**GATITU MIXED SECONDARY SCHOOL**

**MATHEMATICS FORM 4 OPENER TERM 2 2015 EXAM**

**ATTEMP ALL QUESTIONS**

1. Solve the inequality below and represent the solution on a number line. 3mks

4x – 4 ≤ 7x +8

2

1. Find the derived function of 3mks

Y = 3/x2 - 2/x3 + x

1. A map is drawn with a scale of 1:50,000. What is the actual area on the ground in km2 of a region represented by 4cm2 on the map? 3mks
2. Evaluate 3mks

3 x (x -1) (x -2) dx

0

1. Write the solutions to the inequalities 3x + 2 < 8 < 4x + 4 in the form a < x <7b. Where a and b are integers. 3mks
2. If y = x2 + x + 1 find :
3. The gradient function 1mk
4. Gradient at (3, -1) 1mk
5. The equation of the tangent to the curve at (3, -1) 2mks
6. Given that the area under the curve y = ax2 + 3 and the lines x =0 and x = 2 is 14 square units. Find the value of a. 3mks
7. If 2(x + 1)≤ x + 7 ≤ 5x + 2, express the smallest possible value of x as a percentage of the largest possible value. 3mks
8. At what point on the curve y = x3 + 1 is the line 4y = 3x + 3 a tangent? 4mks
9. The gradient of a curve at any point (x, y) is 3x2 . Given that the curve passes through the point (-2,3). Find the equation of the curve. 4mks
10. Estimate the area enclosed by the curve y = ½ x2 + 1, x =0, x =3 and the x –axis using the mid – ordinate rule. Use three strips. 7mks