**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ADM NO: \_\_\_\_\_\_\_\_\_\_\_\_CLASS:\_\_\_\_\_\_\_\_\_\_**

**DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SIGN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_TARGET\_\_\_\_\_\_\_\_\_**

**MATHEMATICS**

**FORM 2**

**MID-TERM EXAM**

**TERM 1, 2024**

**INSTRUCTIONS: (ANSWER ALL QUESTIONS) TIME: (1 HOUR 30 MIN)**

**SECTION A (30 Marks)**

***(Answer all questions in this section in the spaces provided.)***

(1)The cost of 3 books and 2 pens is sh. 60. If 2 books and 3 pens cost sh.65. find the cost of each book and the pen (4marks)

(2 ) Simplify the expression (3mks)

(3) If a: b =2: 3 and b: c=5:9 , find the ratio a:c (2mks

1. The sum of interior angles of a regular polygon is 1980. Find:
2. The number of sides of the polygon (2mks)
3. Size of exterior angle (2mks)

(3) Find when x = 76 and y = 49. (3 Mark)

(4) Find the value of **x (**4) Marks)

2(*x*-3) x 8(*x*+2) = 128

15(2x - 4) = 3 (2x – 4)

(5) Use reciprocal table to evaluate giving your answer to three significant figures. (4Marks)

10 - 3

* 1. 129.64

(6)Evaluate  (3 Marks)

(7)Simplify the expression: 3x2 – 4xy + y2 (3 Marks)

9x2 – y2

**SECTION II: (20 MARKS)**

**Attempt all questions from this section. Each question carries (10 marks**

(8). The table below shows the measurements of a maize field using a baseline XY as they were

recorded in a surveyor’s field book. (measurements are in metres)

Y

360 80 to Q

To R 80 280

To S 160 200

80 200 to P

X

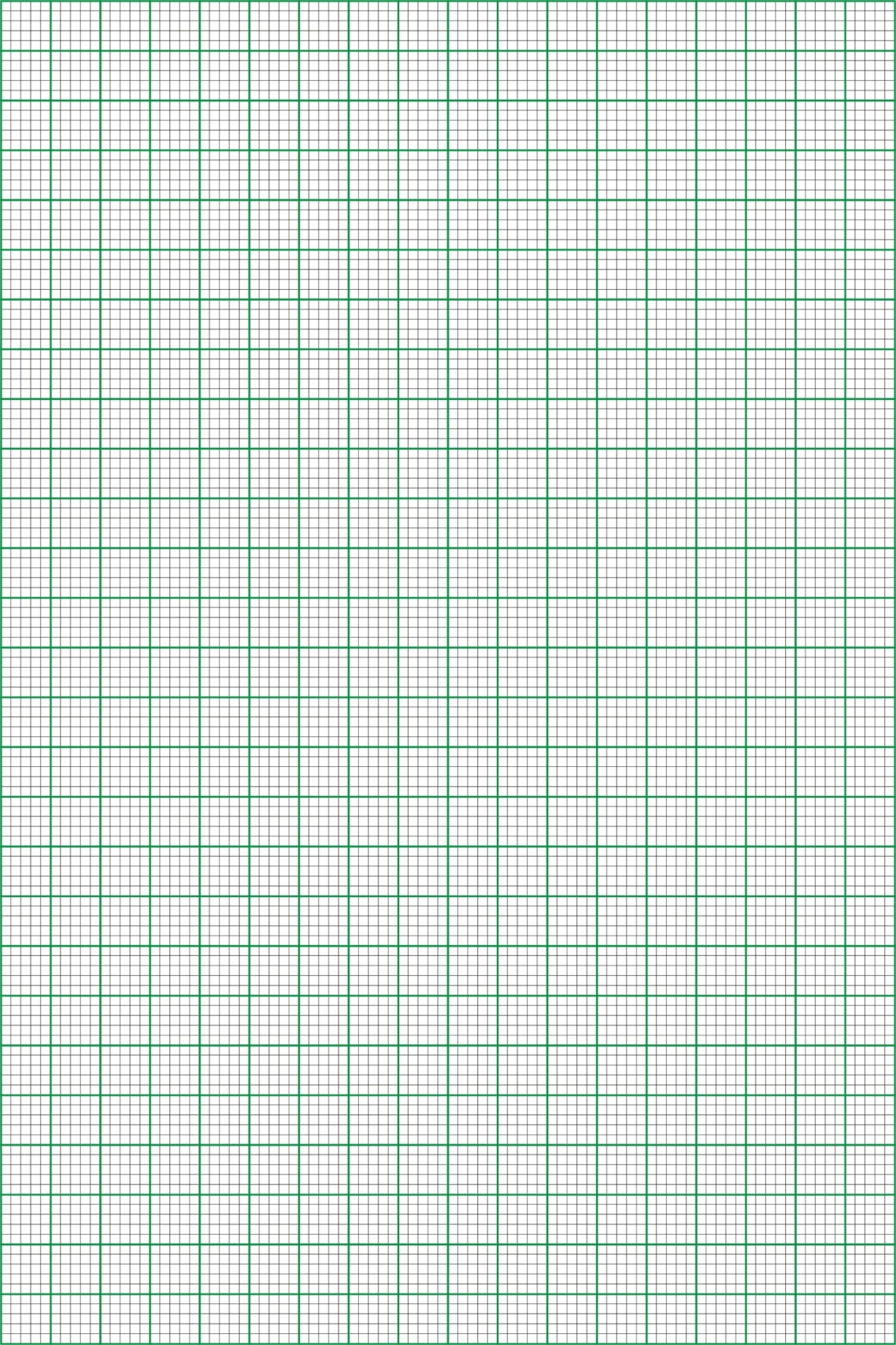
(a) Use a suitable scale to draw the map of the maize field. (5 mk

(b) Use the map of the field to calculate the area of the maize field in hectares. (5 mks

(9) copy and complete the table below: (2 Marks)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *x* | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| *y* = 2*x* – 4 |  |  |  |  |  |  |  |
| *y* = 12 – 2*x* |  |  |  |  |  |  |  |

(b) (i) On the grid provided and using the same axes, draw the lines y = 2x + 4 and y = 12 – 2x (3 Marks )



(ii) Hence use your graphs to solve the simultaneous equations

½ x – ¼ y = 1

x + ½ y = 6 (2 Marks)

(c) By use of substitution method, solve the simultaneous equations;

6x + 4y = 36

x + 3y = 13 ( 3 Marks)