SECONDARY SCHOOL ANNUAL EXAMINATIONS 2005

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.

No.	QUESTION	ANSWER	Space for Working if Required
1	Estimate the perimeter of this rectangle.		
2	$\sqrt{63}$ is approximately equal to (a) 5, (b) 6, (c) 8, (d) 9.		
3	Work out 124 ÷31.		
4	Write down the mode of this set of numbers: 11, 15, 11, 14, 14, 13, 14.		
5	If $A = 3x + y$ find the value of A when $x = 4$ and $y = 5$.		
6	Calculate the size of angle a.		

No.	QUESTION	ANSWER	Space for Working if Required
7	Work out 42 ² .		
8	In a vet's room there are 15 cats and 10 dogs. Write down the ratio cats : dogs in its simplest form.		
9	Complete the shape drawn by the following Logo commands. (Part of the shape is already drawn.) pd fd 100 rt 90 fd 200 rt 90 fd 400		
10	This pattern is made of matchsticks. This pattern is made of matchsticks. This pattern is made of matchsticks. How many matchsticks are needed to make 5 triangles?		

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FORM 3MATHEMATICS (MAIN PAPER)Time									Time	ne: 1 h 50 min								
Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Main	Non- Calc	GLOBAL MARK
Mark																		

DO NOT WRITE ABOVE THIS LINE

Name

Class_____

CALCULATORS ARE ALLOWED BUT ALL NECESSARY WORK MUST BE SHOWN

ANSWER ALL QUESTIONS

1. Use your calculator to find the exact value of: (a) $(1.4 + 2.9) \times 3.5 =$ _____ (b) $3.6^3 =$ _____ (c) $\sqrt{2916} =$ _____ (d) $\sqrt[4]{2401} =$ _____ 4 marks 2. (a) Work out: (i) $\frac{1}{3}$ of Lm 96 = _____. (ii) 25% of 44.8m = _____. (b) 1kg 500g 200g 100g 50g

Use any of these weights to make the following amounts: (i) 800g =

(ii) 1.750 kg =

3. The equal sides of an isosceles triangle are each 3x cm long and the third side is 4x cm long. If the perimeter of the triangle is 30 cm, form an equation and solve it to find the value of x.



4. A circle has a diameter of length 5.4m



- Δ **PQR** is an enlargement of Δ **ABC**.
- (a) Calculate the scale factor.
- (b) Calculate the length of **PR**.



6 marks

- 7. A raffle is held and 100 tickets numbered from 1 to 100 are sold. A winning ticket is chosen at random. Find the probability that the winning ticket is:
 - (a) The number 7
 - (b) Less than 21
 - (c) Even
 - (d) A multiple of 10
 - (e) Greater than 40
 - (f) The number 112 _____

 (a) The cheetah can cover a distance of 340m in 17 seconds. Calculate the speed of the cheetah in m/sec.

(b) A train is travelling at a constant speed of 90km/h. Calculate the distance covered in





10.	(a)	Write 958000 in standard form	
	(b)	Write $4^3 \times 4^2 \div 4$ as a single number in index form	
	(c)	Write down the value of 17 ⁰	
	(d)	Write $(5^2)^4$ as a single number in index form	
			6

11. (a) Construct an isosceles triangle ABC, such that BC = 6cm and angle $B = 90^{\circ}$.

 \mathbf{B}^{\dagger}

- (b) Measure the side AC _____.
- (c) What is the size of angle C? _____.
- (d) Calculate the area of triangle ABC.

8 marks



13.	The diagram	shows a	part of a	spreadsheet.
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		A	В	С	D	E	F	G
	1	x	у	sum	difference	product	quotient	mean
	2	8	2					
(a)	Fill i	n the values	I will get if I	type the follo	owing formula	ie:		
	(i)	In cell C2:	=A2+B2 _		(iii) In cell	E2: =A2 *	B2	
	(ii)	In cell D2:	=A2-B2 _		(iv) In cell	F2: =A2/	B2	
(b)	Wha	at formula sh	nould I type in	n cell G2 to g	get the mean of	of the values	in A2 and B2	2?
	=							
(c)	Wha	at value will]	I get in cell G	2?				
								8 marks

14. This pie chart shows the favourite fruit of a group of **720** people.



(a) What is the fraction of all the people who prefer pears?

(b) Which two fruit are liked by the same number of people? ______,

- (c) How many people like Bananas?
- (d) How many people like apples?

