**GATITU MIXED SECONDARY SCHOOL**

**MATHEMATICS FORM 3 TUNE UP 2ND TERM C.A.T 1 2013**

1. Solve the equation (2mks)

x -2 - 3 - x = x - 2

3 4 2

1. without using a calculator, evaluate (2mks)

 -8 + ( -5) × (-8 ) -( -6)

 - 3 + ( -8) ÷ 2× 4

1. simplify (2mks)

 50 - 32 + 8

1. The figure below shows a cone with the vertex at A and diameter BA . The cone is cut off along DE.

a. find the base radius of the smaller cone (3mks)

b. find the volume of the frustum (3mks)

1. Ten washes, each 3.7 mm in thickness, one piled one on top of the other. find the maximum possible error in the calculation of the height of the pile. (2mks)
2. Solve the equation 4x2 + 12x - 9 = 0 using the method of completing the square. (3mks)
3. log3 27 –log 9 simplify without using table (2mks)

log 3

1. find the amount after 5 yrs when 30,000 is invested at

a. 11% p.a simple interest (3mks)

b. 11% p.a compound interest (3mks)

1. find the equation of the line which passes through point P( 1, 3) and is perpendicular to the line whose equation is 2y - 3x =7 (3mks)
2. Given the column vectors

a = (-1) b =( -3) and c = (-2)

 4 -2 - 1

and that p = 2a -4b + 3c, express p as a column vector (2mks)