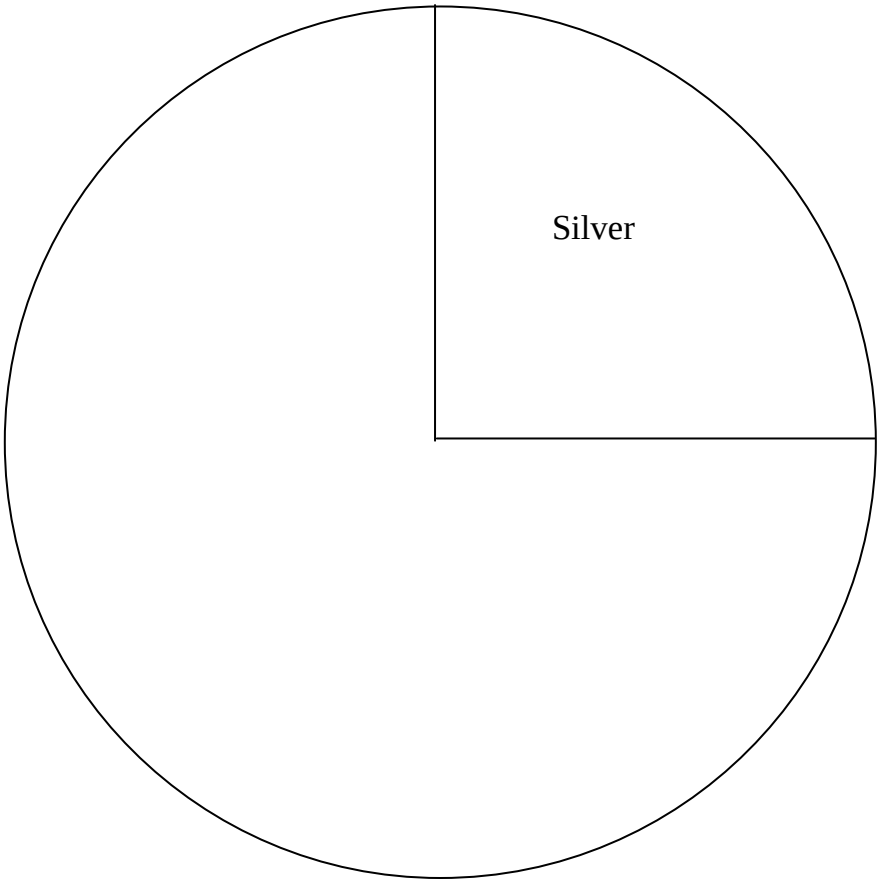
Colour of the cars	Silver	Green	Red	Black	White
Number of cars	5	2	3	6	4

a) How many cars drove by Julian's home last Sunday morning?

b) What was the **modal** colour of the cars? _____

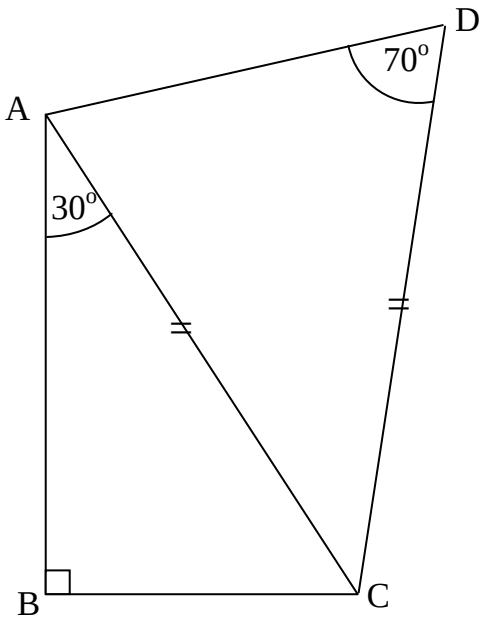
_____

c) Complete and label the pie chart clearly for Julian's result.



(6 marks)

12.



a) Triangle ABC is right-angled at B. Angle BAC is 30^o. What is the size of angle ACB?

_____

b) Triangle ACD is isosceles such that AC = CD and angle ADC is 70^o. Calculate:

(i) angle ACD

_____

(ii) angle BAD

_____

c) What is the sum of all interior angles of the figure ABCD?

_____

(8 marks)

13. At Mark's Stationery, Daniella bought the following items.

a) Calculate how much Daniella spent at the stationery.

1 set of crayons at €2.56 _____

3 copybooks at 42c each _____

2 files at €1.34 each _____

Total cost _____

b) How much change did she get from €10?

_____

(8 marks)

End of Examination.