**NAME…………………………………………………….ADM ………………………..**

**GATITU MIXED SECONDARY SCHOOL**

**MATHEMATICS FORM 3 CAT 2 2013**

1. Without using mathematical tables or calculators, evaluate 3mks

$√$**5184**

**6× -18 ÷ 9 + (5 - -3)**

1. Find, without using mathematical tables, the value of x which satisfy the equation 4mks

**Log2 (x 2 - 9) =3log 22 + 1**

1. Simplify **4 - 3 3mks**

**√ 5 +√ 2 √5 -√2**

1. Mr. Ngenya borrowed sh. 560,000 from a bank to buy a piece of land. He was required to repay the loan with simple interest for a period of 48 months. The repayment amounted to sh. 21,000 per month. Calculate
2. The interest paid to the bank 2mks
3. The rate per annum of the simple interest 2mks
4. The table below shows monthly income tax rate

 Monthly taxable pay Rate of tax

 k£ ksh per k£

1 – 342 2

343 -684 3

685 -1026 4

1027 -1368 5

1369 -1710 6

Over 1710 7

A civil servant earns a monthly salary of ksh. 20,000 and is provided with a house at a nominal rent of ksh. 700 per month

1. Taxable pay is the employee’s salary, plus 15 % of salary , less nominal rent

Calculate the civil servant’s taxable pay in k£ 3mks

1. Calculate the total tax 4mks
2. If the employee is entitled to a personal relief of sh. 600 per month, what is the net tax 1mk
3. In the figure below, BT is a tangent to the circle at B. AXCT and BXD are straight lines. AX=6cm, CT =8cm BX =4.8cm and XD =5CM



find the length of

1. XC 2mks
2. BT 2mks
3. The fig. Represent a circle of diameter 28 cm with a sector subtending an angle of 75 at the centre. Find the area of the shaded segment to 4 significant figures 4mks

