GASABO DISTRICT **Date:05/12/2024**
RUTUNGA SECTOR
GS KAYANGA
Duration: 3hrs

END OF FIRST TERM MATHEMATICS EXAMINATION for Senior Two /60 Marks

INSTRUCTIONS

1)Use a blue and black pens only to write your answers

2)Draw a line after each question

3)Attempt all questions in Section A and only two questions in section B

SECTION A (Attempt all questions)/40 marks

1.Simplify the expression: a) 5−4b−2$[a-(2b+c)]$, b)2x-4y+5x-3y. **/3 marks**

2.If x=5, y=9 and z=1, evaluate:

a)$\frac{x^2-z^2}{y+3}$, b) x÷(y+z) +6, c) (y−2z) ÷(4x−2y) **/3 marks**

3. Remove the brackets and simplify the following:

a) 7g+(3g−4h)−(2g−9h) **/2marks**

b) (6x−y+3z)−(2x+5y−4z) **/2marks**

c) $\{3y-(x-2y)\}-\{5x-(y+3x)\}$. **/2marks**

4. Solve the simultaneous equation: $5x+3y=77, \quad 15x-3y=3$ **/3 marks**

5.Mary is one year older than June, and their ages add up to 15. Form a pair of equations and solve them to find the ages of the girls. /**2marks**

6. Simplify the following by rationalizing the denominators **/5 marks**

a)$\frac{7}{\sqrt{18}}$ b) $\frac{\sqrt{5}}{\sqrt{15}+\sqrt{10}}$

7. Solve the equations : **/5 mark**

a) $4^{x+1}=32$ b) $32^{x-3}\times 8^{x+4}=64\div 2^{x}$

8. Given that P is a polynomial $2x^2 - 3x^2 + 4x - 2$ and Q is $x^2 + 3x + 4$, $evaluate$:

a) P+Q b) P−Q. **/4 marks**

9.Multiply and simplify: a) (x+5) (x+5)**,** b) (a+5) (a−5)**,** c) (3x−2) (2x−3). /**3 marks**

10. Given that f(x) = x^2+7x+12 and g(x)=x+4, divide f(x) by g(x). **/2marks**

11. Factorize: i) x^2+8x+16. **/2marks,** ii) $k^4 - 9$. **/2marks**

SECTION B(Choose Two questions only./20 marks)

12. a) Simplify $\frac{2x^2-5yz}{2yz\times5x^2}$ **/2marks,**

b) Solve for x : $2(5)^x = 250$ **/3 marks**

c) Solve for x in the equation $\frac{81^{2x}\times27^x}{9^x} = 729$ **/5 marks**

13. a) Use Elimination method to solve the following simultaneous equation:
$2x + 5y = 8$, $3x + 4y = 5$ **/5 marks**

b) The sum of the number of edges and faces of a solid is 20. The difference between the number of edges and faces is 4. Find the number of edges and faces. **/5 marks.**

14. a) Solve the following inequalities and represent the solution on a number line: 3x−6≤5+2x. **/5 marks**,

b) Five times an unknown number plus 7 is greater than 42. What is the range of values that the unknown number can have? /**5 marks.**

15.a) Expand and simplify $(x + 3)^2$. **/4 marks**

b) Find the values of a and b given that **/6 marks**

GOOD LUCK!!!!, MERRY CHRISTMAS DAY AND HAPPY NEW YEAR 2025.