

SECONDARY SCHOOLS ANNUAL EXAMINATIONS - 2002

Educational Assessment Unit - Education Division

FORM 3

MATHEMATICS (NON CALCULATOR PAPER)

TIME: 10 min.

Name _____

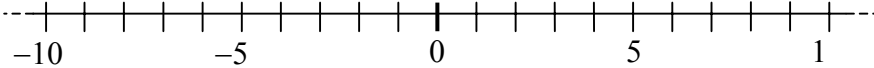
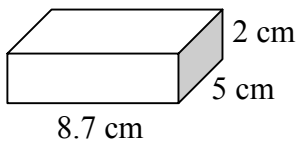
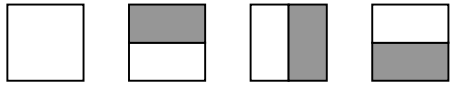
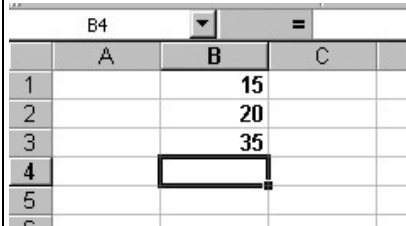
Class _____

Mark

Instructions to Candidates:

- Answer **ALL** questions. There are **10** questions to answer.
- Each question carries **1 mark**.
- On your desk you should have nothing except for **pen, pencil** and the **examination paper**.
- To answer questions involving numerical calculations you are advised to choose the more efficient techniques (mental or paper-and-pencil).
- You are not required to show your working. However space for working is provided if you need it.

**DO NOT
WRITE
IN
THIS
SPACE**

QUESTION		SPACE FOR WORKING IF REQUIRED
1.	Use the number line to calculate $-6 + 8 - 4$.  Ans: _____	
2.	Find the L.C.M. of 4, 6 and 8. Ans: _____	
3.	Write 3.7×10^{-2} as an ordinary number . Ans: _____	
4.	Find the volume of this cuboid.  Ans: _____	
5.	The area of a parallelogram is: A) $\frac{1}{2}bh$ B) bh C) πr^2 D) $L \times B \times H$ Ans: _____	
6.	Draw the next arrangement.  Ans: _____	
7.	What is the probability of choosing at random the letter A in the word MAGICAL ? Ans: _____	
8.	A pastry costs 15c. How many pastries can I buy with Lm1 ? Ans: _____	
9.	A car covers 135 km in 3 hours. Find the car's average speed in kilometres per hour. Ans: _____	
10.	The diagram shows part of a spreadsheet. What formula must be written in cell B4 in order to find the SUM of the contents of cells B1, B2 and B3 ?  Ans: _____	

SECONDARY SCHOOLS ANNUAL EXAMINATIONS 2002

Educational Assessment Unit - Education Division

FORM 1

MATHEMATICS (Main Paper)

TIME: 1 h 50 min.

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Main	Non Calculator	Global Mark
Mark																		

DO NOT WRITE ABOVE THIS LINE

Name _____

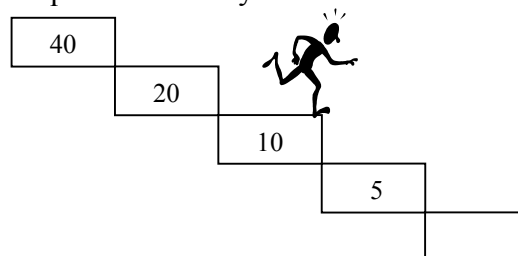
Class _____

ANSWER ALL QUESTIONS.

1. a) Calculate:

$$2.5 \times (7.6 + 2.8)$$

b) Fill in the empty box to complete the sequence correctly:



2. a) Find 25 % of Lm16.60.

b) Simplify the ratio:
24 cm:42 cm

4 marks

3. Mark the correct answer.

a) The value of $2^3 \times 3^2$ is:

i) 72

ii) 36

iii) 25

iv) 10

b) $(5^2)^3$ is the same as:

i) 5^2

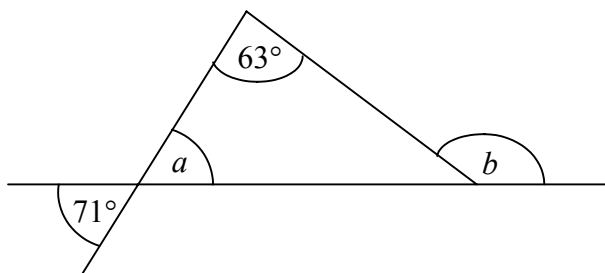
ii) 10^3

iii) 5^6

iv) 30

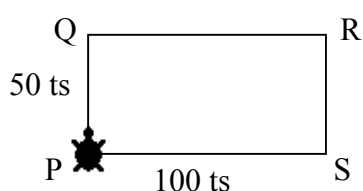
4 marks

4. Find the values of the unknown marked angles. Give **reasons** for your answers.



4 marks

5. a) Use **logo commands** to complete the program that draws the rectangle PQRS correctly.



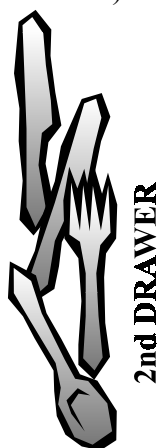
REPEAT _____ [FD 50 RT 90 FD _____ RT 90]

- b) Find in **turtle steps** (ts) the **perimeter** of rectangle PQRS.

4 marks

6. In a kitchen drawer there are 2 forks, 1 knife and 2 spoons.
In another drawer there are 1 fork, 2 knives and 1 spoon.

- a) Complete the **possibility space**:



		1st DRAWER				
		F	F	K	S	S
2nd DRAWER	F	F, F				S, F
	K		F, K	K, K		
	K				S, K	
	S			K, S		

LEGEND
F Fork
K Knife
S Spoon

- b) One object is drawn at random from each drawer.

i) What is the probability of picking a **fork** and a **knife**? _____

ii) What is the probability of **NOT** picking a **spoon**? _____

6 marks

7. a) Find $\frac{5}{7}$ of 4.2 litres.

b) **Simplify** to the **lowest terms**: $13\frac{5}{6} - 8\frac{1}{3}$

6 marks

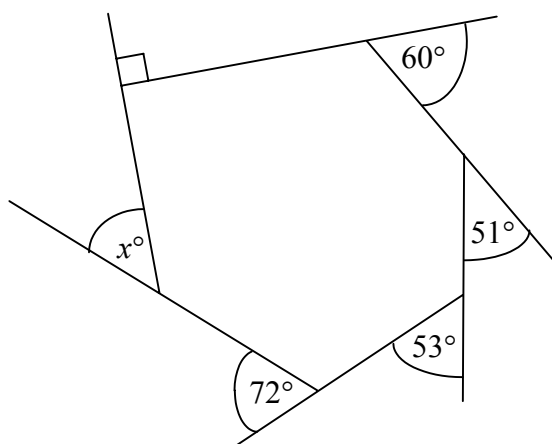
8. a) Find the values of: i) $6 - (-5)$

ii) 2^{-3}

b) **Solve** the equation: $3(x - 7) = 9$

6 marks

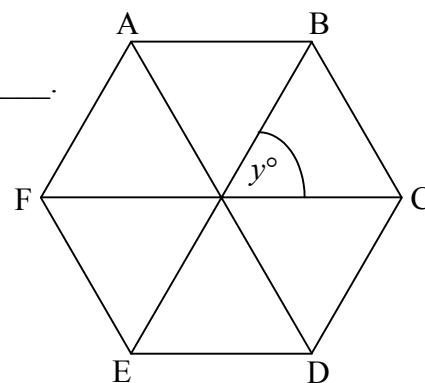
9. a) Find the value of the angle marked x° .



b) ABCDEF is a regular hexagon. Complete the following statements correctly.

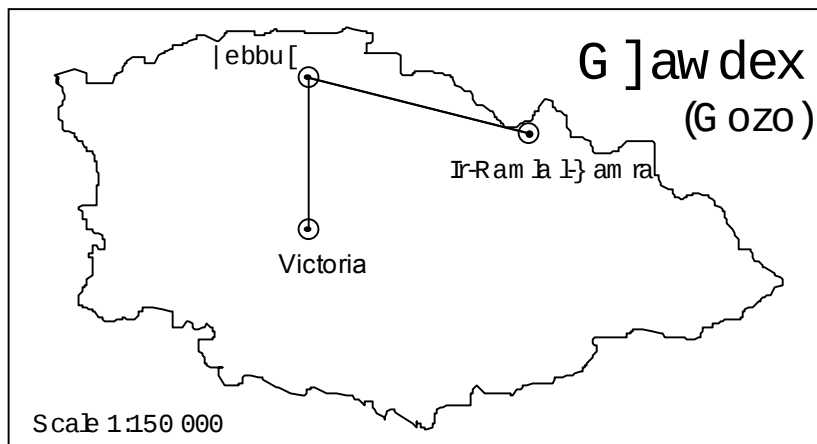
i) ABCDEF has an order of **rotational symmetry** of _____.

ii) The value of angle y° is _____



6 marks

10. Frans went for a hike with his classmates. The map shows the route the boys took.



a) The straight distance on the map from: **Victoria** to **|ebbu[** is _____ cm.

|ebbu[to **Ir-Ramla l-}amra** is _____ cm.

b) The **total distance** covered on the map is _____ cm.

c) What is the **real distance**, in **kilometres**, represented by the total distance?

6 marks

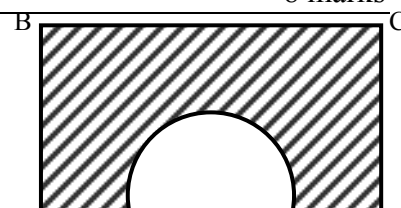
11. a) Find correct to 3 s.f. i) $5.37^3 =$ _____;
- ii) $\sqrt[3]{89} =$ _____.

b) Simplify $5g - 8h + 4h - 2g$.

c) Find the value of x when $y = 7$ and $z = 3$ if $x = 2(3y - 5z)$.

8 marks

12. ABCD is a square piece of cardboard of side 45 cm.



A circle of radius 11 cm is cut out from it.
Find:

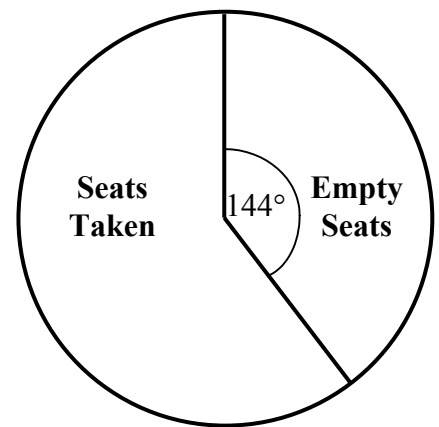
- a) the area of the square ABCD;
- b) the area of the circle correct to 3 s.f.;
- c) the area of the cardboard after the circle is cut off (the shaded area). Give your answer correct to 1 d.p.

8 marks

13. There are 990 seats in a cinema. The pie chart represents the number of seats taken during one particular show.

a) Find what **fraction** represents the:

- i) the **empty** seats;
- ii) the seats **taken**.



b) **How many people attended** the show?

c) What **percentage** of the seats is **empty**?

8 marks

14. a) Complete the table for the values of $y = -x + 2$.

$$y = -x + 2$$

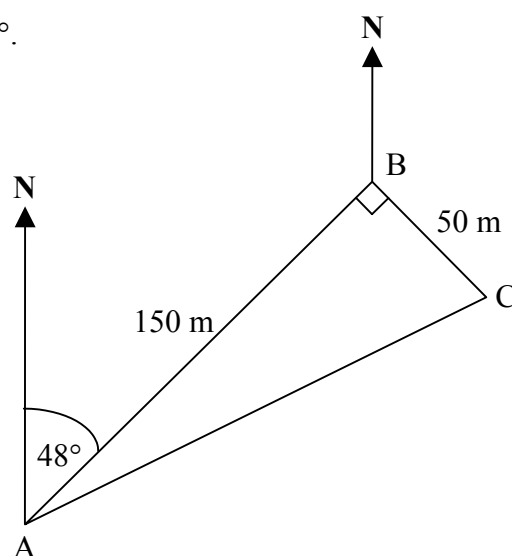
x	-3	0	3
y			

- b) Using a scale of 2 cm to represent 1 unit on both axes plot the graph of $y = -x + 2$ on the graph paper provided.
- c) Use your graph to find the value of x when $y = 4$.

8 marks

15. Christa cycles for 150 m from A to B on a bearing of 48° .
From B she cycles for 50 m to C.
The figure represents Christa's journey.
If $\angle ABC = 90^\circ$:

- a) What is the bearing of C from B?



- b) Find the distance CA correct to the nearest metre.

8 marks

END OF PAPER