ADM: ........... NAME: ........................................................................... CLASS................

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. $0.\overline{34}$
   b. $0.123$

5. Evaluate $\frac{1}{2} \left( \frac{3}{5} + \frac{1}{4} \left( \frac{7}{3} - \frac{3}{4} \right) \right)$ of $1\frac{1}{2} ÷ 5$  4mks

6. Evaluate: $\sqrt{\frac{153 \times 0.18}{0.68 \times 0.32}}$  4mks

7. Write the following numbers in standard form
   a. 852.321
   b. 9.32
   c. 0.000875

8. Express 1470 and 7056 as a product of their prime factors and hence evaluate $\frac{1470^2}{\sqrt{7056}}$  4mks

9. Evaluate: $\sqrt[3]{\frac{675 \times 135}{2025}}$  3mks

10. Evaluate the following $\frac{16 \times 2 - 4}{4x - 2 - (2x - 1)}$  3mks

11. Find the value of: $0.3 \times 0.94 + (0.304 + 0.123 ÷ 0.4)$  3mks

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

13. Simplify the following expressions:
   a. $7(-x - 4y - 2) - 5(2x - y - 3)$  3mks
   b. $13 + (-3) - 8(-2)(-5)$  3mks

14. Find the value of $\frac{1}{3}(2x - 4y) + 5p - 8$ given that $-p - 6 = 0, x - 2p = 0, y = 0.5x - 1$  3mks
Section B (50 Marks); answer all question in this section

15. In a mathematics quiz, every correct answer scores 2 marks, 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 got 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 6696m by 1080m 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 \( \frac{8}{51} \) 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. a. Express 550 as a product of its prime numbers and hence find the least value of y such that 550y is a perfect square. 4mks
   b. i. In two schools, one bell rings 35 minutes and another after 40 minutes. If both bells ring together at 12:40 PM, find what time they last rang together 4mks
      ii. If the night preps in the two schools ends between 9:30 PM – 11:00 PM, find the time the two bells ring together to show end of preps. 2mks

19. a. The sum of three consecutive odd integers is 255. Find the numbers. 3mks
   b. Evaluate: \( \frac{4 \times 6 + \frac{1}{25} + 0.05 + \frac{1}{5}}{(-3) \div (-6) + (-23) - 6} \) of three 3mks
   c. A rally car travelled for 2 hours 40 minutes at an average speed of 120km/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