MATHEMATICS LESSON NOTES

CLASS: PRIMARY FOUR
TERM: THREE
YEAR: 2013

WEEK TWO
LESSON ONE

TIME
Units of time
Seconds, minutes, hours, weeks, days, months and years.
Changing weeks to days
Example

1. Change 3 weeks to days.

1wk =7days
3wks =3x7
=21days

LESSON TWO
Changing days to weeks
1. Express 35days as weeks.
7 days=1 wk
35 days=35-7
=5 wks

LESSON THREE
Addition of weeks and days

1.	wks	days	2	wks	days
	2	5		4	6
	+4	1		+ 3	5
	6	6		8	4

LESSON FOUR

Subtraction of weeks and days

1	wks	days	2	wks	days
	7	6		5	2
	-2	3		-4	6
	4	2		2	3

LESSON FIVE

Changing hrs into minutes

Examples

1. Change 4 hours to minutes
   1hr =60 min
   4hrs =4x60
   =240min

2. **Change ½ hrs into minutes.**
   1hr = 60 min
   1/2hr= 1/2x60min
   =30 min

LESSON SIX

Changing minutes to hrs

1. Change 60min to hrs
60 min = 1hr
60min = (60/60) hr
=I hr

1. Change 70 min into hrs
   60min = 1hr
   70 min = (70/60)hr
   = 1 hr 10 min.

WEEK THREE

LESSON ONE

Addition of hours and minutes

Examples.

1. Add: hr min

3	20
+ 2	30
5	50.

2 .A taxi drivers took 2hrs and 40 min to drive from Kampala to Masaka and 1 hr and 45min from Masaka to kabala. How much time did he take altogether?

Hr	min
2	40
+1	45
4	2 5

LESSON TWO

Subtraction of hours and minutes.

Examples

1. Subtract:

Hrs	min
3	25
- 1	10
2	**15**

2.Tom spent a total of 5hrs 20min at school .She played for1hr 30 min. For how long did she spend in class?

Hrs	min
5	20
- 1	30
3	50.

LESSON THREE

Telling time

TIME IN A.M AND P.M

AM- stands for ANTEMERIDIAN i.e. period from mid night to mid day.

PM- stands for POST MERIDIAN i.e. the period from noon or miday to mid night;

Examples:

1. What is the morning time shown on the clock face below?

……

2. What time is shown in the morning on the clock face below?

LESSON FOUR

Finding the duration

Examples.

1. A concert started at 4:30pm and ended at 5:30pm. How long was it?

Duration = Ending time – Starting time.
= 5:30pm - 4:30pm
= 1 hour

The party started at 7:00pm and ended at 9:00pm.Find how long it took.
= 9:00pm – 7:00pm
= 2hrs.

LESSON FIVE

Multiplication of time

Examples

1. Multiply : hrs min
   3 25
   X 3
   10 15

2. Multiply : hrs min
   6 30
   X 5
   32 30

LESSON SIX

MONEY

Denominations:
Coins; 50, 100, 200, 500, 1000.

Notes: 1000, 2000, 5000, 10000, 20000, 50000.

Finding amount of money

1. Julius has 6 coins of 500/= each. How much money does he have altogether?

1 coin = 500/=
6 coins= 500x6
= 3000/=

2. If I have 2000/= note, how many coins of 200/= can I get?

200/= 1 coin
2000/= 2000-200
=10 coins

WEEK FOUR

LESSON ONE

Addition of money

Okello bought a book at 500/= and a pen at sh 450. How much did he spend altogether?

500sh
+450sh
950sh

Ref MK BK 4 pgs 150-160

LESSON TWO

Subtraction of money

1.Kato had sh 10000 and bought a watch at sh 7500. Find his change.

10000sh
-7500sh
2500sh

2.Henry has 2450sh and Kayola has 1600sh .How much more money ha Henry than Kayola?

Ref Mk bk 4 pgs 150-160

LESSON THREE

Simple rate and proportion (Multiplication)

1. The cost of a shirt is 12000sh. Find the cost of 3 similar shirts.

1Shirt= 12000sh
3 shirts=12000sh
X 3
36000sh

LESSON FOUR:

Simple rate and proportion (Division)

Four apples cost 2000sh. How much will Ali pay for one apple?

4apples= 2000

1apple = $\frac{2000}{4}$ = shs. 500

Ref. mk book 4 pg 150-160

LESSON FIVE:

Shopping bills:

Sugar 3200/= per kg

Posho1500/= per kg

Bread 2000/= per loaf

[a] Find the cost of 2kg of sugar and 1kg of posho.

[b] If James bought all the items above, How much did he spend altogether?

[c] If he had 15000/=, how much was his change?

Ref Mk bk 4 pg 156.

LESSON SIX:

Finding profit

Matu bought a pen at 700/= and sold it to Maaso at 900/=. Find his profit.

Profit= selling price- buying price

P = SP – BP

P =900/=-700/=

P = 200/=

Ref Mk bk 4 pg 150-160

WEEK FIVE

LESSON ONE

Finding loss

A girl bought a watch at 5000/= and sold it at 2500/=. Calculate her loss.

Loss= buying price –selling price

L = BP –SP

L = 5000/=- 2500/=

L = 2500/=

LESSON TWO

Problem solving (Finding the buying and selling price)

Practical work

MEASURES (LENGTH)

LESSON THREE

- Length is **the distance between two points**.
- The basic units for measuring length are **metres.**
- The standard units for length are **Kilometres** and **metres.**

Units of length from the biggest to the smallest.

Km	**Hm**	**Dm**	**m**	**dm**	**cm**	**mm**
1	0	0	0	0	0	0
	1	0	0	0	0	0
		1	0	0	0	0
			1	0	0	0
				1	0	0
					1	0

LESSON FOUR
Expressing metres as centimetres.

1. Change 6m to cm.

m	**dm**	**cm**
1	0	0

1m = 100cm

Big to small = (x)

6m = (6 x 100)

= 600cm

2. Express 2 ½ m as cm

m	**dm**	**cm**
1	0	0

1m = 100cm

Big to small = (x)

2 ½ m = 2 + ½

= (2 x 100)cm +(1/2 x 100)cm

= 200cm + 50cm

= 250cm.

Or;
Change 2 ½ m into an improper fraction

2 1/2m = 5/2m

= 5/2 x 100

= 5 x 50

= 250cm

LESSON FIVE
Expressing centimetres as metres

1. Change 400m to metres

m	**dm**	**cm**		
1	0	0		
100cm	=	1m		
Small to big	=	(÷)		
400cm	=	$\frac{400}{100}$		
	=	4 ÷ 1		
	=	4m		

2. Change 120cm as metres and centimetres

m	**dm**	**cm**			
1	0	0			
100cm	=	1m			
120cm	=	100cm + 20cm			
Small to big	=	(÷)			
120cm	=	$\frac{100}{100}$	+	20cm	
	=	1 ÷ 1	+	20cm	
	=	1m 20cm			

Ref: MK BK 4 pg 186

LESSON SIX
Expressing Km as metres

1. Change 7Km to metres

Km	Hm	Dm	m
1	0	0	0
1Km	=	1000m	
7Km	=	(7 x 1000)m	
	=	7000m	

2. Change 4 ½ Km o metres

Km	Hm	Dm	m
1	0	0	0

1Km = 1000m

4 ½ Km = 4 + ½ Km

= (4 x 1000)m + (1/2 x 1000)m
= 4000m + 500m
= 4500m

Ref: MK Bk 4 pg 195

MID TERM EXAMS(WEEK SIX)

WEEK SEVEN

LESSON ONE

Expressing metres as Km.

1. Change 3000m as Km.

1000m = 1Km

$3000m = \left(\frac{3000}{1000}\right)Km$

= 3 ÷ 1

= 3Km

2. Express 2000m as Km.

1000m = 1Km

$2000m = \left(\frac{2000}{1000}\right)Km$

= 2 ÷ 1

= 2Km

LESSON TWO

Addition of metres and centimetres

1. Add: 2m 45cm + 6m 36cm

m	cm
2	45

SW: 1 (carried), 45, + 36

+	6	36			81
	8	**81**			

2.

					1	
	m	cm		SW	25	110
	8	25			+ 85	100
+	6	85			110	1 r 10
	15	**10**				

REF: MK Bk 4 pg 187

LESSON THREE

Subtraction of metres and centimetres

1. Subtract:

	m	cm		**SW**
	6	80		80
-	2	60	-	60
	4	**20**		20

2.

	M	cm	**SW**	
	9	24	1m = 100ccm	0 x 124
-	5	30	100 + 24 = 124	- 30
	3	94		094

3. Tom had 3m 70cm of cloth. He used 1m 20cm. How much cloth remained?

	m	cm		**SW**
	3	70		70
-	1	20	-	20
	2	**50**		50

Ref: MK Bk 4 pg 189
Learning MTC Bk 4 pg

WEIGHT

LESSON FOUR

Changing kilograms to grams

1. Change 3Kg to grams

Kg	**Hg**	**Dg**	**g**
1	0	0	0

1Kg = 1000
3Kg = (3 x 1000) g
= 3000g

2. How many grams are there in 6 1/5 Kg?

Kg	**Hg**	**Dg**	**g**		
1	0	0	0		
1Kg	=	1000			
6 1/5Kg	=	(6 x 1000) g	+	(1/5 x 1000)g	
	=	6000g	+	200g	
	=	6200g			

REF: MK Bk 4 pg 228

LESSON FIVE
Changing grams to Kg

Change the following to Kg

1. 6000g

$1000g = 1Kg$

$6000g = \left(\frac{6000}{1000}\right) Kg$

$= 6 \div 1$

$= 6\ Kg$

2. 200g

$1000g = 1Kg$

$200g = \frac{200}{1000} Kg$

$= \frac{2}{5}$

$= 1/5\ Kg$

REF: MK Bk 4 pg 230 – 231

LESSON SIX

Addition of Kg and grams

1. Add:

	Kg	g
	2	160
+	4	440
	6	600

SW

160
+440
660

2.

	Kg	g	**SW**	
	2	200	2 0 0	1300
	1	400	4 0 0	100
+	5	700	+ 7 0 0	= 1 r 300
	9	300	1 3 0 0	

3. What is the total weight when you add 40Kg 130g to 24 Kg 243g?

	Kg	g	**SW**
	40	130	1 3 0
+	24	243	+ 2 4 3
	9	300	3 7 3

REF: MK Bk 4 pg 231 – 232

WEEK EIGHT

LESSON ONE:
Subtraction of Kg and grams

1.

	Kg	g	**SW**
	8	640	6 4 0
-	4	450	- 4 5 0
	4	190	1 9 0

2.

	Kg	g	**SW**	
	80	366	1 0 0 0	1 3 6 6
-	33	424	+ 3 6 6	- 4 2 4
	47	942	1 3 6 6	0 9 4 2

3. Subtract 24 Kg 490g from 72Kg 365g

	Kg	g	**SW**	
	72	365	1 Kg = 10 0 0	1 3 6 5
-	24	490	1000 + 356	- 4 9 0
	47	875	1 3 6 5	0 8 7 5

REF: MK MTC Bk 4 pg 234

CAPACITY

LESSON TWO

Fractions of litres

1 litre = 2 half litres

1 litre = 4 Quarter litres

1. How many ½ litre bottles are in a 4 litre container?
   1 L = 2 half litres
   4L = 4 x 2
   = 8 half litres.

2. How many quarter litres are there in 10 litres?
   1L = 4 quarter litres
   10L = 10 x 4
   = 40 Quarter litres

REF: MK Bk 4 pg 224

LESSON THREE

Addition of litres

1. Add ½ litre to 3 ½ litres
   = ½ + 3 ½
   = 3 + (½ + ½)
   = $3 + \frac{1+1}{2}$
   = 3 + 2/2
   = 3 + 1
   = 4 Litres
2. Add 2 ½ litres + 4 ½ litres
   = 2 ½ L + 4 ½ L
   = (2 + 4) + (½ + ½)
   = $6 + \frac{(1+1)}{2}$
   = 6 + 2/2
   = 6 + 1
   = 7 Litres
   REF: MK Bk 4 pg 224

LESSON FOUR

Addition of litres and millilitres

1.

	L	ml	**SW**
	3	340	340
+	8	220	+220
	11	560	560

2. A petrol tank contains 500 litres 900ml and a diesel tank contains 250 litres 700ml. How much fuel is there altogether?

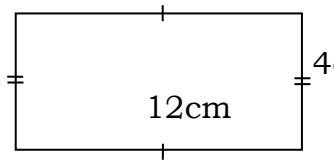
	Kg	g	**SW**		
	500	900	900		1600
-	250	700	+ 700		1000
	751	600	1600	=	1 r 600

REF: MK Bk 4 pg 227

LESSON FIVE

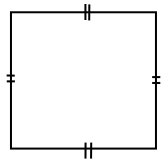
Area and Perimeter of a Rectangle and Square

Find the area and perimeter of the following.

1. 

Area = Length x Width
= L X W
= 12cm x 4cm
= $48cm^2$

Perimeter = Length + Width + Length + Width
= L + W = L = W
= (12cm + 4cm) + (12cm + 4cm)
= 16cm + 16cm
= 32cm

2. 

Area = Side x Side
= S x S
= 6dm x 6dm
= $36dm^2$

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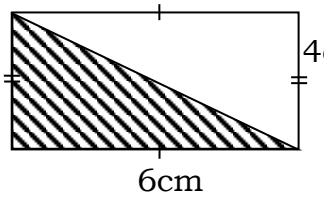
LESSON SIX

Area and Perimeter of a triangle

1. 

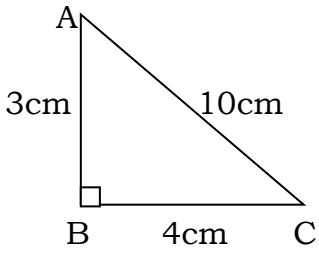
Area of a rectangle = L X W
= 6cm x 4cm
= $24cm^2$

Area of a rectangle = L X W
= 6cm x 4cm
= $24cm^2$

Area of the shaded part is half the area of the rectangle.
= $24cm^2 \div 2$
= $12cm^2$

Area of a triangle = ½ x base x height
= ½ x b x h
= ½ x 6cm x 4cm
= $12cm^2$

Find the area of the triangle.

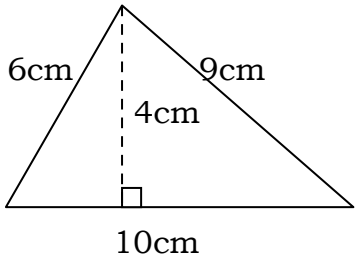


Base = 4cm
Height = 3cm
Area = ½ x b x h
= ½ x 4cm x 3cm
= 2cm x 3cm
= $6cm^2$

Calculate the Perimeter

Perimeter = S + S + S
= 10cm + 4cm + 3cm
= 17cm

2. Find the area and perimeter of the triangle shown.



Base = 10cm
Height = 4cm

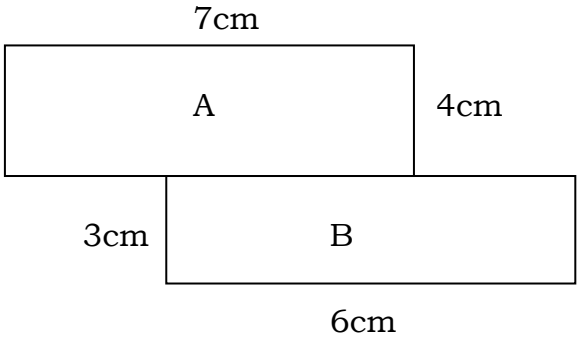
Area = ½ x b x h
= ½ x 10cm x 4cm
= 10cm x 2cm
= $20cm^2$

Perimeter = S + S + S
= 9cm + 6cm + 10cm
= 15cm + 10cm

Ref: Understanding MTC bk 4 pg 107

WEEK NINE
LESSON ONE
Area and perimeter of joined shapes

Find the area of the figure.



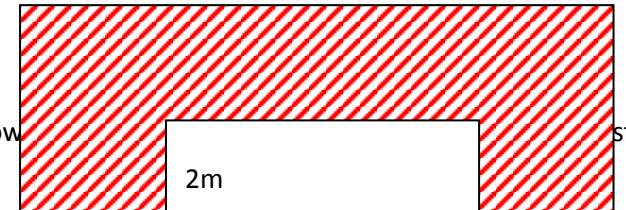
Area = Area of A + Area of B
= (L x W) + (L x W)
= (7cm x 4cm) + (6cm x 3cm)
= $28cm^2$ + $18cm^2$
= $46cm^2$

REF: MK BK 4 Pg 212 – 213

LESSON TWO

Subtraction of area

Given the figure below, use it to answer the questions that follow.



4m

10m

1. Find the area of the small rectangle.

   A = L x W
   = 6m x 2m
   = $12m^2$

2. Calculate the area of the big rectangle.

   A = L x W
   = 10m x 4m
   = $40m^2$

3. Find the area of the shaded part.

   Area of the shaded part = Area of big rectangle – Area of small rectangle
   = $40m^2$ - 12m2

   4 0
   \- 1 2
   2 8m^2

REF: MK Bk 5 pg

Learning MTC Bk 4 PG 88 - 89

N.B. Consider block question (Find the area of the shaded part)

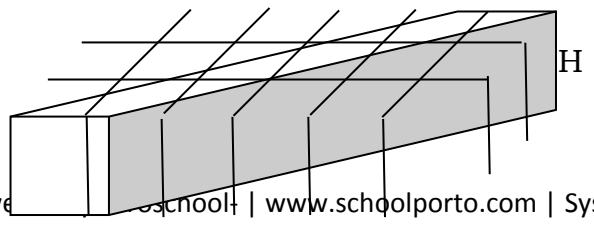
Ref: learning MTC bk 4 pg 88 – 89

LESSON THREE AND FOUR

Finding the volume of a cube or cuboid

Volume is the actual space occupied by an object.

Volume is measured in cubic units.



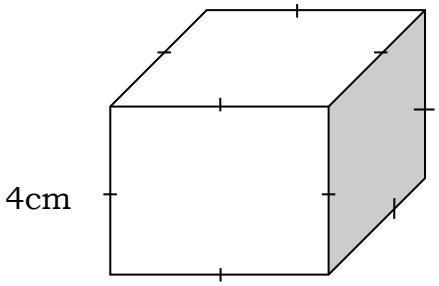
W

L

1. Calculate the volume of the cuboid.

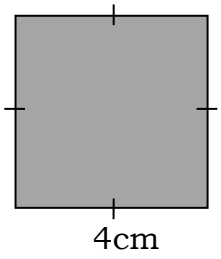
Volume = Length x Width x Height
= 6 cub. Units x 3 cub. Units x 3 cub. Units
= 18 cub. Units x 3 cub. Units
= 54 cubic units.

2. Find the volume of the cube.



Volume = S x S x S
= 4cm x 4cm x 4cm
= $16cm^2$ x 4cm
= $64cm^3$

3. Calculate the area of the shaded face sketch.



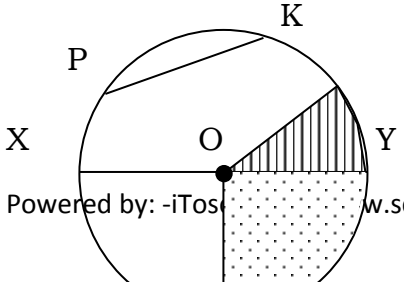
Area = side x side
= 4cm x 4cm
= $16cm^2$

REF: Understanding MTC Bk 5 pg147
MK Bk 4 pg 17

GEOMETRY

WEEK TWO
LESSON ONE

Parts of a circle.



PK - Chord
XO - Radius
XY - Diameter
Shaded part- Sector

Dotted part - Quadrant

1. **Finding diameter when radius is given**.

D = r x 2

E.g. Find the diameter of circle whose radius is 5cm

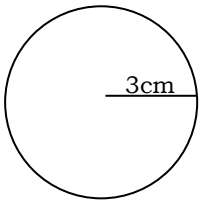
Diameter = r x 2
= 5 cm x 2
= 10 cm

LESSON TWO

Drawing circles using a ruler and a pair of compass.

Exp. Construct a circle of radius 3cm.

- Draw a line and mark a point to be the centre of the circle.
- Open the compass to radius of 3cm.
- Draw a circle round the centre.



WEEK THREE
LESSON ONE

Finding radius when diameter is given and vice versa.

R = D ÷ 2

e.g. Find the radius of circle whose diameter is 14cm

Radius = D ÷ 2
= 14 cm ÷ 2
= 7 cm

LESSON TWO
Make solid shapes (practical)

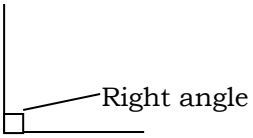
WEEK FOUR
LESSON ONE

Types of angles:

1. **Acute angle:**
   It is an angle which measures between 0^0 and 90^0.
   e.g. 30^0, 45^0, 15^0, 89^0, etc.

2. **Right angle:**
   It is an angle measuring exactly 90^0.

   Symbol used:



3. **Obtuse angle**.
   It is an angle which measures more than 90^0 but less than 180^0.

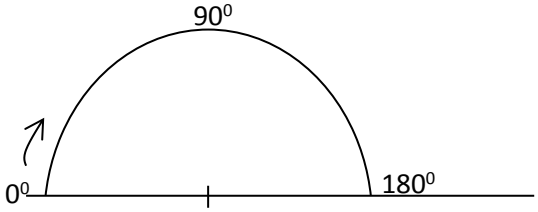
4. **Reflex angle**.
   It is an angle which measures more than 180^0 but less than 360^0.
   e.g. 185^0, 240^0, 350^0, etc.

   REF: MK BK 5 pg 193.

LESSON TWO

Drawing and measuring angles using a protractor.

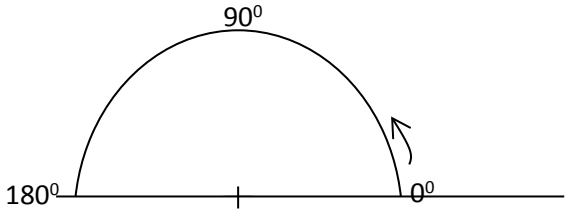
1. Using outer scale.
   Procedure:
   - Draw a line
   - Mark a point on the line
   - Place the protractor such that its centre is on the point marked on the line.
   - Take the reading starting from zero clockwise.



2. Using inner scale.

Procedure:

- Draw a line
- Mark a point on the line
- Place the protractor such that its centre is on the point marked on the line.
- Take the reading starting from zero anticlockwise.



REF:

MK Mathematics Bk 5 pg 195

Understanding MTC BK 4 pg

WEEK FIVE

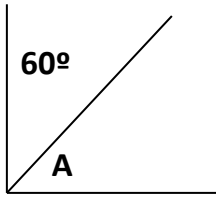
LESSON ONE

Drawing angles using a protractor

Estimate angles

LESSON TWO

Finding the missing angles on a right angle.



a + 60º = 90º

a + 60º-60º = 90º-60º

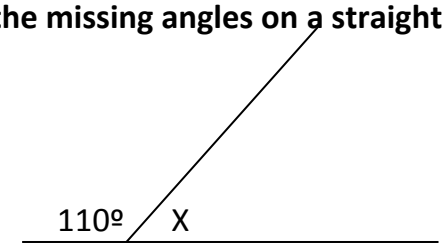
a = 30º

MID TERM EXAM

WEEK SEVEN

LESSON ONE

Finding the missing angles on a straight line.



x + 110º = 180º

x + 110º-110º = 180º-110º

x = 70º

LESSON TWO

CONSTRACTION OF ANGLES 90 and 60

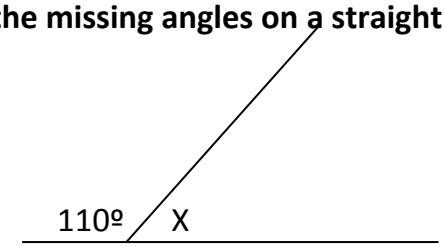
Steps;

- Draw a line of any length
- -mark the centre on the line
- -open the compass to any length
- -stand at the centre and mark equidistant points on either sides
- -stand on each point and mark crossing arcs
- -draw a line to pass through the crossing arcs and the centre.

WEEK SEVEN

LESSON ONE

Finding the missing angles on a straight line.



x + 110º = 180º

x + 110º-110º = 180º-110º

x = 70º

ALGEBRA

WEEK TWO

LESSON ONE

Addition and subtraction of letters

1. Add: (2y + 3y) + 4y
   = 5y + 4y
   = 9y

2. Subtract: 10k – k
   = 10 k – 1k
   = 9k

REF: MK Bk 4 pg 248
Understanding MTC Bk 4 pg 157
Learning MTC Bk 4 pg 102

WEEK THREE

LESSON ONE

Collecting like terms

1. Collect like terms: 4x + 8y + 2x + 5y
   = (4x + 2x) + (8y + 5y)
   = 6x + 13y

2. Collect like terms: 9m + 7n – 2m – 3n
   = (9m – 2m) + (7n – 3n)

= 7m + 4n

REF: MK Bk 4 pg 252
Understanding MTC Bk 4 pg 156

WEEK FOUR

LESSON ONE

Substitution

Substitution means to replace:

1. If x = 3, y = 4 and z = z = 5, Find the value of

= x + y + z
= (3 + 4) + 5
= 7 + 5
= 12

2. If h = 12, find the value of 5h

5h means 5 x h
= 5 x 2
= 10

REF: MK Bk 4 pg 253 – 254
Learning MTC bk 4 pg 102 – 103

WEEK FIVE

LESSON ONE

Solving equations involving addition

1. Find the missing number

☐ + 3 = 9
☐ + 3-3 = 9 - 3
☐ = 6

:. The missing number is 6

2. Solve for k

K + 4 = 9
K + 4-4 = 9 – 4
K = 5

If 3 + m = 8
What is m?
3 + m = 8
3 – 3 + m = 8 – 3
m = 5

REF: MK Bk 4 pg 246 – 247
Understanding MTC Bk 4 pg 159

MID TERM EXAMS

WEEK SEVEN
LESSON ONE
Forming and solving equations with addition

Wamala had some books. He got 3 more books. Altogether he had 7 books. How many books did he have before?
8 - 159
Let the books he had be x.

x + 3 = 7
x + 3-3 = 7 – 3
x = 4

:. He had 4 books.

REF: MK Bk 4 pg 257
Understanding MTC Bk 4 pg 159

WEEK EIGHT
LESSON ONE
Equations involving subtraction

1. If ☐ - 4 = 6, Find the value of what is in the box
☐ - 4 = 6,
☐ - 4+4 = 6+4
☐ = 10

:. The value of what is in the box is 10.

2. Solve for m:
m – 3 = 2
m – 3+3 = 2+3
m = 5

REF: MK Bk 4 pg 247

Forming and solving equations with subtraction
Mulloli had some goats. When he sold them he remained with 9 goats. How many goats had he before?

Let the number of goats he had be g.

g – 5 = 9
g - 5 + 5 = 9 + 5
g = 14

:. He had 14 goats.

REF: MK Bk 4 pg 258

Equations involving multiplication

1. If $\square \times 3 = 12$, What is in the box?

$\square \times 3 = 12$

$\square \times 3 \div 3 = 12 \div 3$

$\square \times 1 = 4$

$\square = 4$

OR;

$\square \times 3 = 12$

$\frac{\square \times 3}{3} = \frac{12}{3}$

$\square = 4$

:. The box has got 4

2. If $3P = 21$, Find P

$3P = 21$

$\frac{3P}{3} = \frac{21}{3}$

$P = 7$

REF: MK Bk 4 pg 225
Understanding MTC Bk 4 pg 160

WEEK NINE
LESSON ONE
Forming equations with multiplication

There are 4 groups in a class. Each group has the same number of pupils. Altogether there are 40 pupils. How many pupils are in each group?

Let the pupils in each group be c.

$4 \times c = 40$

$\frac{4c}{4} = \frac{40}{4}$

$C = 10$

:. Each group has 10 pupils.

REF: MK Bk 4 pg 259

WEEK TEN
LESSON ONE
Equations involving division

3. If $\square \div 2 = 4$, What is in the box?

$\square \div 2 = 4$

$\square \div 2 \times 2 = 4 \times 2$

$\square \div 1 = 8$

$\square = 8$

:. The box has got 8

4. Solve for x:

$x \div 3 = 6$

$\frac{x}{3} = \frac{6}{1}$

$x \times 1 = 3 \times 6$

$x = 18$

5. $a/2 = 3$

$\frac{a}{2} = \frac{3}{1}$

$a \times 1 = 2 \times 3$

$a = 6$

REF: MK Bk 4 pg 256

Forming equations involving division

Nakandi had some balls. She divided them into 4 groups. If there were 12 balls in each group, how many balls did she have altogether?

Let the balls she had be b.

$b \div 4 = 12$

$b \div 4 \times 4 = 12 \times 4$

$b = 48$

:. She had 48 balls altogether.

WEEK ELEVEN

LESSON ONE

Equations involving more than one operation

1. Solve for y.

$2y + 5 = 17$

$2y + 5 - 5 = 17 - 5$

$2y = 12$

$\frac{2y}{2} = \frac{12}{2}$

$y = 6$

2. Solve for m

$3m - 9 = 12$

$3m - 9 + 9 = 12 + 9$

$3m = 21$

$\frac{3m}{3} = \frac{21}{3}$

$m = 7$

3. Ithink of a number add 5 to it and the result is 23. What is the number ?

Let the number be p

P+5 =23

P+5-5=23-5

P+0 = 18

P = 18

REF: MK Bk 5 Pg 278 – 279

End of Algebra