Week one lesson four

SETS

Review of types of sets.

A set is a collection of well defined members or elements.

TYPES OF SETS (Review)

1. Empty set or null set.
   This is a set without any members.

   Symbol: {   } or   Φ

   e.g. Pupils in a class without heads.

   _____

2. Equivalent sets
   These are sets with the same number of members but the members may be different.

   Symbol: ⇔
   e.g. A = {b, c, d, e}   B = {0, 1, 2, 3 }

set A is equivalent to set B
A ⇔ B

　　　　N.B. <≠> means "not equivalent to"

3. Equal sets
   These are sets with the same number of members which are exactly the same.

   Symbol: =

   e.g. K = {a, b, c, c}   L = {b, a, c}

   Set K is equal to set L because they have the same number and the same members.

   　　K = L

   _____

4. Disjoint sets
   These are sets without any common members.
   e.g.   M   =   {6, 7, 8}

   　　　　　　N   =   {2, 3, 4, 5}

   Set M and set N don't have any common members.

Week one lesson five.
UNION, INTERSECTION AND NUMBER OF MEMBERS

UNION SETS (Review)
This is a set which contains all the members in the given sets.

N.B. Common members are written once.

Symbol: ∪

e.g. Set   P = { a, e, , o, u }
              Q = { 2, 4, 6, 8 }

Set P ∪ Q   = { a, e, , o, u, 2, 4, 6, 8 }

_____

INTERSECTION SET (Review)
This a set with the common members of the given set.

Symbol: "∩"

e.g.   P = { 1, 2, 3, 4, 5 }
       B = { 0, 1, 3, 4, 5}

Find:
   a) P ∩ B = { 2, 3, 4, 5}

   b) P ∪ B = { 0, 1, 2, 3, 4, 5}

_____

5. A = {Banana, Orange}
    B = {Apple, Orange}

Find:
   a) A ∩ B = { Orange}

   b) A ∪ B = { Banana, Orange, Apple }

_____

Week two lesson one.
NUMBER OF MEMBERS (Review)

Symbol: n( )

Examples
1. P = { a, b, c}
    How many members are in set P.

    n(P) = 3 members.

___

2. M = { days of the week }
    Find n(M)
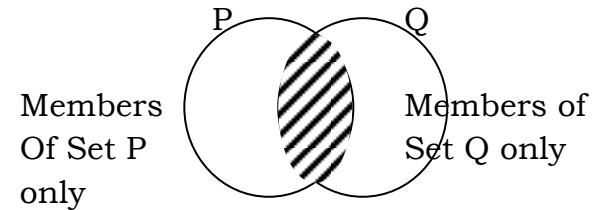
    M = {Mon, Tue, Wed, Thur, Fri, Sat, Sub}

    Find: n(M)   =   7

___

    REF: -   Understanding
              -   Primary MTC bk 4 pg 14 – 15
              -   Kenya Primary MTC Bk 4 4 pg 15 – 16

___

Week two lesson two.
VENN DIAGRAM (Review)
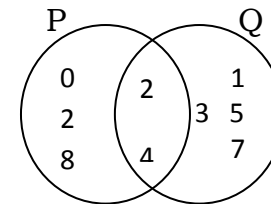
Representing information on a Venn diagram:

Members   Members of
Of Set P   Set Q only
only
Example:
Given   P =   {0, 2, 4, 6, 8}
               P =   {1, 2, 3, 4, 5, 78}

Find: P∩Q   =   { 2, 4}
      A ∪ B =   {0, 1, 2, 3, 4, 5, 6, 7, 8 }
Represent the sets on a Venn diagram.
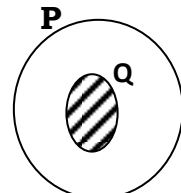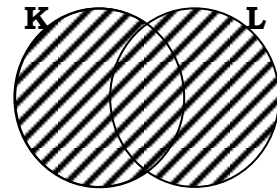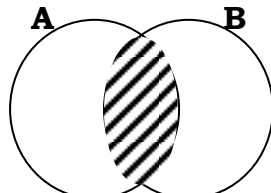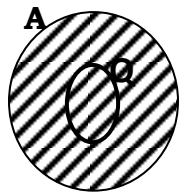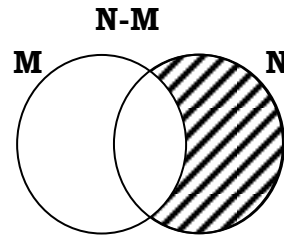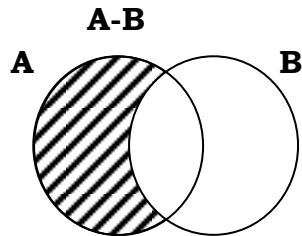

REF: MK bk 5 Pg 12
      Primary MTC for Uganda bk 4
      Pg 60 – 62MK Bk 4 Pg 11 – 14

Week two lesson three.
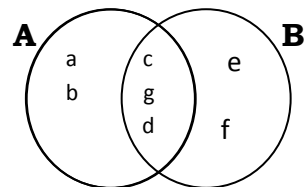
<u>Shading Venn Diagrams</u> (Review)

Example:

A-B   N-M

A ⬭ B   M ⬭ N

AUB   A∩B   KUL   P∩Q

Week two lesson four.

Getting information from a Venn Diagram (Review)

A ⬭ B

a b | c g d | e f

List down all members of Set;

A = { a, b, c, d, g}

B = { c, g, d, e, f}

A∩B = {c, d, g}

A ∪ B = {a, b, c, d, g, e, f}

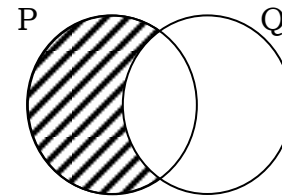n(A∩B) =   3 members

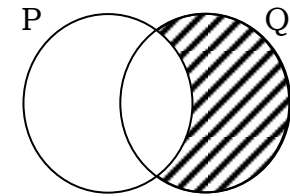REF: MK Bk 5 pg 7

      MK Bk 4 pgs 11 – 14

Week two lesson five.

<u>Difference of sets</u> (Review)

P – Q means members of set P which are not in Set Q, that is, members found in Set P only.

P ⬭ Q   P ⬭ Q

P – Q   Q – P

Example:

Given :   P =   {2, 3, 4, 6, 8, 9}

            Q =   {1. 2, 5, 6, 7, 10}

Find: P – Q = { 3, 4, 8, 9 }

           Q – P = 1, 5, 7, 10}

Example II
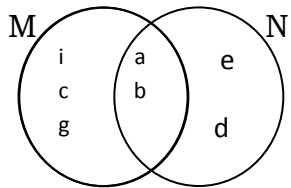
Find: M – N = {i, c, g}

      N-M   = { d, e}

Week three lesson one.

SUBSETS

A subset is a small set got from the main set.

Symbol: "C"

           "¢" means not a subset of.

Given;   E = {all pupils in P.4}
           K = { all boys in P.4}
           B = {all girls in P.4}

Set B and set K are subsets of set E

Example

If: D   =   {1, 2, 3, 4}
        T   =   {2, 4}
        S   =   {1, 3}
        K   =   {5, 6}

        T is a subset of D

        (T C D)

        S is a subset of D
        (S C D)

        K is not a subset of D
        (K ¢ D)

Given: B = {s,t,v}   Form subsets from set B

{ s }, { t }, { v }, { s, t}, {t, v }, {s, v}, {s, t, v}, { }

N.B.   - An empty set is a subset of the main set.
            - A set itself is a subset of that set.

Using a Venn diagram to represent a subset

Using a Venn diagram to represent subsets.

Set P is a subset of set Q

P ⊂ Q
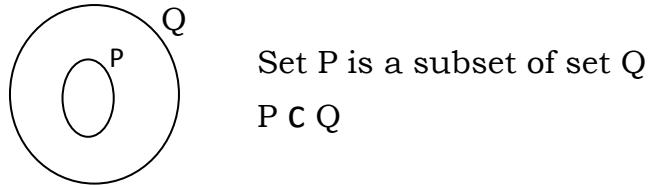
Given: M = {a, b, c, d, e}
          N = {a, e}

Represent the sets on a Venn diagram.
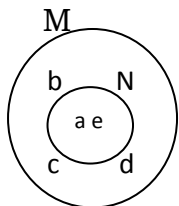
Find: M∩N =   { a, e}

         M∪N =   { a, b, c, d, e }

         n(M∪N) 5 Members
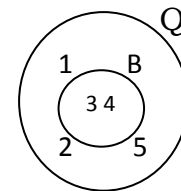
What is the relationship between P and B?

B is a subset of P

Find: P∩B =   {3, 4}

REF: MK Bk 4 pg 17 (old edition)
        MK Bk 4 pg 17 (new edition)

6

Week three lesson two.
NUMERACY.

Whole Numbers

<u>Place value and value of whole numbers</u> (Review)

Numeral	Hundred Thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
7041			7	0	4	1
24,678		2	4	6	7	8
132,407	1	3	2	4	0	7

Finding the place value of the given digits.

What is the place value of 4 in 642?

6   4   2
              ↓ Ones
       ↓ Tens
↓ Hundreds

:. The place value of 4 is Tens.

Find the place value of each digit in 6738.

6   7   3   8
                ↓ Ones
            ↓ Tens
      ↓ Hundreds
↓ Thousands

  :. The place value of 6 is Thousands

      The place value of 7 is Hundreds

      The place value of 3 is Tens

      The place value of 8 is Ones

REF: - Primary School MTC Bk 4 pg 8
       - Learning MTC Bk 4 pg 5
       - MK Bk 4 pg 20 (Old edition)

Week three lesson three.

Value of wholes(Review)

Value =   digit x place value

Find the value of each of the digits in 672

   H   T   O
   6   7   2

           2 x 1   =   2
       7 x 10   =   70
    6 x 100   =   600

Find the value of 0 in 6042

6   0   4   2

      0 x 100   =   0

What is the value of 2 in 432?

   H   T   O
   4   3   2

       2 x 1   =   2

REF: MK Bk 4 pg 20

Week three lesson four.
Application of values and place values

Example:

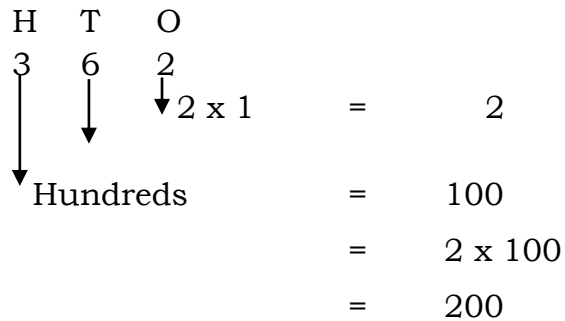Find the sum of the value of 2 and 3 in the number 623.

   H   T   O
   6   2   3

         3 x 1   =   3
      2 x 10   =   + 2 0
                         2 3

What is the sum of the place value of 6 and 2 in the number 632?

   H   T   O
   6   3   2

         Ones   =   1
   Hundreds   =   + 100
                        101

Find the product of the value of 2 and place value of 3 in 362.

```
H    T    O
3    6    2
          2 x 1      =        2

     Hundreds        =        100
                     =        2 x 100
                     =        200
```

The place value of 2 is tens. What is its value.

```
Value    =        Digit x Place value
         =        2 x 10
         =        20
```

Week three lesson five.

Writing whole numbers in words(Review)-up to thousands

1. Write 6438 in words.

Thousands	Hundreds	Units
6	4	38

 6438 → Six thousand four hundred thirty eight.

2. Write 14,008 in words

Thousands	Hundreds	Units
14	0	08

 14,008→ Fourteen thousand eight.

3. Express 240,402 in words

Thousands	Hundreds	Units
240	4	02

 240,402 → Two hundred forty thousand four hundred two.

REF: MK Bk 4 pg. 22
      Learning MTC Bk 4 pg. 6
      Understanding MTC Bk 4 pg. 11

Week four lesson one.

Writing in figures(Review)

Write "three thousand six hundred in figures".

Three thousand	3000
Six hundred	+600
	3600

Write in figures; "Sixty thousand five hundred twenty.

Sixty thousand	60000
Five hundred	500
Twenty	+ 20
	60,520

REF: Understanding MTC bk 4 pg 13
Primary School MTC BK 4 PG 8
Learning MTC bk 4 pg 6
MK Bk 4 pg 23

Week four lesson two.

Writing numerals in expanded form(Review)

Expand 3485 using place values

3485 =   (3 x 1000) + (4 x 100) + (8 x 10) + (5 x 1)

Expand 3485 using values
3485 = 3000 + 400 + 80 + 5

Expand: 46,246
46,246 =   40,000 + 6000 + 200 + 40 + 5

REF: - MK Bk 4 pg 23
       - Learning MTC Bk 4 pg 6
       - Understanding MTC Bk 4 pg 14

Writing the expanded numbers in short. (Review)

Find the number which has been expanded to get;
1. 4000 x 200 x 40 x 7

	4 0 0 0
	2 0 0
	4 0
+	7
	4 3 4 7

2. $(5 \times 100) + (6 \times 1000) + (4 \times 1)$

   $500 + 6000 + 4$

   $$\begin{array}{r} 6\ 0\ 0\ 0 \\ 5\ 0\ 0 \\ +\qquad 4 \\ \hline 6\ 5\ 0\ 4 \\ \hline \end{array}$$

3. $(9 \times 10000) + (4 \times 1000) + (7 \times 10)$

   $90000 \quad + \quad 4000 + \quad 70$

   $$\begin{array}{r} 9\ 0\ 0\ 0\ 0 \\ 4\ 0\ 0\ 0 \\ +\qquad 7\ 0 \\ \hline 9\ 4\ 0\ 7\ 0 \end{array}$$

REF: - Learning MTC Bk 4 pg 6
   - Understanding MTC bk 4 pg 4

Week four lesson three.

ROMAN NUMBERALS (Review) – up to one hundred.

Basic Roman Numerals are;

1 = I	50 = L	1000 = M
5 = V	100 = C	
10 = X	500 = D	

Roman numerals from 1 to 1000

Hindu Arabic	Roman numeral		Hindu Arabic	Roman numeral
1	I		8	VIII
2	II		9	IX
3	III		10	X
4	IV		50	L
5	V		100	C
6	VI		500	D
7	VII		1000	M

Week four lesson four.

Roman numerals got by repeating 1 and X;

Examples:	2	=	1 + 1	=	II
	3	=	1 + 1 + 1	=	III
	20	=	10 + 10	=	XX
	30	=	10+10+10	=	XXX
	300	=	100+100+100=		CCC

Roman numerals got by adding.

6	=	5 + 1		7	=	5 + 2
	=	V + I			=	V + II
	=	VI			=	VII

11

60	=	50 + 10	700	=	500 + 200
	=	L + X		=	D + CC
	=	LX		=	DCC

Roman numerals got by subtracting from 5, 50, 100, 500 and 1000:

4	=	(1 subtracted from 5)
	=	IV

40	=	(10 subtracted from 50)
	=	XL

90	=	(10 subtracted from 100)
	=	XC

400	=	(100 subtracted from 500)
	=	CD

900	=	(100 subtracted from 1000)
	=	CM

REF: MK Bk 4 pg 32
        Primary MTC for Uganda Bk 4 pg 14-17

Week four lesson five.

Expressing Roman numerals into Hindu Arabic numbers.

Convert the following to Hindu Arabic numerals:

1. XIV	=	X + IV
	=	10 + 4
	=	14

2. XXXIX	=	XXX + IX
	=	30 + 9
	=	39

3. XLV	=	XL + V
	=	40 + 5
	=	45

4. XCVIII	=	XC + VIII
	=	90 + 8
	=	98

5. DCCVII	=	DCC + VII
	=	700 + 7
	=	707

REF: - MK Bk 4 pg 34
      - Primary MTC for Uganda Bk 4 pg 17

Topical questions: **MK Bk 4 pg 35**

Week five lesson one.

OPERATION ON NUMBERS

Addition:
Words used in addition include; Sum, Total, Increase, Altogether, Add, e.t.c.

Examples:
1. Find the sum of;

a)   7 4 6 4
     + 4 4 2 5
     11 8 8 9

b)   1 4 6 7 0 8
     +   5 2 6 1 4
     1 9 9 3 2 2

2. There are 469 goats, 943 cows and 6401 chicken on the farm. How many animals are there altogether?

        4 6 9
        9 4 3
      + 6 4 0 1
        7 8 1 3

:.   There are 7813 animals altogether.

Week five lesson two.

Subtraction of wholes

Words used include; **Reduce, Decrease, Difference, e.t.c.**
1. Subtract:

a)   8 4 3 2
     - 4 7 3 2
       3 7 0 0

b)   5 3 2 8 6 7
     - 3 1 4 6 5 8
       2 1 8 2 0 9

2. Subtract 94 from 342.

        3 4 2
      -    9 4
        2 4 8

3. What is the difference of 143 and 36?

        1 4 3
      -    3 6
        1 0 7

4. Okot had Shs. 630. He bought a toy car for Shs. 560. How much money remained?

      Sh.   6 3 0
   - Sh.   5 6 0
      Sh.   0 7 0

REF: - Primary MTC Bk 4 pg 30
      - Primary MTC for Uganda bk 4 pg 20-32
      - Understanding MTC Bk 4 pg 18-25

Week five lesson three.

<u>Multiplication of wholes.</u>
Multiplying of a 3/2 digit number by 1 digit number.

```
1.    1 3         2.    4 3         3.    1 2 0
    x   2             x   4             x    5
      2 6             1 7 2             6 0 0
```

REF: Primary MTC for Uganda bk 4 pg 36
      MK Bk 4 pg 46

<u>Multiplying numbers by 10 and 20.</u>
```
2.    4 2         2.    5 4         3.    3 2
    x 1 0             x 1 0             x 2 0
    4 2 0             5 4 0             6 4 0
```

REF: MK bk 4 pg 50

<u>Multiplying 2-digit numbers by 2 digit numbers</u>

```
1.    1 3        OR;          1 3
    x 1 2                     1 2  → 10 + 2
    0 2 6                   (13 x 10) + (13 x 2)
    1 3 0                     30    +    26
    1 5 6                     1 3 0
                             + 2 6
                             1 5 6

2.  4 5                      4 5
   x 1 2                   x 1 2  →    10 + 2
   0 9 0                   45 x 10    4 5 0
   4 5 0                   45 x 2     + 9 0
    5 4 0                            5 4 0
```

<u>Multiplying using lattice method:</u>

e.g. 13 x 12
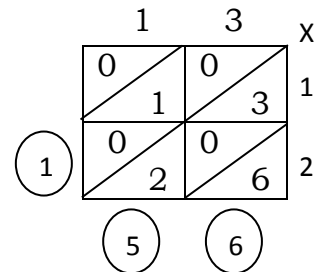
= 156

REF: Primary MTC for Uganda bk 4 pg 40
   MK Bk 4 pg 50
   Understanding MTC BK 4 pg 26-30

Week five lesson four.
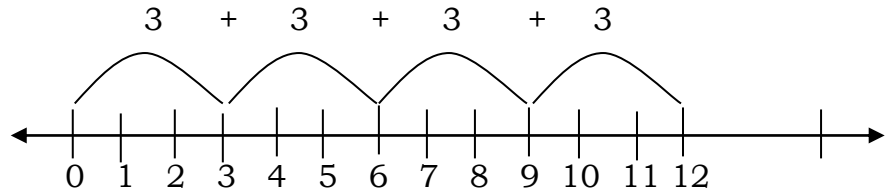
MULTIPLICATION OF NUMBERS ON A NUMBERLINE

E.g.

1. 3 x 4

  = 12
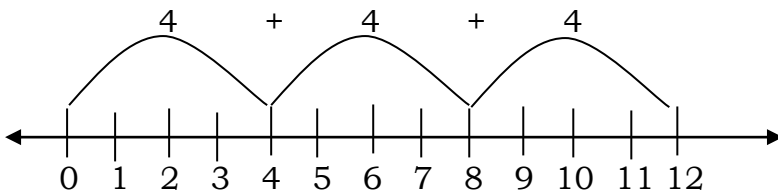
2. 4 x 3

=   12

Week five lesson five.
Divisions of 3 digit numbers by one digit

Use of long division

Exp: 1   4 6 8 ÷ 2

```
              2 3 4            x │ 2
           2│ 4 6 8           0 │ 0
   2 x 2=  4                  1 │ 2
              0 6             2 │ 4
   2x3=    0 6                3 │ 6
              0 8             4 │ 8
   4x2=       0 8            5 │ 10
              0 0            6 │ 12
                            7 │ 14
                            8 │ 16
                            9 │ 18
```

Exp: 2   Share 570/= among 5 girls

```
        1 1 4          x │ 2
      5 │ 5 7 0        0 │ 0
  1 x 5=5              1 │ 5
        0 7            2 │ 10
  1x5=  0 5            3 │ 15
          2 0          4 │ 20
  4x5=    2 0          5 │ 25
          0 0          6 │ 30
                       7 │ 35
                       8 │ 40
                       9 │ 45
       =      114
```

DIVISIBILITY TEST

Divisibility test of 2:

A number is divisible by 2 when the last digit is even.

e.g.   50, 22, 94,108, etc.

Divisibility test of 3:

A number is divisible by 3 when the sum of digits is divisible by 3.

e.g.   a) 21   b) 144

         =   2 + 1   =   1 + 4 + 4

         =   3   =   9

         =   3 ÷ 3   =   9 ÷ 3

         =   1   =   3

Divisibility test of 5:

A number is divisible by 5 when the last digit is 5 or 0.

e.g.   95, 240,

Week six lesson one.
INTRODUCTION OF COMBINED OPERATION USE BODMAS

B   -   Brackets
O   -   Of
D   -   Division
M   -   Multiplication
A   -   Addition
S   -   Subtraction

Exp. 1.   Work out: $4 + 1 - 2$
            = $(4 + 1) - 2$
            = $5 - 2$
            =   3

2.   Simplify: 4 + 2 + 5
     =   4 + (2 x 5)
     =   4 + 10
     =   14

Week six lesson two.

Properties of zero:

1. 0 x 0   =   0

2. Zero multiplied by any number gives 0.

   i.e.   0 x 25   =   0   k x 0 = 0

           7 x 0   =   0

3. Zero added to any number gives the number to itself.

   i.e.   0 + 40   =   40

           8 + 0   =   8

4. Any number to the power of zero gives one.

   i.e. 4^0 =   1

           100^0 =   1

5. Zero divided by any number gives zero.

   i.e.   0 ÷ 5   =   0

           $\dfrac{0}{21}$ =   0

Properties of one:

1. Any number multiplied by one give the number itself.

   i.e.   1 x 20   =   20

           y x 1   =   y

           0 x 1   =   0

2. Any number divided by one except zero gives the same number.

   i.e. $\dfrac{4}{1}$ =   1

           y ÷ 1 =   y

Week six lesson three.

Magic square:

Identify the sum or magic number.

Exp.   Given the magic square below, find the values of the letters.

6	a	8
b	5	c
2	d	4

Magic number = 2 + 5 + 8

  = 15

a = 15 – (8 + 6)

  = 15 – 14

  = 1

Week six lesson four.

ARRANGING NUMBERS IN ASCENDING OR DESCENDING ORDER.

Ascending order (from small to big)

1. 10, 25, 8, 125
   8, 10, 25, 125

2. 75, 38, 146, 238
   38, 75, 146, 238

Descending order (from big to small)

1. 68, 29, 180, 140
   180, 140, 68, 28

2. 758, 587, 857, 875
   875, 857, 758, 587

Week six lesson five.

FORMING NUMBERS FROM GIVEN DIGITS UP TO THOUSANDS

Examples:

1. 1, 3, 2
   123, 132, 213, 231, 312,321

2. 2, 5, 1, 4:
   Find the smallest and highest number formed.

   1245, 1254, 1425, 1452, 1524, 1542, 5421,

   The smallest is 1245

   The highest is 5421

Week seven lesson one.

Estimating numbers

Examples to tens:

1. 23   ≈   20
2. 46   ≈   50
3. 125   ≈   130

Examples to hundreds:

1. 142   ≈   100
2. 361   ≈   400

N.B.   Use a number line.

Week seven lesson two.
Rounding off:

1. Round off to the nearest tens:

a) 47

```
        T  O
        4  7̶
    +   1  0
    ─────────
        5  0        47 ≈ 50
```

b) 63

```
        T  O
        6  3̶
    +   0  0
    ─────────
        6  0        63 ≈ 60
```

2. Round off to the nearest hundreds.

a) 349

```
        H  T  O
        3  4̶  9̶
    +   0  0  0
    ───────────
        3  0  0          349 ≈ 300
```

b) 473

```
        H  T  O
        4  7̶  3̶
    +   1  0  0
    ───────────
        5  0  0          473 ≈ 500
```

Week seven lesson three.

INTRODUCTION TO POWERS / INDICES

Using the formula for area of a square:

e.g.　A　=　5 x 5

　　　　=　5^2

a)　4^2　=　4 x 4

　　　　=　16

b)　10^2　=　10 x 10

　　　　=　100

c)　3^2　=　3 x 3

　　　　=　9

d)　5^2　=　5 x 5

　　　　=　25

Week seven lesson four.

NUMBER PATTERNS AND SEQUENCE

A multiple is a product got after multiplying factors.

6 is a multiple of 2 since 2 x 3 = 6 where 2 and 3 are factors.

18 is a multiple of 1, 3, 6, 9 and 2 since

　　1 x 18　　=　　18

　　2 x 9　　=　　18

　　3 x 6　　=　　18

_____

List down all the multiples of 5 less than 27.

M5　=　(1 x 5), (2 x 5), (3 x 5), (4 x 5), (5 x 5)

　　=　　5　　10　　15　　20　　55

.: M5 =　　{5, 10, 15, 20, 25}

REF:　Learning MTC bk 4 pg

　　MK Bk 4 pg 67

Week seven lesson five.

Finding the Lowest Common Multiples

1. List down 7 multiples of 6 and 3

   M6 = {6,12,18,24,30,42...}

   M3= {3,6,9,12,15,18,21}

2. Find the Common multiples from the above set of multiples.

3. Find the L.C.M. of 3 and 6

   The L.C.M of 3 and 6 is 6

REF: MK Bk 4 pg 67
        Understanding MTC bk 4 pg 101
        Learning MTC Bk 4 pg 19

Week eight lesson one.

FACTORS

Example

1. List down all the factors of 6.
   1×6 =   6
   2×3 =   6
   F_6 =   {1, 2, 3, 6}

2. List down all the factors of 12.

   1×12 =   12
   2×6 =   12
   3×4 =   12
   F_{12}=   {1, 2, 3, 4, 6,12}

3. List down all the factors of 48.

   1×48 =   48
   2×24 =   48
   3×16 =   48
   4×12 =   48
   6×8 =   48
   F_{12}=   {1, 2, 3, 4, 6, 8, 12, 16, 24, 48}

REF: MK Bk 4 pg 73

Week eight lesson two.

GREATEST COMMON FACTORS

Find the G.C.F. of 12 and 15

F_{12} F_{15}

1 X 12   1 X 15

2 X 6   3 X 5

3 X 4
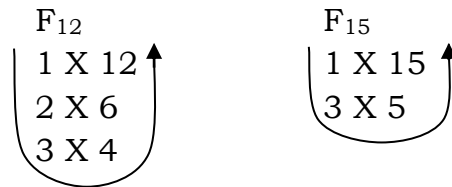
F_{12} = {1, 2, 3, 4, 6, 12} F_{15} = {1, 3, 5, 15}

G.C.F. = 3

REF: MK Bk 5 pg 82

Week eight lesson three.

TYPES OF NUMBERS

1. Whole numbers
   These start from 0:   {0,1,2,3,4,5,6,7........}

2. Counting numbers
   Start from one:{1,2,3,4,5,6,7,8....}

3. Even numbers

These are numbers which are exactly divisible by 2 or a number when divided by 2 leaves 0 as a remainder. {2,4,6,8,10,...........}

N.B.   The first even number is 2.

REF: MK Bk 4 pg 60
     Supplementary MTC Bk 4 pg
     Learning MTC Bk 4 pg 17

4. Odd numbers
   These are numbers which are not exactly divisible by 2 or when divided by 2 leave a remainder as one.

   Example: {3,5,7,9,11,13,15,17,........}

5. Prime numbers
   A prime number is a number which has only two factors, that is, one and itself.

   Prime numbers less than 50 are:
   {2,5,7, 11, 13, 17, 19, 23, 29, 31, 37,41, 43, 47 }

6. Composite numbers
   These are numbers that have more than two factors.

   Example: {4,6,8,9,10,12,14,15,......}

REF: Supplementary MTC bk 4 pg

Week eight lesson four.
SEQUENCE

1. What is the next number in the sequence?

    2,   6,   10,   14,   18, __22__   i.e. 18

    +4   +4 +4 +4   +4   +4   + 4
                                                 22

2. What is the next number in the sequence?

    21, 18, 15, 12, 9___   i.e. 12

    -3   -3 -3 -3 -3   - 3
                                          9

3. Find the missing number.

    2, 3,   5,   7,   __11__   (Prime numbers)

4. Find the missing number;

    64, 32, 16, 8, _____

5. Find the next number.

    1, 3, 9, 27, _____

REF: Understanding MTK Bk 4 pg 38

Week eight lesson five.
GEOMETRY

Drawing line segments using rulers.

LINES

A line is a set of points illustrated as
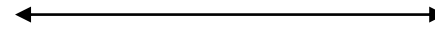
Ray

A ray is a line with one end point.
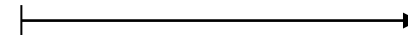
A line segment has two end points.

A line segment is named by its end points

A   B   AB
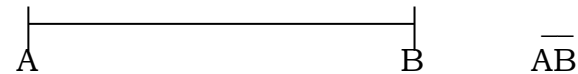
Parallel lines

Parallel lines are lines which do not meet.

They have the same distance apart at every point.

A ——————▶
B ——————▶
C ——————▶
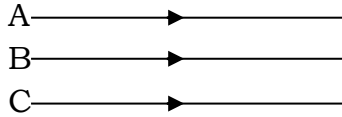
Week nine lesson one.

Naming lines, rays and line segments.

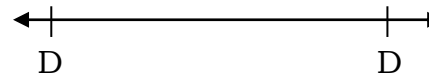Lines are named according to the points through which they pass.

Name the following:

◀——┼————————┼——▶ Line AB or $\overline{AB}$
   A   B

Ray AB or $\overrightarrow{AB}$

┼————————————▶
A   B

┼————————————┼
A   B   Line segment AB
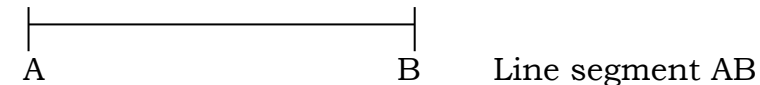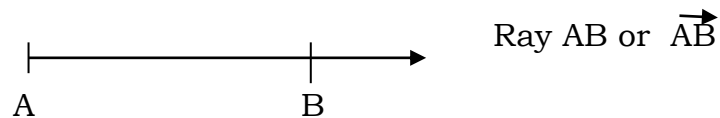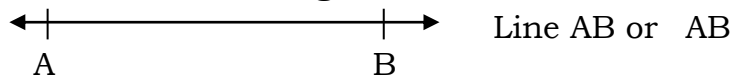
Drawing rays and lines

Example

Draw ray AB

┼————————————┼——▶
A   B
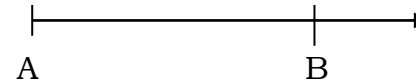
Draw line CD

◀——┼————————————┼——▶
   D   D

Week nine lesson two.

Drawing line segments of given length

Instruments to use:

- A sharp pencil
- A ruler
- A pair of compasses
-

Example:

Draw a line segment of length 3 cm.

Procedure:

- Draw a line of any length
- Mark a point at the beginning of the line.

- Place a ruler on the marked point such that the point is marked "0" cm on t he ruller is a marked point on the paper.
- Measure 3 cm.

3 cm
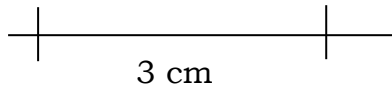
Measuring line segments

Instruments used:

- Ruler

Example:

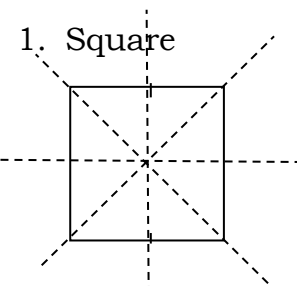Measure line AB

A   B
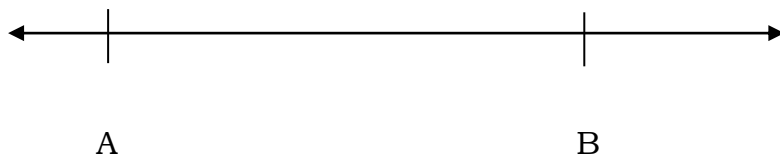
Procedure:

- Place the ruler at A such that the point marked 0cm is at point A.
- Take the reading which corresponds with point B, i.e.,
- AB   = 5cm

Week nine lesson three.

Drawing and naming quadrilaterals.

These are 4 sided figures e.g. squares, rectangles, rhombus, parallelograms, kites, trapeziums, etc.

1. Square

- It has 4 equal sides
- It has 4 lines of symmetry.

2. Rectangle
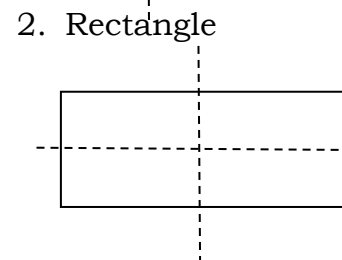
- It has 4 sides
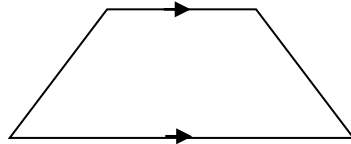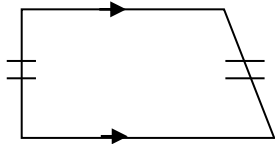- Opposite sides are equal
- Has two lines of symmetry

3. Rhombus
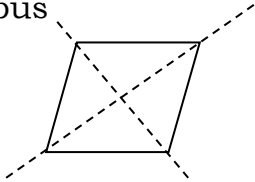
- It has 4 equal sides
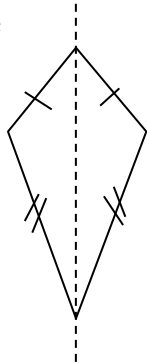- It has 2 lines of symmetry.

4. Parallelogram
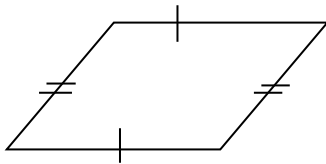
- It has 4 sides
- Opposite sides are equal and parallel
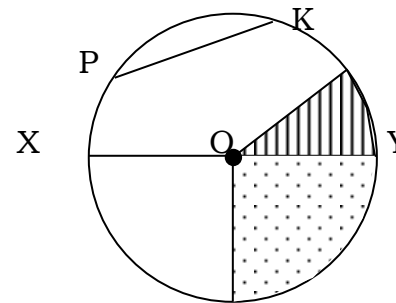- Has one line of symmetry.

5. Trapezium

6. Kite

- Opposite sides are equal
- Has one line of symmetry

REF: MK BK 5 pg 184.

Understanding MTK bk 4 pg

Week nine lesson four.

Parts of a circle.

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

Week nine lesson five.

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

D =   r x 2

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

26

Diameter   =   r x 2

$$= \quad 5 \text{ cm} \times 2$$

$$= \quad \underline{10 \text{ cm}}$$

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

R =   D ÷ 2

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

Radius   =   D ÷ 2
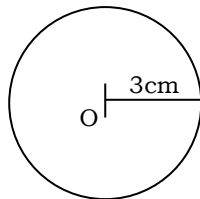
$$= \quad 14 \text{ cm} \div 2$$

$$= \quad \underline{7 \text{ cm}}$$

Week ten lesson one.

3. **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.

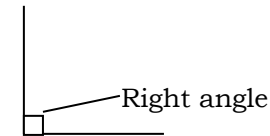**Week ten lesson two.**

<u>**Types of angles:**</u>

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.
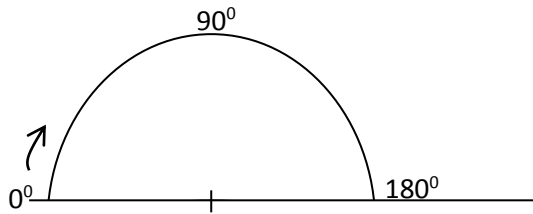
REF: MK BK 5 pg 193.

Week ten lesson three.

Drawing and measuring angles using a protractor.

1. <u>Using outer scale.</u>
   **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.

$$90^0$$

$$0^0 \qquad\qquad 180^0$$

2. <u>Using inner scale.</u>
   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.

$$90$$

$$180^0 \qquad\qquad 0^0$$
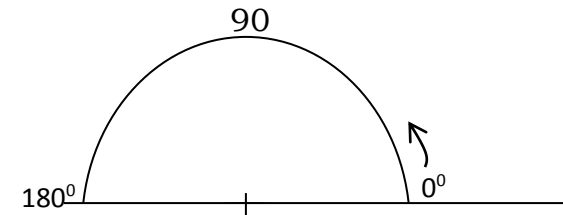
REF:

MK Mathematics Bk 5 pg 195

Understanding MTC BK 4 pg 87.