**FORM TWO MATHEMATICS**

**APRIL HOLIDAY ASSIGHNMENT 2023**

1. Use log tables to evaluate 4mks

0.5972 × 0.8467

0.7835 × 0.646

1. Simplify the following, leaving the answer in simplified index form. 3mks

**7294/3 × (1/243)-2/5  ÷ 271/3**

1. A line with a gradient 3/2 passes through the points (3, t) and (t,8). Find the value of t, hence express the equation of the line in the form ax + by =c (where a,b and c are constants) 3mks
2. Find the equation of a line passing through point (-3, 5) and perpendicular to the line 2y + x – 3 = 0, answer in the form of ay + bx + c = 0 3mks

5. Evaluate  3mks

6. Solve the equation; 3mks

 9 x+1 + 3 2x + 1= 36

7. A cylindrical tank whose diameter is 1.4 metres and height 80 cm is initially empty. Water whose volume is 492.8 litres is poured into the tank. Determine the fraction of the tank filled with water. (4 marks)

8. An article which is marked for sh. 450 is sold to a customer for sh. 393.75. What percentage discount is the customer allowed? (3 marks)

9. Syengo spends one-third of his salary on food, one-quarter on rent, three-fifths of the remainder on transport and saves the rest. If he spends sh 1 800 on transport, find how much money he saves.

 (3 marks)

10. Two containers have base areas of 750cm2 and 120 cm2 respectively.Calculate the volume of the larger container given that the volume of the smaller container is 400cm3. (3 mks)

11. Under an enlargement centre (2,1) the image of p (1, -1) is p (4,5). Determine the scale factor of enlargement. (3 mks)

12. Interior angles of a hexagon are 2x0, ½x0 , 1100, 1300 and 1600. Find the value of the smallest angle. (3mks)

13. Without using mathematical tables or a calculator, evaluate (3mks)

$\sqrt{\frac{0.0625×2.56}{0.25×0.08×0.5}}$

14. Use reciprocal tables to evaluate 3mks

$\frac{3}{14.56}$ + $\frac{9}{0.456}$

15. Two similar solids gave surface areas 48 cm2 and 108 cm2respectively. Find the volume of the smaller solid if the bigger one has a volume of 162 cm3. 3mks

16. A straight line passes through A (-2,1) and B (2, -k). The line is perpendicular to a line 3y + 2x = 5. Determine the value of k. (3mks)

17. 3 bells ring at interval of 9 min, 15 min and 21 min. The bells will next ring together at 11.00pm. find the time the bells had last rang together. 3mks

18. Mary has 21 coins whose total value is sh. 72. There are twice as many five shillings’ coins as there are ten shillings’ coins. The rest are one shilling coins. Find the number of ten shillings’ coins that mary has. (3mks)

A ship P of 180 km West of a port Q. Another ship R is at a distance of 90 km and on a bearing of 050° from P. A third ship S is due East of R and due north of Q. By scale drawing determine the bearing of S from P. **(Use a scale of 1 cm for 30 km)** (4 marks)

19. Solve the simultaneous equations (3 marks)

