**DECEMBER ASSIGNMENT**

**MATHS FORM 2**

***Answer all the questions in this paper***

1. **Without using mathematical tables, evaluate **

1. **Use reciprocals and cube tables to evaluate to 4s. **
2. **Five men working six hours a day take eight days to fill a trench. How long does it take 3 men working eight hours a day to fill the same trench.**
3. **A Kenyan bank buys and sells foreign currencies as shown below**

|  |  |  |
| --- | --- | --- |
|  | **Buying (in kenya sh)** | **Selling (in Kenya sh)** |
| **100 Japanese yen** | **102.35** | **102.65** |
| **1 sterling pound** | **134.46** | **134.74** |

 **A school received a grant of 6 000 sterling pounds from Britain.**

1. **Calculate the amount of money in Kenyan shillings the school received.**
2. **If the school management intends to buy a school van from Japan worth Ksh 800 000. Calculate the cost of the car to the nearest Japanese yen.**

**5.Find the integral values that satisfy the inequality **

**6.A pentagon has the following interior angles;    and  Find the value of y and hence the largest angle.**

**7. Using a ruler and a pair of compasses only, construct triangle ABC such that AB = 4 cm,**

**AC = 8 cm and **

**8. Without using tables or calculator, evaluate: **

**9.A saleswoman is paid a commission of 2% on goods sold over Ksh 100 000. She is also paid a monthly salary of Ksh 12 000. In a certain month, she sold goods worth sh 180 000. Calculate the saleswoman earnings that month.**

**10. form the quadratic equations given the roots X is 3 and -2**

**11. Express  as a fraction leaving it in the form **

**12 Three alarms go off at intervals of 12 seconds, 18 seconds and one minute. At 6.30 p.m, the alarms went off simultaneously. Find the times when the three alarms go off simultaneously again in the next 10 minutes.**

**15.Two liquids A and B are of densities 3.5 g/cm3 and 2.4 g/cm3 respectively. *x* cm3 of liquid A are mixed with 50 cm3 of liquid B. Given that the density of the resulting mixture is 2.7 g/cm3, determine the value of *x*.**

**16.A plane leaves airport P for airport Q, 500 km away on a bearing of  It then flies to airport R 600km away on a bearing of  From R, it flies west to another airport S which is to the south of P.**

1. **Use a scale of 1 cm represents 100 km, draw a diagram showing the relative positions of the four airports.**
2. **Use the scale drawing to find the**
3. **Distance between airport P and airport R.**
4. **Bearing of R from P.**
5. **Distance and bearing of S from Q**

**17. A line L passes through points (-2, 3) and (-1, 6) and is perpendicular to a line P at (-1, 6)**

 **a) Find the equation of line L**

 **b) Find the equation of P in the form y=mx+c**

 **c) Given that another line Q is parallel to L and passes through point (1, 2).find the X and Y intercept d) Find the point of intersection of line P and Q**

**18. A butcher bought a number of bulls and a number of goats at sh.15500 per bull and sh.2400 per goat spending a total of sh 43000.if he had bought half as many bulls and twice as many bulls and twice as many goats he would have saved sh.3500.he slaughtered all the animals and sold the meat at a profit of 30% per bull and 40% per goat.**

**Determine**

**a) The number of bulls and the number of goats the butcher bought. (5mks)**

**b) The percentage profit he made on all the animals giving your answer to one decimal place. (5mks)**

**19. A line L passes through points (-2, 3) and (-1, 6) and is perpendicular to a line P at (-1, 6)**

 **a) Find the equation of line L**

 **b) Find the equation of P in the form y=mx+c**

 **c) Given that another line Q is parallel to L and passes through point (1, 2).find the X and Y intercept**

 **d) Find the point of intersection of line P and Q (3mks)**

**20.A plane leaves airport P for airport Q, 500 km away on a bearing of  It then flies to airport R 600km away on a bearing of  From R, it flies west to another airport S which is to the south of P.**

1. **Use a scale of 1 cm represents 100 km, draw a diagram showing the relative positions of the four airports.**
2. **Use the scale drawing to find the**
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