

FORM 3MATHEMATICS SCHEME CTIME: 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.

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

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:

5. a) **Fill in**:

- i) **3.45** *km* = ____*m*
- ii) *hours* = 210 *minutes*
- b) Tom is filling a tank with water. Which **unit** from *kg*, *C*, *mm*, *l* and *km* should he use:

i) to measure the **volume of water** in the tank?

ii) to measure the **temperature** of the water?

(4 marks)

6. **Solve** the equation:

$$7c + 1 = 29$$

c = _____

(2 marks)

7. Work out the following:

 $3 \times (4 + 1)$

Ans: _____

(2 marks)

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

Repeat	[FD	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
CON	Н	(1, H)			(4, H)		(6, H)
COIN	Т	(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.

 $\frac{6.973 \times 4.95}{0.127} = \underline{\qquad}$

(2 marks)

2. a) **Factorise**:

 $6t + 10p = \underline{\qquad} (\underline{\qquad} t + \underline{\qquad} p)$

b) **Multiply** out the brackets:

4(2*p* - 3*q*) = _____

(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**?

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

Ans:

Ans:_____

Ans: _____

(3 marks)

(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 mu	ch 】
blue paint should he buy?	- S
	51

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



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



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

 $\underline{\qquad \qquad } CM^3 \qquad (8 \text{ marks})$

- 8. Trisha works in a factory. She is paid €3.50 per hour. Overtime is paid at €4.70 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. $CX = \underline{cm}$
- d) Measure angle A. Angle $A = ___^\circ$

(8 marks)

10. a) Find the angles marked with letters.



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



c) i) Find angle k in the quadrilateral.

h° = _____°



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
у	-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).

	y					
		7				
		6				
		5				
		4				
		3				
		2				
		1				
-2	-1	0	1	2	3	► ×
		-1				

Coordinates of y intercept = $(_ , _)$

(7 marks)

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



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.?



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