INSTRUCTIONS:

Name:_____ADM.NO._____CLASS:_____

i) Write your name in the spaces above.

ii) Answer all the questions in the spaces provided below each question.

iii) All working must be clearly shown giving answer at each stage.

iv) Mathematical tables and non programmable silent electronic calculators may be used.

1. Express each of the fractions as a single fraction in its simplest form.

a) $\dfrac{x+y}{3} - \dfrac{2x-y}{2}$ (3mks

b) $\dfrac{1}{x+1} - \dfrac{1}{x-1}$ (3mks

2. Evaluate $\dfrac{1}{2} + \dfrac{1}{6}$ of $\left(\dfrac{13}{18} - \dfrac{5}{9} \right) \div \dfrac{1}{3}$ (4mks

3. The sum of the interior angles of a polygon is 1440°. Find the number of sides. (3mks

4. The external radius of culvert is 0.5m and it is 0.1m thick. If the culvert is 2.8m long, Find the volume of the material used to make it (Take $\pi = \dfrac{22}{7}$). (4mks

5. The ratio of the cost of a commodity X to that Of commodity Y is 2:3. The ratio of Y to Z is 6:1. If the total cost of the three commodities is 1100 shillings, Find the cost of X. (4mks

b)   Express the cost of Z as a percentage of the cost of Y.   (3mks

6.   Solve the following simultaneous equations

$$3x + 4y = 18$$
$$2x - y = 1$$

(3mks

7.   Use a ruler and a pair of compasses to construct a triangle ABC in which AB = 7.5cm, BC = 6cm and AC = 4.5cm.   (3mks

b)   Measure the angles of the triangle   (3mks

∠ABC =

∠ACB =

∠BAC =   .

c)   Draw the circle passing through the points A, B and C. Measure the radius of the circle. Calculate the area of the circle.   (5mks

8. A girl was allowed a discount of 11% for goods worth sh. 8000 and a discount of 8.6% for goods worth sh. 17000. What percentage discount was she allowed altogether.? (3mks

9. The length of an arc of a circle is 1/10 of the circumference of the circle. If the area of the circle is 13.86cm2. Find the angle subtended by the arc at the centre of the circle. (3mks

b) The area of the sector enclosed by the arc. (3mks

10. The table below shows the amount of money charged for hiring a car for a given distance.

Distance (km)	10	20	30	40	50
Charges	75	100	125	150	175

a) Draw a graph of the charges against the distance covered. (Use graph paper provided) (5mks

b) Use your graph to find the standing charge. (2mks

ii) How much money is charged for covering 28km, 33km and 42km. (3mks

iii) The distance covered if sh 131, sh 140 and sh 190 is charged. (3mks

11. Measurements of a maize field using a base line PQ were recorded as below measurements are in metres.

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                    Q
                    240
        To R  60    190
                    180      75 to Y
                    150      50 to X
        To S  100   120
                    100      100 to N
        To T  30    50
                    20       20  to M
                    P
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a) Use a suitable scale to draw the map of the maize field. (5mks

b)   Find the area of the field in hectares.   (4mks

12.   Evaluate the cube root of (27 x 64)   (1mk

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