**ELERAI M.C.K GIRLS SECONDARY SCHOOL**

**PO BOX 435**

**SULTAN HAMUD**

***Motto “discipline and hard work for excellence”***

**MATHEMATICS FORM 3**

**OPENING CAT I TERM II 2013**

***Attempt all the questions***

1. Use tables of reciprocal and squares to evaluate to 4 significant figures the expression

0.43462 + 1

 27.46 (3mks)

1. Use mathematical table only to evaluate. (4mks)

3 0.3963 × (0.0258)2

 0.08923

1. What make the following equation a perfect square by finding the value of K (3mks)

X2 + 14x + 25 + K

1. Solve the following quadratic equation using
2. Complete square method. (2mks)

X2 + 5x + 1 =0

1. Use quadratic formula. (2mks)

2x2 – 5x – 3 =0

1. Complete the table below for the equation Y=x2 – 2x + 1. (2mks)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| X | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
| y | 9 |  |  | 0 |  | 4 |  |

b) Plot the values of the graph on the graph paper. (4mks)

1. Simplify the following surds
2. (2+ 3) (2 + 3) (2mks)
3. ( 2 + 3) ( 2 + 3) (2mks)
4. ( 20 - 15) ( 2 + 5) (2mks)
5. 200 (1mk)
6. 125 (1mk)
7. 5 3 - 2 3 (1mk)
8. 3 6 + 4 10 (1mk)
9. Given that QR = 3.63 cm PR= 2.76cm
10. < Q = 41.80 and < S = 300

Calculate the following

1. PS (3mks)
2. < QPS (3mks)
3. Given that triangle xyz in which x= 13.4cm z = 5cm and <xyz = 57.70

Calculate

1. XZ (2mks)
2. < YXZ (2mks)
3. Draw the graph of Y= cos x for 00 ≤ x≤ 2x using an interval of

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| x | 0 |  |  |  |  |  |  |  |  |  |  |  |  |
| Y cos | 1 |  | 0.5 | 0 |  | -0.87 |  | -0.87 |  |  | 0.5 |  | 1 |

1. Fill in the above spaces (3mks)
2. Plot on the graph paper the graph of **y = cos x** (5mks)
3. Use your graph to estimate the values of the following
4. Cos x = - 0.62 (1mk)
5. Cos x = 0.90 (1mk)