**FORM THREE**

1. Simplify:

3/5 of 60 – 22/3 x 1 ½

55/8 x 17/9 5/4 x 44/5 + 24/5 ÷ 7/10 ( 4marks )

1. Solve for x in the equation.

27x x 3(2x-2) = 9 (x +2)  (3marks)

1. The size of each interior angle of a regular polygon is five times the size of the exterior

angle. Find the number of sides of the polygon. ( 3 marks )

1. The dimensions of a brick are 2cm x 3.4cm x 6.42cm. Find the percentage error in the calculation of its area. (3marks)
2. Masses of three babies was stated as a=12.7kg, b=9.8 kg and c=3.20kg. find the relative error in the following expressions:
3. a+b-c (3mks)
4. c÷ab (3mks)
5. Find the relative error in using 0.3 as the estimate of 1/3. (2mks)
6. Find the length of **AC** of triangle **ABC** in which **AB**=5cm, <**ABC**=1510 and <**BCA**=130. (3mks)
7. In a triangle **LMN**, <**L**=810, **n**=4.3cm and **m**=3.5cm. Calculate
8. Length ***l*** (2marks)
9. Angles **M** and **N** (3marks)

**M**

**N**

**L**

**3.5cm**

**4.3cm**

810

1. In triangle **ABC**, <**B**=610, and **b** = 5.3cm. find the radius of the circle passing through the vertices **A**,**B** and **C** (3marks)
2. The table below shows height of 50 students

Height (cm) Frequency

140 – 144 3

145 – 149 16

150 – 154 20

155 – 159 10

160 – 164 1

(a) State the modal class ( 1 mark)

(b) Calculate the median height. ( 3 marks )

1. Use completing square method to solve for X in.

½ x2 – 5/2x + 1 =0 (3marks)

1. (a) Complete the table below for the function y = 6 + x – x2. ( 2 marks )

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| x | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 |
| y | -14 |  |  |  | 6 |  | 4 |  | -6 |  |

(b) On the grid provided below, draw the graph of y = 6 + x – x2 for -4 ≤ x ≤ 5. (3marks )

(c ) On the same axes draw the graph of y = 2 – 2x. (2marks )

(d) From the graphs, find the values of x which satisfy the simultaneous equations.

y = 6 + x – x2

y = 2 – 2x. ( 1 marks )

(e) Write down and simplify a quadratic equation in the form ax2 + bx + c = 0

which is satisfied by the values of x where the two graphs intersect. (2 marks )