1 $38 \times 4 = 152$.

2 $3 - k = 5$

$3 - 3 - k = 5 - 3$

$-k = 2$

$-1 \quad -1$

$k = -2$

3 CXLIX = C + XL + IX

= 100 + 40 + 9

= 149

One hundred forty nine.

4 3 – 4 = —— finite 7

7+3 – 4 = — finite 7

10 – 4 = 6 finite 7

3 – 4 = 6 finite 7.

5 1, 3, 6, 11, 18, 29, 42

1 + 2 = 3

3 + 3 = 6

6 + 5 = 11

11+7= 18

18+11=29

29+13=42.

16 $5 - 3(2k - 3) - 7k$

$5 - 6k + 9 - 7k$

$5 + 9 - 6k - 7k$

$14 - 13k$

17 $80 \times \frac{4}{10}$

$\frac{320}{10}$

32

18 $40 - 15 = 25$

$\frac{25}{40} \times 100\%$

$\frac{30}{10} \times 25\%$

$3 \times 25\%$

75%

6 Let the 2nd number be y

$y \times 18 = 6 \times 72$

$\frac{18y}{18} = \frac{6 \times 72}{18}$

$y = 6 \times 4$

$y = 24$

7 It ended at 10 : 20am

8 K = {b, a, g}

Proper subsets = $2n - 1$

$= 2^3 - 1$

$= 8 - 1$

$= 7$

9. Volume = base area x ht

$= 154cm^2 \times 10cm$

$= 1540cm^3$

10. (180 ÷ 5) x Shs2000

36 x Shs2000

Shs72000

11 $\frac{5}{5} - \frac{3}{5} = \frac{2}{5}$

12 $\frac{3}{4}$ of 8 – (12 ÷ 6)

$\frac{3}{4} \times 8 - 2$

$\frac{24}{4} - 2$

$6 - 2$

4

13 $w = 50^0 + 50^0$

$w = 100^0$

14 1 packet = 12bottles

500packets = 500x12bottle

500packets = 6000bottles

1 day it packs 6000bottles

1 wk it packs 7x6000bottles

1 wk it packs 42000 bottles

15 $110_{two} \times 11_{two}$

$1\ 1\ 0_{two}$

$\times\ 1\ 1_{two}$

$1\ 1\ 0$

$+1\ 1\ 0\ 0$

$101\ 1\ 0_{two}$

19 HK284334

– HK284295

000039

39 + 1 = 40notes

1 note = Shs5000

40notes = Shs5000x40

40 notes = Shs200,000.

20 If a = 8, b = 9 and c = 6

(a x b)÷c

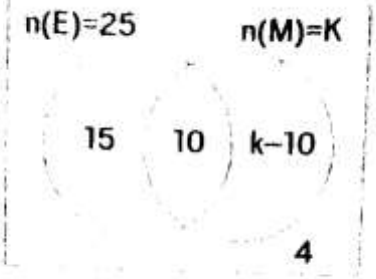
(8 x 9)÷6

72 ÷ 6

12.

n(Σ) = 40

21a)



(b) Value of k

k–10+15+10+4 = 40

k+15+10+4–10 = 40

k+ 29 – 10 = 40

k + 19 = 40

k + 19 – 19 = 40 – 19

k = 11

11 pupils like Maths

22

Rice

Shs3,500x4

Shs14,000

Ground nuts

Shs10,000

Tomatoes

(25÷5) x Shs1,000

5 x Shs1,000

Shs5,000

Onions

500 x Shs2,000

250

2 x Shs2,000

Shs4,000

Total Expenditure

Shs14,000

Shs10,000

Shs5,000

+Shs4,000

Shs33,000

Amount he had at the beginning

Shs33,000

+ Shs7,000

Shs40,000

23. $\left(\frac{12}{100} \times \frac{48}{10}\right) \div \left(\frac{3}{10} \times \frac{6}{10}\right)$

$\frac{12}{100} \times \frac{48}{10} \times \frac{10}{3} \times \frac{10}{6}$

$\frac{4}{10} \times \frac{8}{1} \times \frac{1}{1} \times \frac{1}{1}$

$\frac{32}{10}$ 3.2

b $\frac{1}{4} \times \frac{2}{3} + \frac{3}{4}$

$\frac{1}{2} \times \frac{1}{3} + \frac{3}{4}$

$\frac{1}{6} + \frac{3}{4}$

$\frac{2+9}{12}$

$\frac{11}{12}$

24 $\frac{1}{2}\pi D + D$ = Perimeter

$\frac{1}{2} \times \frac{22}{7} D + D = 72m$

$\frac{11D}{7} + D = 72m$

$\frac{7 \times 11D}{7} + D \times 7 = 7 \times 72m$

$11D + 7D = 7 \times 72m$

$\frac{18D}{18} = \frac{7 \times 72m}{18}$

$D = 7 \times 4m$

$D = 28m$

But radius = (D÷2)

= (28m÷2)

= 14m

(b) Number of poles required

$\frac{72^{36} \times \cancel{100}cm \times Shs5,000}{\cancel{200}cm}$

36 x Shs5000

Shs180,000

25a) $5(3w-2)-2(2w-3) = 40$

$15w - 10 - 4w + 6 = 40$

$15w - 4w + 6 - 10 = 40$

$11w - 4 = 40$

$11w - 4 + 4 = 40 + 4$

$\frac{11w}{11} = \frac{44}{11}$

$w = 4$

(b) $-4 \geq 2 - 3x \geq -7$

$-4 - 2 \geq 2 - 2 - 3x \geq -7 - 2$

$-6 \geq -3x \geq -9$

$\frac{-6}{-3} \leq \frac{-3x}{-3} \leq \frac{-9}{-3}$

$2 \leq x \leq 3$

$x = \{2, 3\}$.

26. 1st Drive

From A to B

D = S X T

D =60km/hr. x 2hrs.

D =120km.

2nd Drive

From B to C

T= D ÷S

T= 80km ÷ 40km/hr.

T = 2hrs

Average speed for the whole journey

Av.Sp = $\frac{120km+80km+80km}{2hrs+2hrs+\frac{1}{2}hr+\frac{1}{2}hr.}$

$= \frac{280km}{5hrs.}$

= 56km/hr.

27.a) Value of w

$w = 60^0 + 45^0$

$= 105^0$

(b) Value of k

$180^0 - 140^0 = 40^0$

$k = 60^0 + 40^0$

$k = 100^0$

28a) Number of candidates

3+4+4+2+1=14

(b) Range = H – L

= 80 – 40

= 40

(c)

$\frac{(40X3)+(55X4)+(75X4)+(60X2)+80}{3+4+4+2+1}$

$\frac{120 + 220 + 300 + 120 + 80}{14}$

$\frac{840}{14}$

60

29 Jane : Mercy : Doreen

3 : 2 : 5

Total ratio

3+2+5 =10

3 parts = $\frac{Shs45,000}{3}$

1 part = Shs15,000

10 parts = Shs15000x10

10 parts = Shs150,000.

Jane's contribution

1part = Shs15,000

3parts = Shs15,000x3

3 parts = Shs45,000

She contributed Shs45,000.

30 50kg cost Shs200,000

1kg costs $\frac{Shs200,000}{50}$

1kg costs Shs4,000.

Let the profit be p

$\frac{P}{\cancel{4000}} \times \cancel{100} = 20$

$\frac{P}{40} = \frac{20}{1}$

$P \times 1 = 40 \times 20$

$P = 800$

Selling price

Shs4,000+ 800

Shs4,800.

31a)

1st	2nd	3rd	Sum
n – 4	n – 2	n	96

$n - 4 + n - 2 + n = 36$

$n + n + n - 4 - 2 = 36$

$3n - 6 = 36$

$3n - 6 + 6 = 36 + 6$

$\frac{3n}{3} = \frac{42}{3}$

$n = 14$

first no	second	3rd no
n – 4	n – 2	n =14
14 – 4	14 – 2	
10	12	

Product of highest and lowest

14 x 10 = 140.

32a) Value of y

$y = 5 \times 5 \times 2$

$y = 50$

(b) $w \times 5 \times 2 \times 2 = 60$

$\frac{20w}{20} = \frac{60}{20}$

$w = 3$

(c) GCF = 2X5

=10