1. 1 2 4 + 7 6 = 2 0 0 | 2).Eight hundred eight thousand eighty.

3) 101_{two} X 11_{two}

+101

1111

4. 1m = 100cm

$1m^2 = 100cm \times 100cm$

$1m^2 = 10000cm^2$

$5m^2 = 5 \times 10000cm^2$

$5m^2 = 50000cm^2$

5. $3^n \div 81 = 1$

$3^n \div 3^4 = 3^0$

$3^{n-4} = 3^0$

$n - 4 = 0$

$n - 4 + 4 = 0 + 4$

$n = 4$

6.

Hrs.	Min	s/w	
7	40		60+40 = 100min
- 5	50		100 – 50 =50min
1	50		

7. $0.00392 \times 10^?$

$0.00392 = 3.92 \times 10^{-3}$

8. 4tens + 4ones

4 x10 + 4x1

40 + 4

XL + IV

XLIV

9. $90^0 - (20^0 + X)$

$90^0 - 20^0 - X$

$70^0 - X$

10. If k = 5

$2k^2$

2 x k x k

2 x 5 x 5

10 x 5

50

11. 0005hrs = 12:05am

12. A = Base x height

A = 8cm x 4cm

$A = 32cm^2$

13. Fraction of boys

$^4/_4 - {}^3/_4 = {}^1/_4$

$^1/_4 \times 72^{18}$

1 x 18

18 boys

14). SP = BP – L

Shs18,000

- Shs3,000

Shs15,000

15). 1000m = 1km

1m = 1km / 1000

40m = 40km / 1000

(60x60)sec = 1hr

3600sec = 1hr

1sec = 1hr / 3600

40km / 1000 ÷ 1hr / 3600

40km x 3600 / 1000 1hr

4km x 36

1hr = 144km/hr

16. 1 – 2 = …… mod 5

5 + 1 – 2 = …… mod 5

6 – 2 = 4 mod 5

1 – 2 = 4 mod 5

17.

$(8x10^3)+(5x10^1)+(4x10^{-1})$

$8 \times 1000 + 5 \times 10 + {}^4/_{10}$

8000 + 50 + 0.4

8050.4

18. Mean = $\frac{2x+x-5+x+9}{4}$

$= \frac{4x + 9 - 5}{4}$

$= \frac{4x}{4} + \frac{4}{4}$

$= x + 1$

19.

(65÷4)+(35÷4)

(65 + 35) ÷ 4

100÷4 = 25

20.

Area = S x S

$64m^2 = S^2$

$\sqrt{64m^2} = \sqrt{S^2}$

8m = S

Each side = 8m

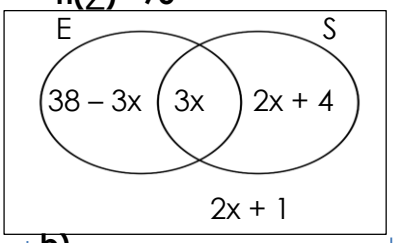
Perimeter = 4 x side

Perimeter = 4 x 8m

Perimeter = 32m

21.a)

n(∑)= 75



b).

38-3x+3x+2x+4+2x+1= 75

(38 + 4 + 1) (2x +2x) = 75

43 + 4x = 75

43 – 43 + 4x = 75 – 43

$\frac{4x}{4} = \frac{32}{4}$

x = 8

c). 3x = 3 x X

= 3 x 8 = 24

24 pupils like both MTC and Science.

22.a)

Mass of the lorry with maize.

1 tonne = 1000kg

4.5 tonnes = 4.5x1000kg

4.5 tonnes = $\frac{45}{10}$ x 1000kg

4.5 tonnes = 45 x 100kg

4.5 tonnes 4500kg

Mass of empty truck

2.5 tonnes = 2.5x1000kg

2.5 tonnes = $\frac{25}{10}$ x 1000kg

2.5 tonnes 2500kg

Mass of maize

4500kg

- 2500kg

2000kg

b). **No bags of maize**

50kg packed in 1 bag.

2000kg packed in (2000+50)bags

2000kg packed in 40bags.

It carries 40 bags when fully loaded

23a).

Area = L x W

= 220cm x 100cm

$= 22000cm^2$

b). **Radius of curved surface.**

$2\pi r = C2 \times \frac{22}{7} \times r = 220cm$

$7 \times 44r = 220cm \times 7$

$\frac{44r}{44} = \frac{220^2cm \times 7}{44}$

r = 5cm x 7

r = 35cm

$V = \pi r^2 h$

$V = \frac{22}{7} \times 35cm \times 35\ cm \times 100cm$

V = 22 x35cm x 5cm x 100cm

$V = 385{,}000cm^3$

24a).

5(h-2) -3(h-3) = 5

5h = 10 – 3h + 9 =5

5h – 3h – 10 + 9 = 5

2h – 1 = 5

2h – 1 + 1 = 5 + 1

$\frac{2h}{6} = \frac{6}{6}$

h = 3

b).

$57p = 202_{five}$

$(5xp^1)+(7xp^0)=(2x5^2)+(0x5^1)+(2x5^0)$

5xp + 7x1 = 2x5x5+0x5+2x1

5p + 7 = 50 + 0 + 2

5p + 7 = 52

5p + 7 – 7 = 52 – 7

$\frac{5p}{5} = \frac{45}{5}$

P = 9

25a).

$180^0 \times (n - 2)$ = angle sum

$180^0 \times (n - 2) = 1440^0$

$180^0n - 360^0 = 1440^0 - 360^0$

$\frac{180^0n}{180^0} = \frac{1800^0}{180^0}$

$n = 10^0$

b).

Exterior angle = $\frac{360^0}{10}$

Exterior angle = 36^0

26.

Let the son's age be **y**.

Time	Son's age	Adyeri's age
Now	y	y+18
10yr's time	y + 10	y+18+10

2xson's age = Adyeri's age

2(y+10) = y+18+10

2y+20 = y+28
2y+20-20 = y+28-20
2y = y + 8
2y – y = y – y + 8
y = 8
The son is 8 years old
Adyeri is y + 18
= 8 + 18
= 26 years.

27.

ITEMS	QTY	UNIT COST (Shs)	AMOUNT (Shs)
Posho	**3kg**	1,800	5,400
G/nuts	500g	2000@kg	**1,000**
Rice	2kg	**2,500**	5,000
Meat	**2kg**	10,000	20,000
Sugar	$3^1/_2$	4,000	14,000

Posho **G/nuts**
Shs5,400 500 x Shs2000
Shs1,800 1000
3kg 5 x Shs200 =1000
Rice **Meat**
Shs5000 Shs20,000
2 Shs10,000 = 2kg
=Shs2,500
Sugar
$3^1/_2$ x Shs4,000
3.5 x Shs4,000 = Shs14,000

28a).
1.62 – 0.37
1.25 x 0.05
1.62 0. 25
- 0.37 1.25 x 0.05
0.25
25 ÷ 125 x 5
100 100 100
$\frac{25^1}{100} \times \frac{100}{125_5} \times \frac{100}{5}$
100
25 = 4

b). 10 ≥ 2x ≥ 4
10 ≥ 2x ≥ 4
2 2 2
5 ≥ x ≥ 2
X= {5, 4, 3, 2}

29a). No of pupils
2 + 3 + 4 + 1 = 10

b). sum = 70 x 10 = 700
(4xw)+(80x2)+(70x3)+90=700
4w + 160 + 210 + 90 = 700
4w + 460 = 700
4w + 460 – 460 = 700 – 460
4w = 240
4 4
W = 60

The distance between **A** and **B** is 120km.

b). Return journey
T = D ÷ S
T = 120km
60km/hr = 2hrs.

c).Average Speed
= T.D.C
T.T.T
= 120km + 120km
$1^1/_2$hrs + $^1/_2$hrs + 2hrs
= 240km
4hrs = 60km/hr

30.
Food = $^1/_4$
remainder = $^4/_4 – ^1/_4$
fees = $^1/_3$ x $^3/_4 = ^1/_4$
total fraction = $^1/_4 + ^1/_4$
$= ^2/_4 = ^1/_2$
Fraction left = $^2/_2 – ^1/_2 = ^1/_2$
Let his salary be **y**.
$\frac{2}{2} \times ^1/_2 \times y$ = Shs24,000 x 2
y = Shs48,000
His salary is Shs48,000

31a).

1st	2nd	3rd	Sum
k-4	k-2	k	90

k – 4 + k – 2 + k = 90
k + k + k – 4 – 2 = 90
3k – 6 = 90
3k – 6 + 6 = 90 + 6
3k = 96
3 3
k = 32

Numbers are;-
First 2nd no 3rd no
K – 4 k – 2 k = 32
32- 4 32-2
28 30
Numbers are 28, 30, 32

b). Product of 1st and 3rd
28 x 32 = 896

32a). First drive
D = S x T
D = 80km/hr x $1^1/_2$hrs
D = $\frac{80^{40}km}{1hr} \times \frac{^3/_2hrs}{}$
D = 40km x 3
D = 120km.