

# ARGWINGS KODHEK SECONDARY SCHOOL

## FORM TWO MATHEMATICS

### END TERM ONE EXAMINATION -2017

TIME: 2 HOURS

NAME \_\_\_\_\_ ADM NO: \_\_\_\_\_

STREAM \_\_\_\_\_ DATE \_\_\_\_\_

1 Using logarithm tables, evaluate

(4mks)

$$\sqrt[3]{\frac{34,52 \times 0,00967}{(0,0354)^2}}$$

2 Evaluate the following without using a calculator

(2mks)

$$\frac{-12 \div (-3) \times 4 - (-20)}{-6 \times 6 \div (-6)}$$

3. The length of an arc of a circle is 62.8cm. Find the radius of the circle if the arc subtends an angle of  $144^\circ$  at the centre. (take  $\pi = 3.142$ ) (3mks)

4. A flower bed measuring 8m by 7m is surrounded by a path 1m wide. Find the area of the path (3mks)

5. Three angles  $x = (3p+25)^\circ$ ,  $y = (2p-20)^\circ$  and  $z = (2p+35)^\circ$  are on a straight line, find  
i) The value of P (1mk)

ii) The value of X, Y, Z (2mks)

6. Find the number of sides of a regular polygon whose interior angle is five times the exterior angle (3mks)

7. A tourist arrived in Kenya with sterling pound (£) 4680 all of which he exchanged into Kenya money. He spend ksh 51790 while in Kenya and converted all the rest into Us dollar. Calculate the amount he received in Us dollars.

The exchange rates were as follows

(4mks)

	Buying	selling
Us dollar	63 20	69.10
Sterling pound ( £ )	123 40	13 80

8. Given that  $a=2$   $b=1$  and  $c=3$  find the values of

(3mks)

$$\frac{3a^2 - 2b^2c + 4b}{2ac + 2b^3 - 3c}$$

- 9 Express  $3\frac{14}{14}$  as a mixed fraction

(3mks)

10. A radio has a marked price of sh 2000. The shopkeeper can allow a reduction of 15% on the marked price and still make a profit of 25% on the cost price. Determine the radio's cost price (3mks)
11. Ocham's watch loses 15 seconds every hour she sets the correct time on the clock at 0700h on Monday. Determine the time shown on the clock when the correct time was 1900h on Wednesday the same week (3mks)
12. A number  $m$  is formed by writing all the prime numbers between 0 and 10 in an ascending order. Another number  $n$  is formed by writing all the square numbers between 0 and 10 in a descending order.
- a) Find  $m-n$  (2mks)
- b) Express  $(m-n)$  as a product of its prime factors (1mk)
13. Four machines give signals at intervals of 24, 27, 30 and 50 seconds respectively. At 5.00pm all the machines give out a signal simultaneously. Find the time this will happen again (3mks)

14. Two pipes A and B can fill an empty tank in 3 hours and 5 hours respectively. If both taps are opened at the same time, find how long it will take for the tank to be full (3mks)

15. Use reciprocal tables to evaluate (4mks)

$$\frac{4}{0.375} \quad - \quad \frac{5}{37.5}$$

16. The cost of six blouses and two skirts is sh 1320. While that of three blouses and four skirts is sh 1290. Find the cost of each skirt and blouse (3mks)