

NAME:.....CLASS:.....ADM NO:.....

MATHEMATICS

FORM ONE

END TERM 2 EXAM

TIME: 2 HOURS

Instructions.

Answer all questions in the spaces provided.

1. Express the following numbers in words. (2mks)

a) 14633001

b) 30000010

2. A matatu charges sh. 120 as fare from town A to town B. It has a capacity of 18 passengers. How much money does it make in one day covering 10 trips with full capacity. (3mks)

3. Use the divisibility test of 11 to check whether the following numbers are divisible by 11. (2mks)

a) 1048564

b) 1120043

4. Use Bodmas to evaluate. (3mks)

$$\frac{\frac{1}{2} \left[\frac{3}{5} + \frac{1}{4} \left(\frac{7}{3} - \frac{3}{7} \right) \text{ of } 1 \frac{1}{2} \div 5 \right]}{3 \frac{5}{7}}$$

5. Victoria spent $\frac{1}{4}$ of his net January salary on school fees. She spent $\frac{1}{4}$ of the remainder on electricity and water bills. She then spent $\frac{1}{9}$ of what was left on transport. If she finally had sh. 3400. What was her net January salary. (3mks)

6. Using mathematical tables evaluate.

a) 7340^2 (1mk)

b) $14.5^2 + 0.714^2$ (2mks)

7. Given that $a:b = 1:2$ and $b:c = 3:4$. Find $a:b:c$ (1mk)

8. Three bells ring at intervals 30mins, 35mins and 50 mins. If they ring together at 11:25 p.m on Monday at what time and day will they next ring together? (3mks)

9. The length of minute hand of a clock is 3.5cm. Find the angle it turns through if it sweeps an area of 4.8cm^2 . (take $\pi = \frac{22}{7}$) (3mks)

10. Express the following as a single fraction.

a) $\frac{x-1}{2} + \frac{x+2}{4} + \frac{x}{5}$ (3mks)

b) $\frac{ax - ay + bx - by}{a+b}$ (2mks)

11. Fifteen tractors each working eight hours a day takes eight days to plough a piece of land. How long would it take 24 tractors each working 10 hours a day to plough the same piece of land. (3mks)

12. Use factor tree to decompose 256 into prime factors. (2mks)

13. Juma, Ali and Hassan share the profit of their business in the ratios 3:7:9 respectively. If Juma receives sh. 6000. How much profit did the business yield. (3mks)

14. Use bodmas to evaluate: (4mks)

$$\frac{5 \times 6 - 76 \div 4 + 27 \div 3}{4 - 2 \times 4 + 36 \div 4}$$

15. A Kenyan bank buys and sells foreign currency as shown in the table below.

| | Buying (ksh) | Selling (ksh) |
|-------------|---------------------|----------------------|
| 1 us dollar | 95.34 | 95.87 |
| 1 uk pound | 124.65 | 125.13 |

A tourist arrived in Kenya with 15000 pounds which he converted in kshs.

a. How much kshs did he receive? (2mks)

b. He later spend sh. 125340 while in Kenya. He converted the remainder in dollars. How many dollars did he receive? (3mks)

16. A metallic cuboid measuring 16cm by 8cm by 4cm was melted. The material was used to make a cube. What is the length of the cube. (3mks)

17. Find a if $a^2 = b^2 + c^2$ given that $b=2$ $c=3.5$. (2mks)

18. Below is a travel timetable for a vehicle operating between towns A and D 70 km apart.

| Town | Arrival | Departure |
|-------------|----------------|------------------|
| A | | 10.10 am |
| B | 10.30am | 10.40 am |
| C | 11.00 am | 11.05 am |
| D | 11.20am | |

a. At what time does the vehicle depart from town A? (1mk)

b. How long does it take to travel from town A to town B? (1mk)

c. For how long does it stay in town B? (1mk)

d. At what time does it arrive in town D? (1mk)

e. What is the average speed of the whole journey? (3mks)

- f. A football match lasts 90 minutes with a break of 15 minutes at half time. If a referee allows five minutes extra for injuries and stoppages, what time does a match which kicks off at 4:30 pm end? (3mks)

19. A rectangular plot measures 100m by 200m. Determine:

- a. Its perimeter in km. (2mks)

- b. Its area in m^2 . (2mks)

- c. Its area in ha. (2mks)

- d. Square tiles of 100cm by 100cm are used to cover the floor. How many tiles are used? (2mks)

- e. If the cost of 1 tile is sh. 25. How much money will be spent on tiles. (2mks)