1. Simplify  (3mks)

2. Five year ago, a mother’s age was four times that of her daughter. In four years to come, she will be 2 ½ times the age of her daughter. Calculate the sum of their present ages. 2mks

3. Without using mathematical tables or calculators, evaluate: (3 mks)

 

4.A two-digit number is such that the sum of the ones digit and the tens digit is 10. If the digits are reversed, the number formed exceeds the original number by 54. Find the number (3 mks)

5. 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)

6.A straight line through the points A(2,1) and B(4,m) is perpendicular to the line whose equation is 3y = 5 – 2x. Determine the value of m and the equation of line AB(4mks)

7. Evaluate  (3mks)

8. Convert the recurring decimal linto fraction (3 mks)

9. Solve the equation;

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

10. By letting **P** = 4-y in the equation:

 4-2y+1 – 3 x 4-y – 10 = 0

11. Evaluate -8 ÷ 2 + 12 x 9 – 4 x 6

 56 ÷7 x 2

12. Solve the inequality and show the solution on the number line.

 3 – 2x ∠ x ∠2x + 5

13. A sphere has a surface area of 18.0cm2. Find its density if the sphere has a mass of 100 grammes. (3 mks)

14. The height of 36 students in a class was recorded to the nearest centimeters as follows.

 148 159 163 158 166 155 155 179 158 155 171 172 156 161 160 165 157 165 175 173 172 178 159 168 160 167 147 168 172 157 165 154 170 157 162 173

 (a) Make a grouped table with 145.5 as lower class limit and class width of 5. (4mks)

b)Find the mean, modal class and median of the data (6 marks)

15. Use tables to find;

 a) i) 4.9782

 ii) The reciprocal of 31.65

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16. The angle of elevation of the top of a tree from a point P on the horizontal ground is 24.5°. From another point Q, five metres nearer to the base of the tree, the angle of elevation ofthe top of the tree is 33.2°. Calculate to one decimal place, the height of the tree(4 marks)

17. Find the least number of sweets that can be packed into polythene bags which contain either 9 or 15 or 20 or 24 sweets with none left over. (3mks)

18. Mary has 21 coins whose total value is shs 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)