



FORM 3

MATHEMATICS SCHEME C

TIME: 30 minutes

Non Calculator Paper

Name: _____

Class: _____

1	2	3	4	5	6	7	8	9	Total

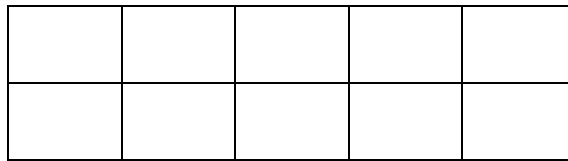
INSTRUCTIONS TO CANDIDATES

- Answer all questions.
- This paper carries a total of 25 marks.
- Calculators and protractors are not allowed.

1. a) **Work out** the following sum, giving your answer to its **lowest terms**.

$$\frac{1}{3} + \frac{5}{12} = \frac{\quad}{12} + \frac{5}{12} = \frac{\quad}{12} = \frac{\quad}{\quad}$$

b) **Shade** $\frac{7}{10}$ of this rectangle.



(4 marks)

2. Estimate $59.34 \div 3$. Choose the correct answer.

a) 2

b) 19.78

c) 20

Ans: _____

(2 marks)

3. Put in order, **largest first**.

0.39, 0.139, $\frac{1}{4}$, 0.14

Ans: _____, _____, _____, _____

(3 marks)

4. **Fill in** the missing numbers in these sequences:

a) 1.3, 1.5, 1.7, 1.9, _____

b) 6, 8, 11, 15, _____, 26

(2 marks)

5. a) Fill in:

- i) $3.45 \text{ km} = \underline{\hspace{2cm}} \text{ m}$
ii) $\underline{\hspace{2cm}} \text{ hours} = 210 \text{ minutes}$

b) Tom is filling a tank with water. Which **unit** from *kg*, $^{\circ}\text{C}$, *mm*, *l* and *km* should he use:

- i) to measure the **volume of water** in the tank? $\underline{\hspace{2cm}}$
ii) to measure the **temperature** of the water? $\underline{\hspace{2cm}}$

(4 marks)

6. Solve the equation:

$$7c + 1 = 29$$

$$c = \underline{\hspace{2cm}}$$

(2 marks)

7. Work out the following:

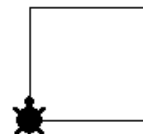
$$3 \times (4 + 1)$$

$$\text{Ans: } \underline{\hspace{2cm}}$$

(2 marks)

8. This LOGO statement draws a **square** of side 100 turtle steps. Fill in the missing parts.

Repeat $\underline{\hspace{2cm}}$ [FD $\underline{\hspace{2cm}}$ RT 90]



(2 marks)

9. Sue throws a coin and an ordinary dice.

- a) **Complete the possibility space** below to show all the possible outcomes.



		DICE					
		1	2	3	4	5	6
COIN	H	(1, H)			(4, H)		(6, H)
	T	(1, T)		(3, T)			(6, T)

- b) What is the **probability** that Sue gets **a number greater than 4** and **a head**?

Ans: _____

- c) What is the **probability** that Sue gets a **7** and **a tail**?

Ans: _____

(4 marks)

END OF PAPER



FORM 3 MATHEMATICS SCHEME C TIME: 1h 30min
Main Paper

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

Name: _____ **Class:** _____

Calculators are allowed but the necessary working must be shown.
Answer all questions.

1. **Work out** using a calculator. Give your answer correct to **1 decimal place**.

$$\frac{6.973 \times 4.95}{0.127} = \underline{\hspace{2cm}}$$

(2 marks)

2. a) **Factorise:**

$$6t + 10p = \underline{\hspace{1cm}} (\underline{\hspace{1cm}}t + \underline{\hspace{1cm}}p)$$

b) **Multiply** out the brackets:

$$4(2p - 3q) = \underline{\hspace{2cm}}$$

(4 marks)

3. Emily goes to a fruit shop to buy some apples and bananas. The fruit shop sells apples at **25c** each and bananas at **30c** each. Emily uses the formula

$$C = 25a + 30b$$

to find the cost of the fruit in cent, where ***a*** is the number of apples and ***b*** is the number of bananas.

How much does Emily pay if she buys **7 apples** and **6 bananas**?



Ans: _____

(3 marks)

4. The list below shows the ages in years of a group of students going for an outing:

16, 13, 12, 12, 14, 13, 11, 11, 15, 16

- a) Work out the **range**.

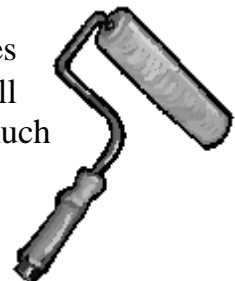
Ans: _____

- b) What is the **mean age**?

Ans: _____

(4 marks)

5. Carl needs to paint the walls of his house light blue. He mixes **white** paint and **blue** paint in the ratio **5 : 1**. Carl thinks that he will need **24 litres** of paint in all. How much **white paint** and how much **blue paint** should he buy?



White paint: _____ litres

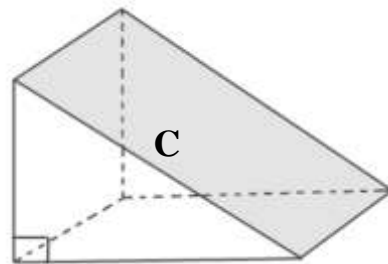
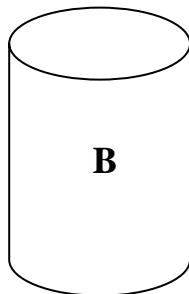
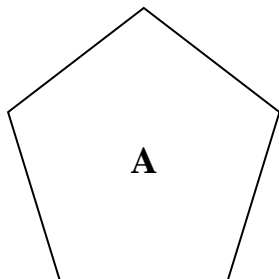
Blue paint: _____ litres

(3 marks)

Name: _____ Class: _____

6. a) Write down the name of these 2D/3D shapes – choose from the list below.

hexagon, pyramid, cylinder, cone, pentagon, triangular prism



Shape A _____

Shape B _____

Shape C _____

b) Shape A has _____ lines of symmetry.

(5 marks)

7. The diagram shows the **cross section of a prism** made up of a **triangle X** and a **square Y**. Work out:

a) the **area** of triangle **X**

_____ cm^2

b) the **area** of square **Y**

_____ cm^2

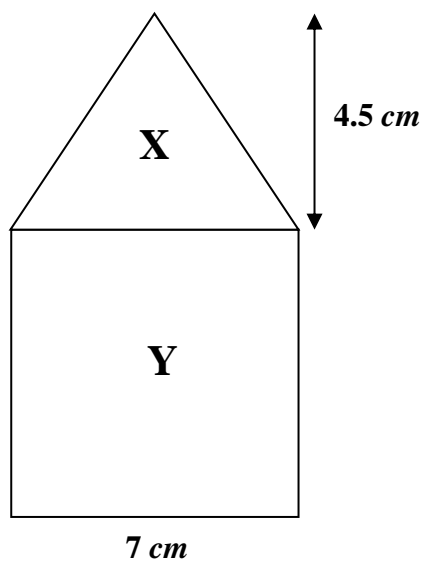
c) the **total area** of **X** and **Y**

_____ cm^2

d) the **volume** of the **prism** if the length of the prism is **10 cm**.

_____ cm^3

(8 marks)



8. Trisha works in a factory. She is paid **€3.50** per hour. Overtime is paid at **€4.75** per hour.
- a) During the first week of June, Trisha works **40 hours** plus **5 hours** overtime. How much is her pay for this week?

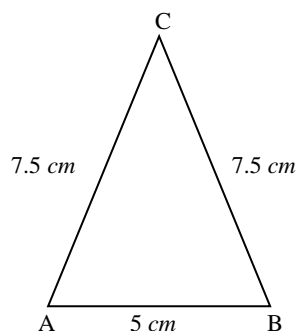
€ _____

- b) All workers in Trisha's factory are to get a **10% increase** added to their pay. What will Trisha's pay be now?

€ _____

(5 marks)

9. a) Construct the isosceles triangle ABC where AB is **5 cm** and both AC and BC are **7.5 cm**.



A

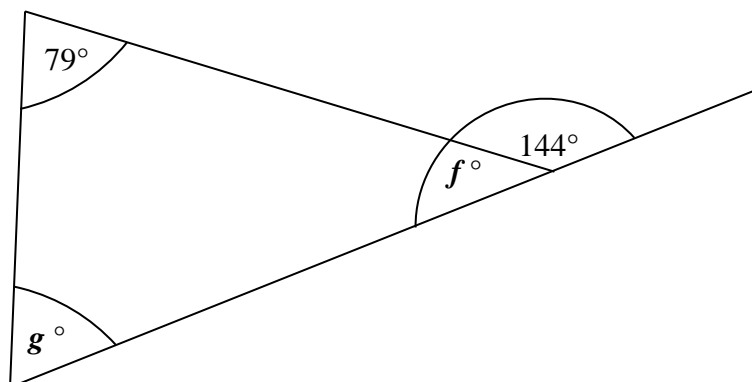
- b) Now, bisect side AC and let the bisector meet BC at X.

c) Measure CX. CX = _____ cm

d) Measure angle A. Angle A = _____ °

(8 marks)

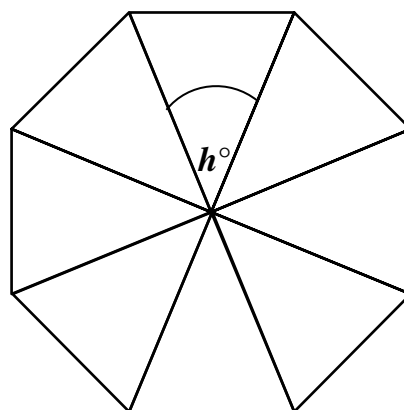
10. a) Find the angles marked with letters.



$$f^\circ = \underline{\hspace{2cm}}$$

$$g^\circ = \underline{\hspace{2cm}}$$

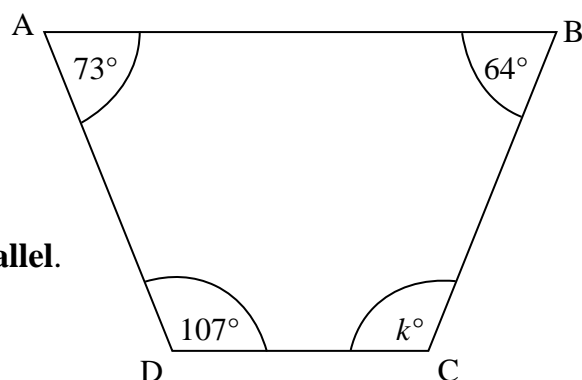
b) This is a regular octagon. Work out the size of angle h .



$$h^\circ = \underline{\hspace{2cm}}^\circ$$

c) i) Find angle k in the quadrilateral.

$$k^\circ = \underline{\hspace{2cm}}^\circ$$



ii) Two lines in the quadrilateral are **parallel**.

Which are they?

 and

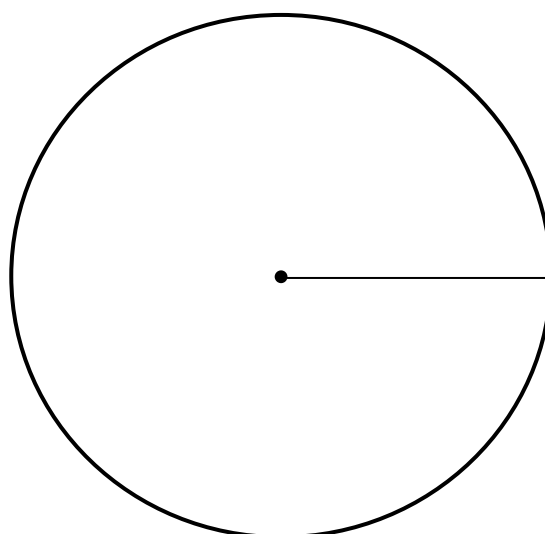
(9 marks)

11. Fabian asked his schoolmates about their favourite summer activity. The following are their preferences:

swimming reading swimming hiking swimming swimming
 reading hiking hiking swimming swimming gardening
 hiking swimming gardening swimming reading hiking

- a) **Complete** the frequency table below by filling the **tally** and the **frequency** columns.
- b) Now Fabian wants to represent this information on a pie chart. **Complete** the table by finding the **angles**. Then **draw** and **label** the **pie chart**.

Summer Activity	Tally	Frequency	Angle
Swimming			160°
Reading	///	3	60°
Hiking			
Gardening	//	2	
TOTAL		18	360°

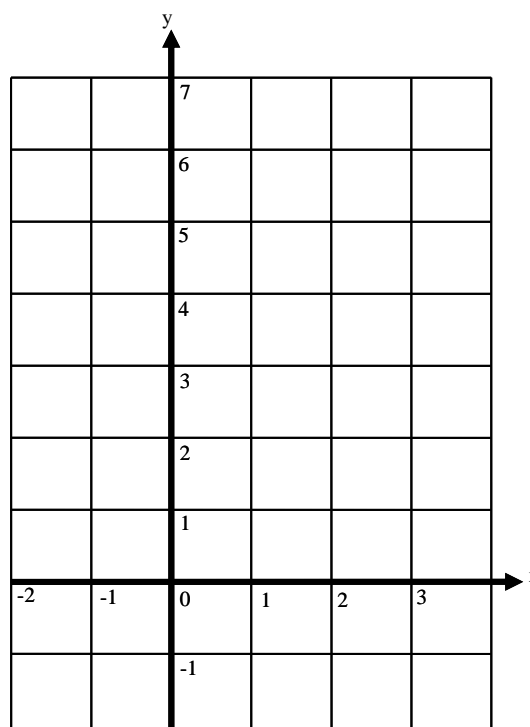


c) What is the most **frequently chosen** activity (**mode**)? _____

(8 marks)

12. a) The equation of a straight line is $y = 2x + 3$. Complete the table below.

x	-2	-1	0	1	2
$2x$	-4			2	4
$+3$		+3		+3	+3
y	-1	1		5	



b) **Plot** the points and **join** them to form a straight line.

c) Write down the **coordinates** of the **y intercept** (the point where the line cuts the y-axis).

Coordinates of y intercept = (_____ , _____)

(7 marks)

13. Stephan uses this number machine to change the temperature from **degrees Fahrenheit ($^{\circ}F$)** to **degrees Celsius ($^{\circ}C$)**.



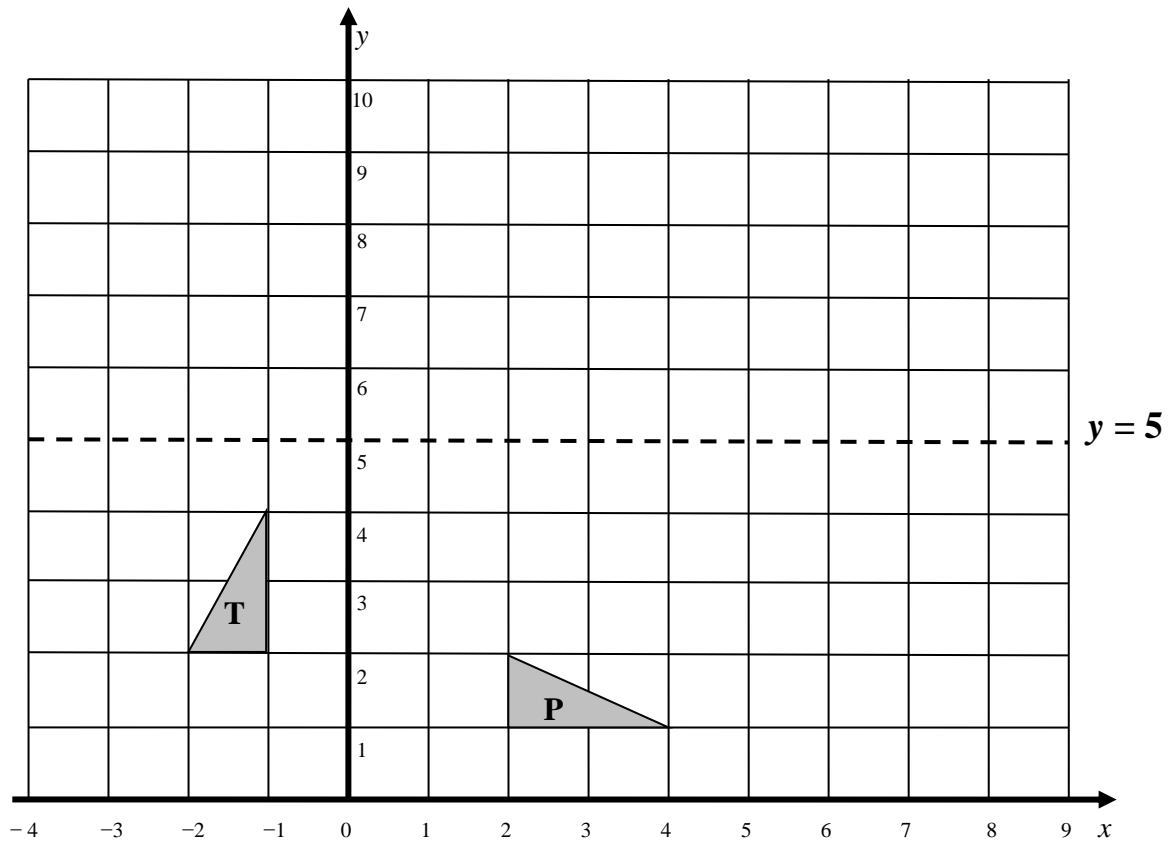
In a cake recipe, the temperature needed to cook a cake is **$350^{\circ}F$** . What is the **temperature in $^{\circ}C$** , giving your answer to **2 d.p.**?



_____ $^{\circ}C$

(4 marks)

14. a) **Translate** triangle P, **5** to the **left** and **4** **up**. Name the triangle Q.
 b) **Reflect** triangle P in the line $y = 5$ to obtain triangle S.



- c) **Underline** the correct words:

Rotate triangle P by (90° clockwise, in the y-axis, 90° anticlockwise) about (0,0) to obtain triangle T.

(5 marks)

END OF PAPER