



4. A diver jumps from a cliff that is 9m above the sea level and reaches a depth of 6m below the sea level. How far did he dive? (2marks)

5. Evaluate:  $\frac{(23+16\div 4)\times 26-13}{28\div 7\times 2+(16-8\div 2)}$  (3 marks)

6. How many  $\frac{3}{4}$  Kg are in  $16\frac{3}{4}$  Kg? (2marks)

7. The profits of a business are sh. 240000. Three-eighths of the profit are invested in the business and the rest of the profit is shared between partners. If one of them receives  $\frac{7}{12}$  of the profits, how much money does the other partner receives? (3marks)

8. Express 1.4444444.....into fraction (3marks)

9. Area of a circle is given as  $5400\text{cm}^2$  ; Taking  $\pi = 22/7$ , what is its radius? (3marks)

10. Evaluate without Using tables  $\frac{2\frac{1}{3}-1\frac{1}{5} \text{ of } 2}{\frac{1}{4}-(-\frac{1}{2})^3}$  ( 3marks)

11. (a) Simplify  $\frac{3a + 6b + an + 2bn}{a + 2b}$  (3marks)

(b) Simplify  $\frac{6x^2y^2 + 15xy - 2xy - 5}{3x^2y^2 - 12xy - xy + 4}$  (3marks)

12. Express 1728 and 2025 in terms of their prime factors. (2 marks)

Hence evaluate:(2 marks)

$$\frac{\sqrt{1728}}{\sqrt{2025}}$$

13. Simplify the expression  $\frac{x-1}{2} - \frac{2x+1}{5}$  (2marks)

Hence solve  $\frac{x-1}{5} - \frac{2x+1}{5} = \frac{2}{3}$

(2marks)

14. Find the square of 0.001156 from tables

(2marks)

15. Solve the following simultaneous equations (4 marks)

$$2x - 3y = 11$$

$$3x + y = 3$$

16. The distance between two schools m and k is 2km. A market is situated between m and k one third of the distance from m and k. How far is the market from k? (3 marks)

**SECTION II (50 marks)**

16. Five companies employed 2340, 3455, 675, 960 and 1350 workers. The first company laid off 1 worker for every 5 workers, while the other three recruited 2 new workers for every 3.

a) What was the total number of workers at the beginning? (2 marks)

a) How many people:

i) Lost job (3 marks)

ii) Got job (3 marks)

b) What was the total number of workers finally? (2 marks)

17. Three people Korir, Wangare and Hassan contributed money to start a business. Korir contributed a quarter of the total amount and Wangare two fifths of the remainder. Hassan's contribution was one and a half times that of Korir. They borrowed the rest of the money from the bank which was Kshs 60, 000 less than Hassan's contribution, find the total amount required to start the business. (4marks)

(b). Karani bought 4 pencils and 6 biro- pens for Kshs 66 and Tachora bought 2 pencils and 5 biro- pens for Kshs 51.

(i) Find the price of each item (3marks)

(ii) Musoma spent Kshs. 228 to buy the same type of pencils and biro pens. If the number of biro- pens he bought were 4 more than the number of pencils, find the number of pencils bough (3marks)

19.

18 An institution intended to buy a certain number of chairs for Kshs 16 200. The supplier agreed to offer a discount of Kshs 60 per chair which enabled the institution to get 3 more chairs. Taking  $x$  as the originally intended number of chairs,

(a) Write an expression in terms of  $x$  for:

(i) Original price per chair; (1 mark)

(ii) Price per chair after discount. (1 mark)

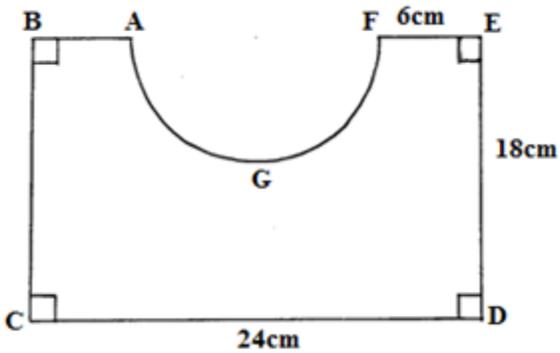
(b) Determine:

(i) The number of chairs the institution originally intended to buy; (4 marks)

(ii) Price per chair after discount; (2 marks)

(iii) The amount of money the institution would have saved per chair if it bought the intended number of chairs at a discount of 15%. (2 marks)

19. The figure below represents a cross-section of a concrete prism whose length is 3m.  $AB = FE$  and  $AGF$  is a semi-circle.



a) Find the perimeter of the cross-section. (2mks)

b) Find the area of the cross-section. (2mks)

c) Hence or otherwise, calculate the total surface area of the prism. (2mks)

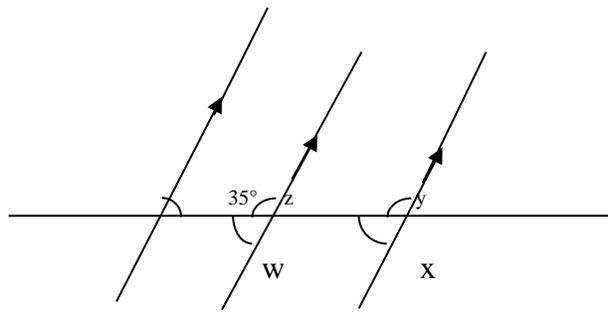
d) Determine the volume of the concrete used to make the prism. (2mks)

e) Given that  $1\text{cm}^3$  of concrete weighs 6.8g, find the mass of the prism in kg. (2mks)

20. (a) The Highest Common Factor (HCF) of 182 and  $x$  is 26 and the L.C.M of 182 and  $x$  is 1092.  
Determine the value of  $x$ . (3 marks)

- c) Muigai had sh. P; Nzau had four times as much as Muigai. Muli had half as much as Nzau.
- i) Write an expression that gives the total amount of money the three people had. (1 mark)
- ii) If  $p = \text{sh. } 1500$ , how much money did they have altogether? (2 marks)

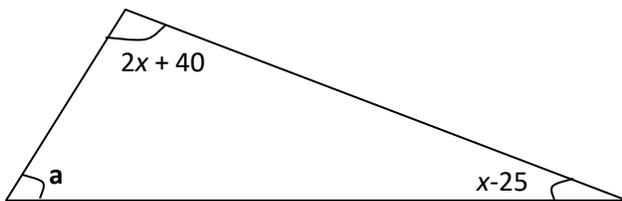
b)



Find the values of  $x$ ,  $y$ ,  $w$ , and  $z$  giving reason.

(4 marks)

21. (a) 7. In the figure above, angle  $a$  is half the sum of the other angles. Evaluate the triangle (3 marks)



(b) . If  $X = \frac{1}{2}$ ,  $y = \frac{1}{4}$  and  $z = \frac{2}{3}$  Find the value of  $\frac{x+yz}{y-xz}$  (2 marks)

(c). Murimi and Naliaka had each 840 tree seedlings. Murimi planted equal number of seedlings per row in  $x$  rows while Naliaka planted equal number of seedlings in  $(x + 1)$  rows. The number of tree seedlings planted by Murimi in each row was 4 more than those planted by Naliaka in each row. Calculate the number of seedlings Murimi planted in each row. (4 marks)

(d) subtract 8 from 1.4560

(1 mark)

