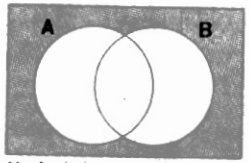
SECTION A (40 Marks)

1. 5 tens + 4 ones
   = 5x10 + 4x1
   = 50 + 4
   = 54

2. 404040 = Four hundred four thousand forty.

3. $^{-}9 - {}^{-}5$
   $= {}^{-}9 - ({}^{-}5)$
   $= {}^{-}9 + 5$
   $= {}^{-}4$

4. $2\frac{1}{3} \div \frac{2}{3}$
   $\frac{7}{3} \div \frac{2}{3}$
   $\frac{7}{3} \times \frac{3}{2}$
   $\frac{7}{2}$
   $3\frac{1}{2}$

5. 

   Unshaded part is (AUB)

6. 32, 16, 8, 4, 2, 1, ½, ¼
   32 ÷ 2 = 16
   8 ÷ 2 = 4
   4 ÷ 2 = 2
   2 ÷ 2 = 1
   1 ÷ 2 = ½
   ½ ÷ 2 = ¼
   ½ x ¼ = ⅛

7. XLIV = XL + 1X
   = 40 + 9
   = 49

8. $180^0 - 120^0 = 060^0$

9. (87 ÷ 6) – (15 ÷6)
   (87 – 15) ÷ 6
   72 ÷ 6
   12

10. 3 – 4 =-----finite 5
    5+3 – 4 =-----finite 5
    8 – 4 = 4 finite 5
    3 – 4 = 4 finite 5 .

11. 7 : 30 am
    +2 30 hrs.
    10 : 00 am

12. a= 7
    $a^2 + a^0$
    $7^2 + 1$
    7x7+ 1
    49 + 1
    50

13. $\frac{400}{1600} \times 100\%$
    $\frac{4}{16} \times 100\%$
    $\frac{400\%}{16}$
    25%

14. 101_{two}
    $= (1x2^2)+(0x2^1)+(1x2^0)$
    = 1x2x2 + 0x2 + 1x1
    = 4 + 0 + 1
    $= 5_{ten}$

15. $0.00853 = 8.53 \times 10^{-3}$

16. Sample space
    {1,2,3,4,5,6}
    Expected outcome
    {3,6}
    Prob.= $\frac{2}{6}$

17. Let the ext. angle be k
    $k + 135^0 = 180^0$
    $k+135^0-135^0 = 180^0-135^0$
    $k = 45^0$
    Exterior angle = 45^0
    No of sides = $\frac{360^0}{Ext<}$
    $= \frac{360^0}{45^0}$
    = 8 sides
    The polygon is an octagon

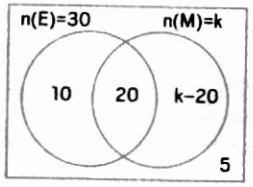
18. = (1 – x) – (x – 1)
    = 1 – x – x + 1
    = 1 + 1 – x – x
    = 2 – 2x .

19. Let the second no be n
    nx9 = 18 x 3
    $\frac{9n}{9} = \frac{54}{9}$
    n = 6
    The second number is 6.

20. Total age of 2boys
    12 x 2 = 24
    If 1 boy is 15yrs
    2nd boys is
    24yrs –15years
    = 9years

SECTION B (60Marks)

21. $n(\Sigma)=60$



(b) Value of k
$k - 20 + 10 + 20 + 5 = 60$
$k + 10 + 20 + 5 - 20 = 60$
$k + 35 - 20 = 60$
$k + 15 = 60$
$k + 15 - 15 = 60 - 15$
$k = 45$

(c) No of pupils who like only one subject
n(E) only + n(M) only.
10 + k – 20
10 + 45 – 20
10 + 25
35

22. Let the ext.< be y
The interior angle be $(y+60^0)$
$y + y + 60^0 = 180^0$
$2y + 60^0 = 180^0$
$2y + 60^0 - 60^0 = 180^0 - 60^0$
$\frac{2y}{2} = \frac{120^0}{2}$
$y = 60^0$
The exterior angle = 60^0

(b) No of sides
$n = \frac{360^0}{Ext <}$
$n = \frac{360^0}{60^0}$
n = 6sides.
$(n - 2)x180^0$
$(6 - 2)x180^0$
4×180^0
720^0

23. **1st Drive**
Distance = S X T
= 90km/hr.x3½hrs.
= 315km
Rested for 30min
Return journey
Distance = 315km
Time = 2hrs
Av. Speed =
$\frac{315km+315km}{3½hrs+½hrs+2hrs}$
$\frac{630km}{6hrs}$
105km/hr .

24a) 0.72
+1.17
1.89

1.2
– 0.3
0.9

1.89 ÷ 0.9
$\frac{189}{100} \div \frac{9}{10}$
$\frac{189}{100} \times \frac{10}{9}$
$\frac{21}{10}$
2.1

(b) $\frac{1}{2} - \frac{3}{5} + \frac{3}{4}$
$\frac{2+1}{3} - \frac{3}{4}$
$\frac{8+6-9}{12}$
$\frac{14-9}{12}$
$\frac{5}{12}$

25a) $4(x-3)-2(x-1) = 12$
$4x - 12 - 2x + 2 = 12$
$4x - 2x + 2 - 12 = 12$
$2x - 10 = 12$
$2x - 10 + 10 = 12 + 10$
$\frac{2x}{2} = \frac{22}{2}$
$x = 11$

(b) $7x + 3y - 2x - y$
$= 7x - 2x + 3y - y$
$= 5x + 2y$.

26. **Meat**
Shs10000x3
Shs30,000.
Rice
Shs4000 x 2½
Shs10,000.
Salt
$\frac{500}{1000} \times$ Shs3000
500 Shs3
Shs1500.
A bunch of banana
Shs20,000.
Total exp.
Shs30,000
Shs10,000
Shs20,000
+Shs1,500
Shs61,500
Amount he had
Shs61,500
+Shs5,000
Shs66,500.

27a) **Total mass of 3 people**
48kg x 3 = 144kg
Total mass of 2 people
42kg x 2 = 84kg.
Opio's mass
144kg – 84kg =60kg .

(b) **Total mass of 3 people**
(After Opio was replaced
62kg x 3 =186kg
Mass of the teacher
186kg – 84kg = 102kg .

28. Let Jeremiah's age be k
Jemimah's age will be 2k
In 5years' time
Jeremiah's age will be k + 5
Jemima's age will be 2k + 5
Difference btn their ages =20
$(2k + 5) - (k + 5) = 20$
$2k + 5 - k - 5 = 20$
$2k - k + 5 - 5 = 20$
$k = 20$years
Jemimah's age = 2k
= 2 x 20yrs
= 40yrs.

29. Side = Side
$3k - 10 = k + 2$
$3k - 10 + 10 = k + 2 + 10$
$3k = k + 12$
$3k - k = k - k + 12$
$\frac{2k}{2} = \frac{12}{2}$
$k = 6$
Each side is (k + 2)cm
(6 + 2)cm
8cm

(a) Area = side x side
= 8cm x 8cm
= $64cm^2$

(b) Perimeter = 4xside
= 4x8cm
= 32cm

30. 1cm rep 15000cm
6.4cm rep 6.4x15000cm
6.4cm rep 96000cm

100,000cm = 1km
96,000cm = $\frac{96000km}{100,000}$
96,000cm = $\frac{96km}{100}$
96,000cm = 0.96km
The actual distance on the ground is 0.96km .

31. Fraction added
$\frac{5-2}{6}$
$\frac{5-4}{6}$
$\frac{1}{6}$
1 part = 600litres
6 parts= 6x600litres
6parts =3600litres
When its ¾ full.
$\frac{3}{4} \times 3600$litres.
$\frac{10800}{4}$ litres
2700litres

32a) 5 + 10 + 20 + 25=60hectare
Growing coffee
$\frac{5}{60} \times 360^0 = 30^0$
Growing cassava
$\frac{10}{60} \times 360^0 = 60^0$
Growing bananas
$\frac{20}{60} \times 360^0 = 120^0$
Keeping animals
$\frac{25}{60} \times 360^0 = 150^0$