**GATITU MIXED SECONDARY SCHOOL**

**MATHEMATICS FORM 3 END OF TERM 2 2013**

1. Without using mathematical tables or a calculator evaluate 3mks

1.89 + 0.3 of 1.5

0.22 × (17.8 -7.6) ÷4

1. Convert 0.20 130 to a fraction 3mks
2. Solve for y in the equation 3mks

8(2y -1) × 32y  =16(y +1)

1. Find the integral values that satisfy the inequality below 3mks

x = 21 >15 – 2x > x +12

1. Expand ( x +4)5 3mks
2. The fig below AB and CD are chords of a circle that intersect externally at Q. if AB =5cm BQ = 6cm and DQ =4cm, calculate the length of chord CD. 3mks



1. The line L passes through point (3,1) and is perpendicular to the line 2y =4x +5. Determine the equation of line L. 3mks
2. Simplify √5 , leaving the answer in the form a +b √c , where a, b

√5 -2

and c are integers 2mks

1. The exchange rate in January 2010 was us$1 =ksh 85.60 and uk £1 = us $ 1.42. a tourist came to Kenya with us$ 5000. She spent kshs 189,000 and changed the balance to uk £. Find the amount she received to the nearest uk £. 3mks
2. The sum of the interior angles of an n sided polygon is 7200 . find the value of n and hence deduce the name of the polygon. 3mks
3. Oruka uses 1/3 of his farm for planting coffee , ¼ for planting tea and 2/5 of remainder for mixed farming. He still had 6 hectares of unused land. Find the size of Oruka’s land. 4mks
4. At 10.30 am, a boy starts out from town A and cycles to an average speed of 15 km /hr towards B which is 65km away. Some 20 minutes later a motorist leaves town B and travels towards A at an average speed of 75km/h. at what time did the two meet? 4mks
5. Two similar solids gave surface areas 48 cm2 and 108 cm2 respectively. find the volume of the smaller solid if the bigger one has a volume of 162 cm2 3mks
6. In June of a certain year. An employee’s basic salary was ksh. 17,000. The employee was also paid a house allowance of shs.6000 a commuter allowance of kshs.2500 and a medical allowance of kshs. 1800. In July of that year, the employee’s basic salary was raised by 2%
7. Calculate the employees:
8. Basic salary for July 2mks
9. Total taxable income in July of that year. 2mks
10. In the year, the income tax rate were as shown in the table below

|  |  |
| --- | --- |
| Monthly taxable income(kshs) | Percentage rate of tax per shilling |
| Upto 9680 | 10 |
| From 9680 to 18800 | 15 |
| 18801 – 27920 | 20 |
| 27921 – 37040 | 25 |
| 37040 and above | 30 |
|  |  |

Given that the monthly personal relief was ksh. 1056. Calculate the net tax paid by the employee 6mks

1. Find the angle subtended at the centre of a circle by an arc of length 20cm . If the circumference of the circle is 60 cm. 2mks
2. The fig shows 2 circles centres O1 and O2 touching externally at T. P is a point on their common tangent. Tangents from P touch one of the circles at R and other at s , if PR =8cm , PO2 =10 cm and PO1 =17 cm . find 6mks



1. PT
2. PS
3. O1O2
4. Find the value of the angles marked by a and b where o is the centre of the circle. 2mks

