**NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ADM/NO\_\_\_\_\_\_\_\_\_\_\_**

**DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ FORM\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**MATHEMATICS**

**FORM 1**

**TERM TWO 2017**

**TIME: 2 HOURS**

**HOLA SECONDARY SCHOOL**

**MID TERM EXAMINATIONS**

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**INSTRUCTION: ANSWER ALL THE QUESTIONS**

1. Without using a calculator, evaluate. (3mks)

-2 (5 + 3) – 9 $÷$ 3 + 5

-3x – 5 + - 2 x 4

2. Simplify 3bx – 3by + 4ax - 4ay

 4a + 3b

3. Evaluate 1/3 of (2 ¾ - 5 ½ ) x 3 6/7 $÷$  9/4 (3mks)

4. Find the square root of 76176 using the factor method. (3mks)

5. Three cisterns in a public lavatory are designed to flush at intervals of 8,13 and 15 seconds. After how many minutes will they flush together? (3mks)

6. Find the ratio x : y : z if x : y = 9 : 10 and y : z = 5 :3 (3mks)

7. Obama’s plot is as shown below.

Calculate:

a) The perimeter of the plot. (2mks)

b) The area of the plot. (2mks)

8. Round off the following numbers to 4 and 2 significant figures.

a) 675, 000 (2mks)

b) 4,082 (2mks)

9. A bicycle wheel 15 times to cover a distance of 66m. Find the radius of the wheel.

 (Take $π$ = 22/7) (3mks)

a) 0.0873 (2mks)

b) 648,321 (2mks)

11. A grain of sand has aof 6.4 x 10-1(g). Find the mass of 15 such grains. (2mks)

12. The area of a right angled is 24m2. The base is 8cm. Find the length of its hypotenuse in cm. (3mks)

13. Evaluate without using tables or calculators. (3mks)

$\sqrt{0.8 }$ x $\sqrt{0.64}$

$$\sqrt{0.36}$$

14. A book is 5cm thick and has a cover that is 1.5 mm thick. Calculate the height of 12 such books in centimeters. (3mks)

15. Katana spends 1/5 of his salary on food, ¼ on clothes, 7/20 on leisure and he saves the rest. If he earns shs. k, how much of his salary does he save. (3mks)

16. Express 2x + 5 - x + 3 as a single fraction. (3mks)

 2 3

17. Convert each of the following to the units in the brackets. (4mks)

a) 45m2 (cm2)

b) 32 ha (m2)

18. Calculate the surface area of the prism below. (4mks)

19. Use mathematical tables to evaluate. (4mks)

20. The size of a molecule is estimated to be 0.0000001 mm.

a) Express the size of the molecule in standard form. (2mks)

b) Convert the size of the molecule into centimeters. (2mks)

21. In a by – election 18,500 votes were cast. If the winning candidates received 30% of the total votes cast:

a) how many votes were cast in favour of the winning candidate. (2mks)

b) Determine the ratio of the total votes casts to the votes of the winning candidate. (2mks)