ALLIANCE HIGH SCHOOL
FORM ONE END OF TERM 1, 2016
MATHEMATICS EXAM.
TIME: 2HRS 30 MIN

NAME.....CLASS.....ADM NO.....

SECTION A (50 MARKS)- ATTEMPT ALL QUESTIONS.

1. Find the value of y in $y=(a+b)(x-c)^2$ given that a=5, b=6, c=2 and x=-3. (3mks)

2. Two numbers have an LCM of 1008 and a GCD of 12. If one of the numbers is 48, find the other number. (3mks)

3. Find the least number of sweets that can be packed into bags which contain either 9 or 15 or 20 or 24 and leave a remainder of 5 in each case. (3mks)

4. Express the following decimals as fractions

a. $0.\dot{3}\dot{4}$ (3mks)

b. $0.1\dot{2}\dot{3}$ (3mks)

5. Evaluate $\frac{1}{2}\{3/5+1/4(7/3-3/4)\text{of } 1^{1}/_{2}\div 5\}$ (4mks)

6. Evaluate $\dfrac{\sqrt{153\times 0.18}}{\sqrt{0.68\times 0.32}}$ (4mks)

7. Write the following numbers in standard form (3MKS)

a) 852.321

b) 9.32

c)0.000875

8. Express 1470 and 7056 as product of their prime factors and hence evaluate (4mks)

$$\frac{1470^2}{\sqrt{7056}}$$

9. Evaluate (3mks)

$$\frac{\sqrt[3]{675 \times 135}}{\sqrt{2025}}$$

10. Evaluate the following (3mks)

$$\frac{16x2-4}{4x-2-(2x-1)}$$

11. Find the value of

0.3x0.94+(0.304+0.123÷0.4) (3mks)

12. Kirwa used a ladder to paint the top of a wall. He placed the ladder 4.5 meters away from the wall. The ladder touched the wall at a height of 6.0 meters. Find the height of the ladder. (3mks)

13. Simplify the following expressions:

a)7(-x-4y-2)-5(2x-y-3) (3mks)

b)15+(-3)-8(-2)(-5) (3mks)

14. Find the value of

1/3(2x-4y)+5p-8 given that –p-6=0, x-2p=0, y=0.5x-1 (3mks)

Section B(50MARKS) – ANSWER ALL QUESTIONS

15.in a maths quiz, every correct answer scores 2marks, -1 mark for every wrong answer and 0 marks for no answer. The test had 30 questions.

a. Find the maximum and the minimum possible scores a student can score in the test. (2mks)

b. If Otieno has 20 correct answers, 8 wrong answers and 2 questions he didn't answer, while Omondi had 3 more correct answers than Otieno, and the rest were all wrong answers, find out who go more marks. (4mks)

c. Mary scores 23 marks having got 5 answers wrong. How many questions did she answer right? (4mks)

16.Kamau subdivided his rectangular piece of land measuring 6696 m by 1080 m into square plots.

a. Find the size of each square plot (3mks)

b. Calculate the number of plots he got (3mks)

c. If he sells half of each plot at one million shillings, how much does he make from 8/51 of his land. (4mks)

17. A square room is covered by a number of whole rectangular slabs of size 60cm by 42cm.

a. Calculate the least possible area of the room. (3mks)

b. If the owner paints the room at a cost of sh 1000 per square metre, find the total cost of painting the floor (3mks)

c. Given that one can of paint costs sh 300, and that one can is enough to paint four square metres, find the exact number of cans he bought. (4mks)

18. Express 550 as a product of its prime factors and hence find the least value of y such that 550y is a perfect square. (4mks)

b. i) in two schools, one bell rings after 35 minutes and another after 40 minutes. If both bells ring together at 12:40pm, find what time they last rang together. (4mks)

ii) If the night preps in the two schools ends between 9.30pm-11:00pm, find the time the two bells ring together to show end of preps. (2mks)

19.a) the sum of three consecutive odd integers is 225. Find the numbers. (3mks)

b) Evaluate

$$\frac{4x6+1/25\div0.05+1/5}{(-3)\div(-6)+(-23)-6 \text{ of } 3}$$

(3mks)

c) A rally car traveled for 2 hours 40 minutes at an average speed of 120 km/hr. the car consumes an average of 1 litre of fuel for every 4km. A litre of fuel costs sh. 59. Calculate the amount of money he spent on fuel. (4mks)