

GREENHILL

ACADEMY

MATHS LESSON NOTES

FOR P.4

TERM TWO

2013.

GOT FROM EDUFLIX APP

WEEK TWO

LESSON ONE.

FRACTIONS

Definition:

A fraction is part of a whole.

Numerator and denominator

The numerator is a digit on top or above the bar.

The denominator is a digit below or under the bar.

e.g. $\frac{2}{3}$ \rightarrow Numerator
 \rightarrow Denominator

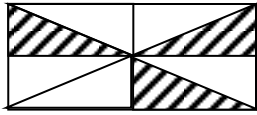
The numerator tells us the number of parts we have taken while the denominator tells us the number of parts of equal size the object is divided into.

Fraction	Numerator	Denominator
$\frac{1}{3}$	1	3
$\frac{2}{5}$	2	5

REF: Learning MTC Bk 4 pg 26
- Primary MTC Bk 4 pg 22
- Primary MTC for Ug bk 4 pg 99
- Understanding MTC bk 4 pg 54

WEEK TWO
LESSON TWO.

Shading and describing shaded parts.



Shaded fraction = $\frac{\text{Number of shaded parts}}{\text{Number of parts}}$

$$= \frac{3}{8}$$

Unshaded fraction = $\frac{\text{Number of unshaded parts}}{\text{Number of parts}}$

$$= \frac{5}{8}$$

Example:

Write the shaded fraction in the figure.



Solution: The figure must be divided
In to equal parts.

$$= \frac{1}{4}$$

Shade $\frac{1}{3}$



$\frac{1}{3}$ of 6 parts

3

$$= 6 \text{ parts} \div 3 \times 1$$

$$= 2 \text{ parts} \times 1$$

$$= 2 \text{ parts}$$

REF: Primary School MTC Bk 4 pg 18
Primary MTC Bk 4 pg 23

WEEK TWO

LESSON THREE.

TYPES OF FRACTION

Proper fractions

A fraction whose numerator is less than its denominator.

e.g. $\frac{2}{5}$, $\frac{1}{6}$, $\frac{12}{34}$, $\frac{100}{126}$, e.t.c.

Improper fractions

It is a fraction whose numerator is bigger than the denominator.

e.g. $\frac{3}{2}$, $\frac{12}{5}$, $\frac{17}{12}$ e.t.c.

Mixed fractions

Is a fraction with a whole number and a common or proper fraction.

e.g., $1\frac{1}{2}$, $10\frac{1}{8}$, $3\frac{4}{5}$, e.t.c.

REF: - Learning MTC Bk 4 pg27
- MK Bk 4 pg 91
- Understanding MTC Bk 4 Pg 55-57
- Primary MTC for Uganda Bk 4 Pg 11

WEEK TWO

LESSON FOUR.

Changing mixed fractions into improper fractions:

Mixed fraction: $4\frac{2}{3}$

4 - Whole number
2 - Numerator
3 - Denominator

$$\frac{(\text{Denominator} \times \text{whole number}) + \text{Numerator}}{\text{Denominator}}$$

$$\begin{aligned}\frac{(d \times w) + n}{d} &= \frac{(3 \times 4) + 2}{3} \\ &= \frac{12 + 2}{3} \\ &= \frac{14}{3}\end{aligned}$$

Change $5\frac{2}{3}$ into an improper fraction.

$$\begin{aligned} 5\frac{2}{3} &= \frac{(3 \times 5) + 2}{3} \\ &= \frac{15 + 2}{3} \\ &= \frac{17}{3} \end{aligned}$$

REF: - Learning MTC bk 4 pg 27
- MK Bk 4 pg 91

WEEK TWO LESSON FIVE.

Changing Improper fractions into mixed fractions.

Examples:

1. Change $\frac{3}{2}$ into a mixed fraction.

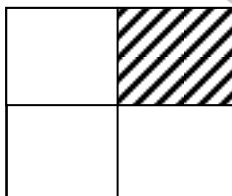
$$3 \div 2 = 1 \text{ rem. } 1$$

$$\text{Therefore, } \frac{3}{2} = 1\frac{1}{2}$$

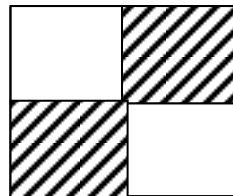
Equivalent fractions

These are fractions which have the same value when simplified.

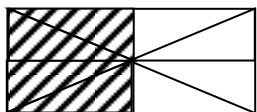
e.g.



$\frac{1}{2}$



$\frac{2}{4}$



$\frac{4}{8}$

N.B. All the shaded parts are equal.

\therefore The equivalent fractions for $\frac{1}{2}$ are $\frac{2}{4}$, $\frac{4}{8}$, e.t.c.

REF: Primary school MTC Bk 4 pg 19

WEEK THREE
LESSON ONE.

Finding equivalent fractions by calculation

List down 3 equivalent fractions of $\frac{1}{3}$

$$\text{a) } \frac{1}{3} = \frac{1 \times 2}{3 \times 2} = \frac{2}{6}$$

$$\frac{1}{3} = \frac{1 \times 3}{3 \times 3} = \frac{3}{9}$$

$$\frac{1}{3} = \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$$

$$\frac{1}{3} = \frac{1 \times 5}{3 \times 5} = \frac{5}{15}$$

$$\text{b) } \frac{2}{5} = \frac{2 \times 2}{5 \times 2} = \frac{4}{10}$$

$$\frac{2}{5} = \frac{2 \times 3}{5 \times 3} = \frac{6}{15}$$

$$\frac{2}{5} = \frac{2 \times 4}{5 \times 4} = \frac{8}{20}$$

$$\frac{2}{5} = \frac{2 \times 5}{5 \times 5} = \frac{10}{25}$$

WEEK THREE
LESSON TWO.

Finding the missing number

$$1. \frac{1}{2} = \frac{\square}{6}$$

$$= 6 \div 2$$

$$= 3$$

$$= 1 \times 3$$

$$= 3$$

$$\begin{aligned}
 2. \quad 2/5 &= 10/x \\
 &= 10 \div 2 \\
 &= 5 \\
 &= 5 \times 5 \\
 &= 25
 \end{aligned}$$

REF: - Learning MTC Bk pg 28
 - Primary School MTC Bk 4 pg21
 - MK Bk 4 pg 82

WEEK THREE

LESSON THREE.

Reducing fractions to their lowest terms.

Equivalent fractions can also be made by dividing the numerator by the same number (G.C.F.).

N.B. When there is no whole number which can be divided exactly into the numerator and denominator then the fraction is in its lowest terms.

1. Reduce 4/6 to its lowest terms.

$$\frac{4}{6} \div \frac{2}{3} = \frac{2}{3}$$

2. Reduce 9/18 to its simplest form.

$$\frac{9}{18} \div \frac{9}{9} = \frac{1}{2}$$

REF: - Primary School MTC bk 4 pg 21
 - Primary MTC MK Bk 4 pg 84

WEEK THREE

LESSON FOUR.

Comparing fractions

Which is greater; $\frac{1}{2}$ or $\frac{1}{3}$?

$$\begin{aligned}
 \text{Rename} \quad \frac{1}{2} &= \frac{2}{4} = \frac{3}{6} \\
 \frac{1}{3} &= \frac{2}{6}
 \end{aligned}$$

$\frac{1}{2}$ is greater.

Use >, < or = to complete

$$2/3 \quad \underline{\hspace{2cm}} \quad 4/6$$

$$2/3 = \textcircled{4/6} = 6/9$$

$$\textcircled{4/6} = 8/12 = 12/18$$

$$2/3 = 4/6$$

REF: Learning MTC Bk 4 pg 109
Understanding MTC Bk 4 pg 60
Learning MTC Bk 4 pg 29

WEEK THREE

LESSON FIVE.

Ordering fractions

Arrange the following fractions starting from the smallest:
 $1/3, 1/2, 1/4$

Rename: $1/3 = 2/6 = 3/9 = \textcircled{4/12} = 5/15$

$$1/2 = 2/4 = 3/6 = 4/8 = \textcircled{6/12}$$

$$1/4 = 2/8 = \textcircled{3/12} = 4/16 = 5/20$$

∴ The order is: $1/4, 1/3, 1/2$

REF: Primary sch. MTC Bk 4 pg 23
MTC Bk 4 pg 36

WEEK FOUR

LESSON ONE AND TWO.

Addition of fractions with the same denominators:

Addition of fractions with the same denomination

$$1. \frac{1}{5} + \frac{2}{5} = \frac{42}{5} = \frac{3}{5}$$

$$2. \frac{3}{7} + \frac{2}{7} + \frac{2}{7} = \frac{3+2+2}{7} = \frac{7}{7} = 1$$

Addition of fractions with different denominators

$$1. \text{ Add: } \frac{1}{2} + \frac{1}{3}$$

$$\text{Rename: } = \frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$$

$$= \frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12}$$

$$\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{3+2}{6} = \frac{5}{6}$$

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

$$\text{Rename: } \frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12} = \frac{10}{15}$$

$$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{3}{12} = \frac{4}{16} = \frac{5}{20}$$

$$\frac{2}{3} + \frac{1}{4} = \frac{8}{12} + \frac{3}{12} = \frac{8+3}{12} = \frac{11}{12}$$

REF: Primary MTC for Ug bk 4 pg 105

Understanding MTC bk 4 pg 61

MTC Primary MTC Bk 4 pg 94

WEEK FOUR

LESSON THREE

Addition of mixed fractions.

$$3. \mathbf{6} \frac{2}{7} + \mathbf{1} \frac{3}{7} = (\mathbf{6} + \mathbf{1}) + \frac{2}{7} + \frac{3}{7}$$

$$= \mathbf{7} + \frac{2+3}{7}$$

$$= \mathbf{7} + \frac{5}{7}$$

$$= \mathbf{7} \frac{5}{7}$$

REF: Learning MTC Bk 4 pg 33

Primary MTC for Uganda bk 4 pg 104

Understanding MTC BK 4 Pg 46

WEEK FOUR
LESSON FOUR.

Subtraction of fractions with the same denominators

$$1. \frac{5}{6} - \frac{1}{6} = \frac{5-1}{6} = \frac{4}{6}$$

$$\begin{aligned} 2. \text{ Subtract: } & 4 \frac{2}{5} - 2 \frac{1}{5} \\ & = (4 - 2) + (2/5 - 1/5) \\ & = 2 + \frac{2-1}{5} \end{aligned}$$

REF: Learning MTC BK 4 Pg 34
Understanding MTC BK 4 PG 44
MK bk 4 pg 95

Subtract fractions with different denominators

Subtract: $\frac{1}{2} - \frac{1}{3}$

Rename: $\frac{1}{2} - \frac{1}{3} = \frac{3}{6} - \frac{2}{6} = \frac{3-2}{6} = \frac{1}{6}$

$$\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15} = \frac{6}{18}$$

$$\begin{aligned} \frac{1}{2} - \frac{1}{3} &= \frac{3}{6} - \frac{2}{6} = \frac{3-2}{6} \\ &= \frac{1}{6} \end{aligned}$$

REF: Primary MTC for Uganda bk 4 pg 110
Understanding MTC bk 4 pg 62

WEEK FOUR
LESSON FIVE.

Subtracting a fraction from a whole

$$\begin{aligned} 1. \quad 1 - \frac{1}{2} \\ \frac{2}{2} - \frac{1}{2} &= \frac{2-1}{2} = \frac{1}{2} \end{aligned}$$

$$2. \quad 1 - \frac{3}{12}$$

$$\frac{12}{12} - \frac{3}{12} = \frac{12-3}{12} = \frac{9}{12}$$

3. John ate $\frac{1}{4}$ of a cake. What fraction of the cake is left?

$$1 - \frac{1}{4} = \frac{4}{4} - \frac{1}{4}$$

$$= \frac{4-1}{4} = \frac{3}{4}$$

REF: Learning MTC Bk 4 pg 34

Subtractions of mixed fractions.

$$1. \quad 7 \frac{2}{5} - 2 \frac{1}{5}$$

$$= (7 - 2) + (\frac{2}{5} - \frac{1}{5})$$

$$= 5 + \frac{1}{5}$$


$$= 5 \frac{1}{5}$$

WEEK FIVE LESSON ONE

Multiplication of fractions

Multiplication of a fraction by a whole (parts of a group)

- What is $\frac{1}{2}$ of
- $\frac{2}{3}$ of 6 oranges

 = 4 oranges

OR: $\frac{2}{3} \times 6 = (6 \div 3) \times 2$	$\frac{2}{3} \times 6$
$= 2 \times 2$	$\frac{2 \times 6}{3} = \frac{12}{3} = 4$
$= 4 \text{ oranges}$	

3. $\frac{4}{5} \times 20$ boys

$$(20 \div 5) \times 4$$

$$4 \times 4$$

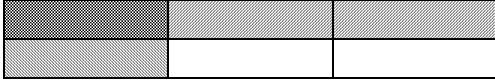
$$16 \text{ boys}$$

REF: Understanding MTC Bk 4 pg 48

Multiplying a fraction by a fraction:

$$1. \frac{1}{3} \times \frac{2}{4} = \frac{1 \times 2}{3 \times 4} = \frac{2}{12}$$

$$2. \frac{1}{2} \times \frac{1}{3}$$



Number of parts shaded twice = $\frac{1}{6}$

$$\begin{aligned} \text{OR: } \frac{1}{2} \times \frac{1}{3} &= \frac{n \times n}{d \times d} \\ &= \frac{1 \times 1}{2 \times 3} = \frac{1}{6} \end{aligned}$$

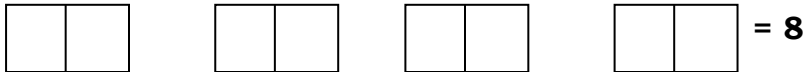
WEEK FIVE**LESSON TWO****Division of fractions****Divide a whole by a fraction**

Example: $3 \div \frac{1}{3}$ (How many thirds are on 3 wholes)



$$\therefore 3 \div \frac{1}{3} = 9$$

$4 \div \frac{1}{2}$ (How many halves are in 4 wholes)



= 8

$$\therefore 4 \div \frac{1}{2} = 8$$

REF: MK bk 4 pg

WEEK FIVE
LESSON THREE

Application of fractions

1. There are 24 boys in a class. If $\frac{2}{3}$ of them play football, how many boys play football?

$$\begin{aligned}\frac{2}{3} \text{ of } 24 &= \frac{2}{3} \times 24 \\ &= (24 \div 3) \times 2 \\ &= 8 \times 2 \\ &= 16 \text{ boys}\end{aligned}$$

2. There are 40 pupils in P.4. $\frac{2}{5}$ of them are boys and the rest are girls.
a) Find the fraction for girls.

$$\begin{aligned}1 - \frac{2}{5} &= \frac{5}{5} - \frac{2}{5} \\ &= \frac{3}{5}\end{aligned}$$

- b) How many boys are in the class?

$$\begin{aligned}\frac{2}{5} \text{ of } 40 &= \frac{2}{5} \times 40 \\ &= 2 \times 8 \\ &= 16 \text{ boys}\end{aligned}$$

- c) How many girls are in the class?

$$\begin{array}{rcl} & 40 & \\ - & \underline{16} & \\ & 24 & \text{ girls} \end{array} \quad \text{OR:} \quad \begin{array}{rcl} & \frac{3}{5} \text{ of } 40 & \\ & = \frac{3}{5} \times 40 & \\ & = 3 \times 8 = 24 \text{ girls} & \end{array}$$

WEEK FIVE
LESSON FOUR.

DECIMALS

Changing common fractions into decimals

1. Change $\frac{2}{10}$ into a decimal.

$$\begin{array}{rcl}
 2/10 & = & \begin{array}{r} 0.2 \\ 10 \overline{)2} \\ 0 \times 10 = - \underline{0} \\ 20 \\ 2 \times 10 = - \underline{20} \\ \hline \end{array} = 0.2
 \end{array}$$

2. Change 3/10 into a decimal

$$\begin{array}{rcl}
 3/10 & = & \begin{array}{r} 0.3 \\ 10 \overline{)3} \\ 0 \times 10 = - \underline{0} \\ 30 \\ 3 \times 10 = - \underline{30} \\ \hline \end{array} = 0.3
 \end{array}$$

3. Change 2/5 into a decimal.

$$\begin{array}{rcl}
 2/5 & = & \begin{array}{r} 0.4 \\ 5 \overline{)2} \\ 0 \times 5 = - \underline{0} \\ 20 \\ 4 \times 5 = - \underline{20} \\ \hline \end{array} = 0.4
 \end{array}$$

REF: Understanding MT bk 4 pg 15

MK Bk 4 pg 25

Primary MTC Bk 4 pg 25

WEEK FIVE.

LESSON FIVE.

Changing decimals to fractions

1. Change 0.2 into a common fraction.

$$\begin{aligned}
 0.2 &= (0 \times 1) + (2 \times 1/10) \\
 &= 0 + 2/10 \\
 &= 2/10
 \end{aligned}$$

2. Write 0.4 as a common fraction.

$$\begin{aligned}
 0.4 &= (0 \times 1) + (4 \times 1/10) \\
 &= 0 + 4/10 \\
 &= 4/10
 \end{aligned}$$

REF: Primary MTC bk 4 pg 25
MK bk 4 pg 100
Understanding MTC bk 4 pg 15
Learning MTC bk 4 pg 36 and 41

WEEK SIX.
LESSON ONE.

Expressing mixed fractions as decimals

1. Change $1 \frac{7}{10}$ to a decimal

$$= 1 + \frac{7}{10}$$

$$= 1 + 0.7$$

$$\begin{array}{r} = 1.0 \\ + 0.7 \\ \hline 1.7 \end{array}$$

2. Change $2 \frac{4}{10}$ to a decimal

$$= 2 + \frac{4}{10}$$

$$= 2 + 0.4$$

$$\begin{array}{r} = 2.0 \\ + 0.4 \\ \hline 2.4 \end{array}$$

REF: MK Bk 4 pg 101

WEEK SIX.
LESSON TWO.

Expressing decimals as mixed fractions

1. Change 1.5 to a common fraction

$$\begin{array}{rcl} 1.5 & = & (1 \times 1) + (5 \times \frac{1}{10}) \\ & = & 1 + \frac{5}{10} \\ & = & 1 \frac{5}{10} \end{array}$$

-
2. Write 12.9 as a common fraction

$$\begin{aligned}
 12.9 &= (1 \times 10) + (2 \times 1) + (9 \times 1/10) \\
 &= 0 + 2 + 9/10 \\
 &= \mathbf{2} + 9/10 \\
 &= \mathbf{2} \ 9/10
 \end{aligned}$$

REF: MK Bk 4 pg 101

WEEK SIX.
LESSON THREE.

Addition of decimals

1. Add: $1.3 + 2.6$

$$\begin{array}{r}
 = 1.3 \\
 + 2.6 \\
 \hline
 3.9
 \end{array}$$

2. Find the sum of 1.4 and 2.8

$$\begin{array}{r}
 = 1.4 \\
 + 2.8 \\
 \hline
 4.2
 \end{array}$$

3. I ate 0.2 of a cake in the morning, 0.1 in the afternoon and 0.3 in the evening. What fraction did I eat altogether?

$$\begin{array}{r}
 0.2 \\
 0.1 \\
 + 0.3 \\
 \hline
 0.6
 \end{array}$$

REF: Learning MTC Bk 4 pg 43
 MK Bk 4 pg 102
 Primary Sch MTC for Ug Bk 4 47

WEEK SIX.
LESSON FOUR.

Subtraction of decimals

1. Subtract: $0.5 - 0.2$

$$\begin{array}{r}
 = 0.5 \\
 - 0.2 \\
 \hline
 0.3
 \end{array}$$

2. Subtract: $3.7 - 1.4$

$$\begin{array}{r}
 = 3.7 \\
 - 1.4 \\
 \hline
 2.3
 \end{array}$$

3. Subtract: $3.3 - 1.6$

$$\begin{array}{r} 3.3 \\ - 1.6 \\ \hline 1.7 \end{array}$$

REF: Primary MTC for Ug bk 4 pge 48
Primary sch. MTC Bk 4 pg 30

WEEK SIX.

LESSON FIVE.

Ordering and comparing decimals

Use >, <, or = to complete

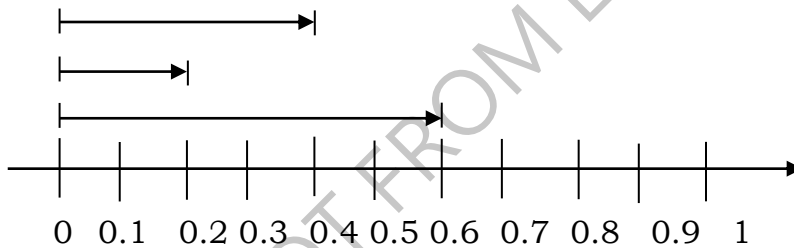
1. $0.2 < 0.3$

$$\frac{2}{10} < \frac{3}{10}$$

2. $0.7 > 0.4$

$$\frac{7}{10} > \frac{4}{10}$$

Arrange 0.6, 0.2, 0.4 starting with the smallest.



Therefore: 0.2, 0.4, 0.6

Arrange 0.7, 0.3, 0.5 starting with the largest.

0.7, 0.5, 0.3

REF: MK Bk 4 pg 107

WEEK SEVEN.

LESSON ONE.

MEASURES (LENGTH)

- Length is **the distance between two points.**

- The basic units for measuring length is **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

Expressing metres as centimetres

1. Change 6m to cm.

m	dm	cm
1	0	0

$$1\text{m} = 100\text{cm}$$

Big to small you multiply (x)

$$\begin{aligned} 6\text{m} &= (6 \times 100) \\ &= 600\text{cm} \end{aligned}$$

2. Express $2\frac{1}{2}$ m as cm

m	dm	cm
1	0	0

$$1\text{m} = 100\text{cm}$$

Big to small = (x)

$$\begin{aligned} 2\frac{1}{2}\text{ m} &= 2 + \frac{1}{2} \\ &= (2 \times 100)\text{cm} + (1/2 \times 100)\text{cm} \\ &= 200\text{cm} + 50\text{cm} \\ &= 250\text{cm}. \end{aligned}$$

Or;

Change $2\frac{1}{2}$ m into an improper fraction

$$\begin{aligned} 2\frac{1}{2}\text{m} &= \frac{5}{2}\text{m} \\ &= \frac{5}{2} \times 100 \\ &= 5 \times 50 \\ &= 250\text{cm} \end{aligned}$$

WEEK SEVEN.

LESSON TWO.

Expressing centimetres to metres

1. Change 400cm to metres

m	dm	cm
1	0	0

$$100\text{cm} = 1\text{m}$$

Small to big you divide (\div)

$$\begin{aligned} 400\text{cm} &= \frac{400}{100} \\ &= 4 \div 1 \\ &= 4\text{m} \end{aligned}$$

2. Change 1900cm to metres

m	dm	cm
1	0	0

$$100\text{cm} = 1\text{m}$$

Small to big you divide (\div)

$$\begin{aligned} 1900\text{cm} &= \frac{1900}{100} \\ &= 19 \div 1 \\ &= 19\text{m} \end{aligned}$$

WEEK SEVEN.
LESSON THREE.

Converting centimetres to metres and cm

1. Convert 120cm to metres and cm

m	dm	cm
1	0	0

$$100\text{cm} = 1\text{m}$$

$$120\text{cm} = 100\text{cm} + 20\text{cm}$$

Small to big you divide (\div)

$$\begin{aligned} 120\text{cm} &= \frac{100}{100} + 20\text{cm} \\ &= 1 \div 1 + 20\text{cm} \\ &= 1\text{m } 20\text{cm} \end{aligned}$$

—

2. Change 840cm to metres and cm.

m	dm	cm
1	0	0

$$100\text{cm} = 1\text{m}$$

$$840\text{cm} = 800\text{cm} + 40\text{cm}$$

Small to big = (\div)

$$\begin{aligned} 840\text{cm} &= \frac{800}{100} + 40\text{cm} \\ &= 8 \div 1 + 40\text{cm} \\ &= 8\text{m } 40\text{cm} \end{aligned}$$

—

**WEEK SEVEN.
LESSON FOUR.**

Addition of metres and centimeters

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

m	cm	SW	1
2	45		45
+	6		+ 36
	36		81
	8 81		

2.

m	cm	SW	1	
8	25		25	<u>110</u>
+	6		+ 85	100
	85		110	1 r 10
	15 10			

REF: MK Bk 4 pg 187

**WEEK SEVEN.
LESSON FIVE.**

Subtraction of metres and centimetres

1. Subtract:

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

2. M cm

SW

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

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

m	cm	<u>SW</u>
3	70	70
- 1	20	- 20
2	50	<u>50</u>

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

WEEK EIGHT.

LESSON ONE.

Multiplication of metres and centimetres

1. Multiply: 6m 25cm x 6

m	cm	<u>SW</u>
6 ¹	25	25
x	6	x 6
37	50	<u>150</u>

100
1 r 50

2. Mary, Ben and Kareen bought a cloth 3m 45cm each. What was the total size of the cloth?

m	cm	<u>SW</u>
3 ¹	45	45
x	3	x 3
10	53	<u>135</u>

100
1 r 35

Ref: learning MTC bk 4 pg 50.
MK Bk 4 pg 190

WEEK EIGHT.
LESSON TWO.

Expressing Km to metres

1. Change 7Km to metres

Km	Hm	Dm	m
1	0	0	0

$$1\text{Km} = 1000\text{m}$$

$$7\text{Km} = (7 \times 1000)\text{m}$$

$$= 7000\text{m}$$

2. Change $4\frac{1}{2}$ Km to metres

Km	Hm	Dm	m
1	0	0	0

$$1\text{Km} = 1000\text{m}$$

$$4\frac{1}{2}\text{ Km} = 4 + \frac{1}{2}\text{ Km}$$

$$= (4 \times 1000)\text{m} + (1/2 \times 1000)\text{m}$$

$$= 4000\text{m} + 500\text{m}$$

$$= 4500\text{m}$$

Ref: MK Bk 4 pg 195

WEEK EIGHT.
LESSON THREE.

Expressing metres to Km.

1. Change 3000m to Km.

$$1000\text{m} = 1\text{Km}$$

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

$$= 3 \div 1$$

$$= 3\text{Km}$$

2. Express 2000m as Km.

$$1000\text{m} = 1\text{Km}$$

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

$$= 2 \div 1$$

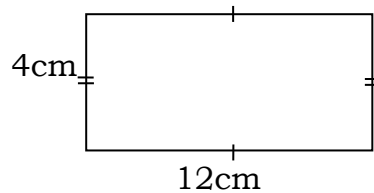
$$= \underline{2\text{Km}}$$

WEEK EIGHT.

LESSON FOUR.

Perimeter of a Rectangle and Square

Find the perimeter of the following.



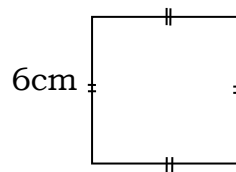
$$\text{Perimeter} = \text{Length} + \text{Width} + \text{Length} + \text{Width}$$

$$= L + W + L + W$$

$$= (12\text{cm} + 4\text{cm}) + (12\text{cm} + 4\text{cm})$$

$$= 16\text{cm} + 16\text{cm}$$

$$= \underline{32\text{cm}}$$



$$\text{Perimeter} = \text{Side} + \text{Side} + \text{Side} + \text{Side}$$

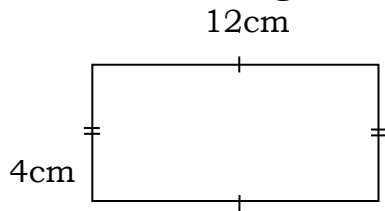
$$= S + S + S + S$$

$$= 6\text{cm} + 6\text{cm} + 6\text{cm} + 6\text{cm}$$

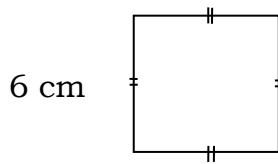
$$= \underline{\underline{36\text{cm}}}$$

WEEK EIGHT.
LESSON Five.

Area of a rectangle and a square



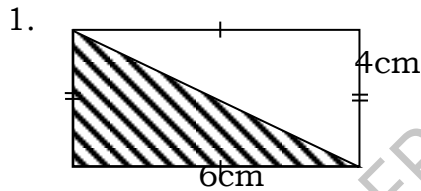
$$\begin{aligned}\text{Area} &= L \times W \\ &= 12 \text{ cm} \times 4 \text{ cm} \\ &= 48 \text{ cm}^2.\end{aligned}$$



$$\begin{aligned}\text{Area} &= S \times S \\ &= 6 \text{ cm} \times 6 \text{ cm} \\ &= \underline{\underline{36}} \text{ cm}^2\end{aligned}$$

WEEK NINE.
LESSON ONE.

Area and Perimeter of a triangle



$$\begin{aligned}\text{Area of a rectangle} &= L \times W \\ &= 6\text{cm} \times 4\text{cm} \\ &= \underline{24\text{cm}^2}\end{aligned}$$

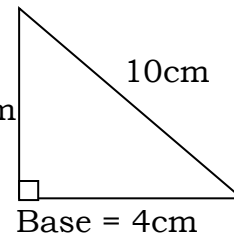
Area of the shaded part is half the area of the rectangle.

$$\begin{aligned}&= 24\text{cm}^2 \div 2 \\ &= \underline{12\text{cm}^2}\end{aligned}$$

$$\begin{aligned}\text{Area of a triangle} &= \frac{1}{2} \times \text{base} \times \text{height} \\ &= \frac{1}{2} \times b \times h \\ &= \frac{1}{2} \times 6\text{cm} \times 4\text{cm} \\ &= \underline{12\text{cm}^2}\end{aligned}$$

Find the area of the triangle.

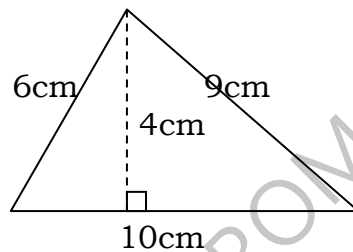
$$\begin{aligned}
 \text{Base} &= 4\text{cm} & \text{height} &= 3\text{cm} \\
 \text{Height} &= 3\text{cm} \\
 \text{Area} &= \frac{1}{2} \times b \times h \\
 &= \frac{1}{2} \times 4\text{cm} \times 3\text{cm} \\
 &= 2\text{cm} \times 3\text{cm} \\
 &= \underline{6\text{cm}^2}
 \end{aligned}$$



_Calculate the Perimeter

$$\begin{aligned}
 \text{Perimeter} &= S + S + S \\
 &= 10\text{cm} + 4\text{cm} + 3\text{cm} \\
 &= \underline{17\text{cm}}
 \end{aligned}$$

_Find the area and perimeter of the triangle shown.



$$\begin{aligned}
 \text{Base} &= 10\text{cm} \\
 \text{Height} &= 4\text{cm}
 \end{aligned}$$

$$\begin{aligned}
 \text{Area} &= \frac{1}{2} \times b \times h \\
 &= \frac{1}{2} \times 10\text{cm} \times 4\text{cm} \\
 &= 10\text{cm} \times 2\text{cm} \\
 &= \underline{20\text{cm}^2}
 \end{aligned}$$

$$\begin{aligned}
 \text{Perimeter} &= S + S + S \\
 &= 9\text{cm} + 6\text{cm} + 10\text{cm} \\
 &= 15\text{cm} + 10\text{cm} \\
 &= \underline{25\text{cm}}
 \end{aligned}$$

Ref: Understanding MTC bk 4 pg 107

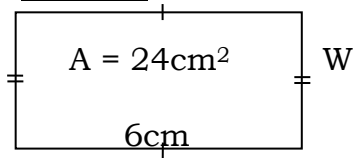
WEEK NINE.

LESSON TWO.

Finding the missing side of a rectangle

1. The area of a rectangle is 24cm^2 . If its length is 6cm , find its width.

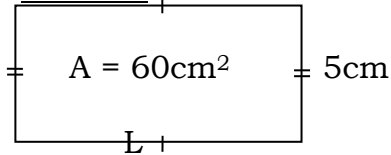
Sketch:



$$\begin{aligned} L \times W &= A \\ 6\text{cm} \times W &= 24\text{cm}^2 \\ 6W\text{cm} &= 24\text{cm}^2 \\ W &= \frac{24\text{cm}^2}{6\text{cm}} \\ W &= 4\text{cm} \end{aligned}$$

Find the length of a rectangle whose width is 5cm if its area is 60cm².

Sketch:



$$\begin{aligned} L \times W &= A \\ L \times 5\text{cm} &= 60\text{cm}^2 \\ 5L\text{cm} &= 60\text{cm}^2 \\ L &= \frac{60\text{cm}^2}{5\text{cm}} \\ L &= 12\text{cm} \end{aligned}$$

REF: MK BK 4 PG 205

Learning MTC BK 4 PG 91

WEEK NINE.

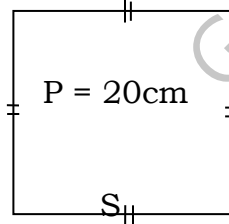
LESSON THREE.

Finding the side of a square given its perimeter

1. The perimeter of a square is 20cm.

Find its sides.

Sketch:

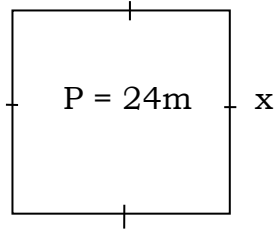


$$\begin{aligned} S + S + S + S &= P \\ 4S &= 20\text{cm} \\ \frac{4S}{4} &= \frac{20\text{cm}}{4} \\ S &= 5\text{cm} \end{aligned}$$

Find its area.

$$\begin{aligned} \text{Area} &= \text{Side} \times \text{Side} \\ &= S \times S \\ &= 5\text{cm} \times 5\text{cm} \\ &= \underline{25\text{cm}^2} \end{aligned}$$

2. Find the value of x in the figure.



$$\begin{aligned}
 S + S + S + S &= 24m \\
 x + x + x + x &= 24m \\
 4x &= 24m \\
 \frac{4x}{4} &= \frac{24m}{4} \\
 x &= 6m
 \end{aligned}$$

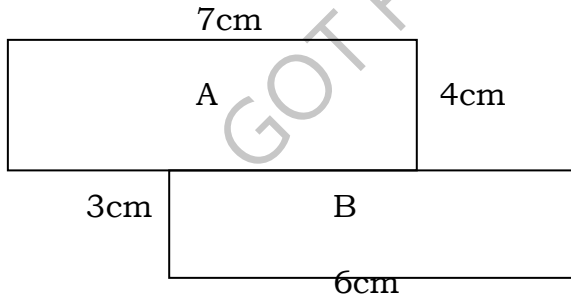
REF: Learning MTC Bk 4 pg 87

MK Bk 4 pg 204

WEEK NINE.
LESSON FOUR.

Addition of area

Find the area of the figure.

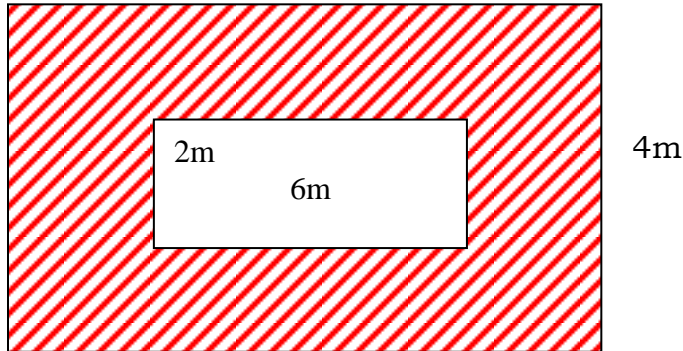


$$\begin{aligned}
 \text{Area} &= \text{Area of A} + \text{Area of B} \\
 &= (L \times W) + (L \times W) \\
 &= (7\text{cm} \times 4\text{cm}) + (6\text{cm} \times 3\text{cm}) \\
 &= 28\text{cm}^2 + 18\text{cm}^2 \\
 &= 46\text{cm}^2
 \end{aligned}$$

_REF: MK BK 4 Pg 212 - 213

Subtraction of area

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



1. Find the area of the small rectangle.

$$\begin{aligned} A &= L \times W \\ &= 6\text{m} \times 2\text{m} \\ &= 12\text{m}^2 \end{aligned}$$

2. Calculate the area of the big rectangle.

$$\begin{aligned} A &= L \times W \\ &= 10\text{m} \times 4\text{m} \\ &= 40\text{m}^2 \end{aligned}$$

-
3. Find the area of the shaded part.

$$\begin{aligned} \text{Area of the shaded part} &= \text{Area of big rectangle} - \text{Area of small rectangle} \\ &= 40\text{m}^2 - 12\text{m}^2 \end{aligned}$$

$$\begin{array}{r} 40 \\ - 12 \\ \hline 28\text{m}^2 \end{array}$$

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


WEEK NINE.
LESSON FIVE.

GRAPHS

Reading and interpreting picture / pictographs

The pictograph below show the number of trees planted by three boys.

Okot	  
Okello	 
Kintu	    

Scale:  = 5 trees

a) How many trees were planted by Kintu?

$$= 5 \times 5$$

$$= 25 \text{ trees}$$

—

b) How many more trees were planted by Okot than Okello?

$$\text{Okot} > 3 \times 5 = 15 \text{ trees}$$

$$\text{Okello} > 2 \times 5 = 10 \text{ trees}$$

$$\begin{array}{r} \text{More trees} > & 15 \text{ trees} \\ & \underline{10 \text{ trees}} \\ & 05 \text{ more trees} \end{array}$$

c) Find the total number of trees planted.

$$= 10 \times 5$$

$$= 50 \text{ trees}$$

WEEK TEN.
LESSON ONE AND TWO.

Drawing pictographs

Make a pictographs for the following information.

- John has 12 balls
- Mega has 15 balls
- Sarah has 18 balls
- Kamoga has 9 balls.

Scale:  = 3 balls



















Solution:

John > $\frac{12}{3} = \frac{4m}{3}$

Mega > $\frac{15}{3} = 5 \text{ balls}$

Sarah > $\frac{18}{3} = 6 \text{ balls}$

Kamoga > $\frac{9}{3} = 3 \text{ balls}$

NAME	NUMBER OF BALLS
John	   
Mega	    
Sarah	     
Kamoga	  

Reading and interpreting bar graph.

Refer to page 122 MK MTC Bk 4

REF: BK 4 Pg 122 and 120

Reading interpreting pie charts.

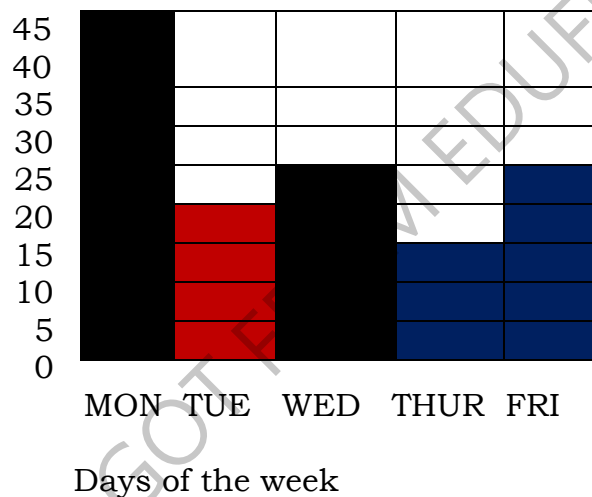
Refers to understanding MTC bk 5 pg 19 for the graph.

LESSON THREE.

BAR GRAPHS

Interpreting the scales of a bar graph

The bar graph below shows the daily attendance of P4 pupils for a week. Study it and answers the following questions.



- What is represented on the vertical axis?
- What is represented on the horizontal axis?
- How many pupils were present on Thursday?
- Which days had the same number of attendance?
- How many more pupils attended on Wednesday than Friday?

LESSON FOUR

Tallies

Organizing data by tallying

Example 1

One 1

Two 11

Three 111
 Five 1111
 Ten 1111 1111
 Twelve 1111 1111 11

LESSON FIVE

Finding the mode

Mode is the term or the number that appears many times.

Example 1

Kennedy got the following marks in an exam 70,88,70,90,85.

Find his modal mark

MARK	TALLY
70	11
85	1
88	1
90	1

Therefore the mode is 70

WEEK ELEVEN

LESSON ONE

Finding the range

Range is the difference between the highest and the smallest.

Maureen scored the following goal in the four netball matches

7,9,6,5.

Find the range.

$$9-5 = 4$$

FINDING THE MEDIAN

Median is the middle term or number.

It's got by arranging the terms or number in ascending or descending order.

example

Find the median of ;

43,74,49,90,10.

10,43,**49**,74,90.

There for the median is 49

FINDING THE MEAN

Mean is total sum of given marks divided by the total number.

Example;

Find the mean of the following numbers.

3,5,4,6,2.

$$\text{Mean} = \frac{2+3+4+5+6}{5}$$

$$= \frac{20}{5}$$

$$= \underline{4}$$

Geometry

WEEK TWO

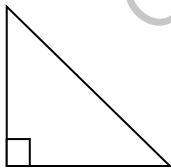
LESSON ONE AND TWO

Triangle

A triangle is a three sided polygon.

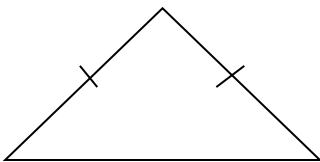
Types of triangles

1. Right angled triangles



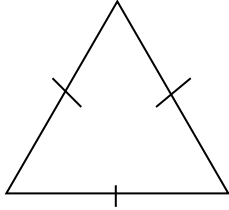
This is a triangle with one of its angles measuring 90°

2. Isosceles triangle



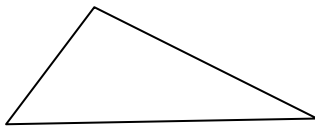
- Two sides and angles are equal
- Has one line of symmetry

3. Equilateral triangle



- Has all of its sides equal
- All its angles measure 60°
- Has three lines of symmetry

4. Scalene triangle

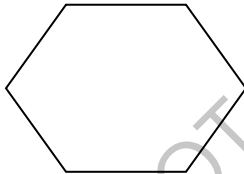


- All sides and angles measure differently
- Has no line of symmetry

Other polygons include Hexagon, Pentagon

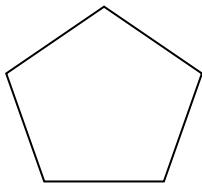
Hexagon

It is a 6 sided figure



Pentagon

It is a five sided figure



SOLID SHAPES.

A solid shape has faces, edges and vertices.

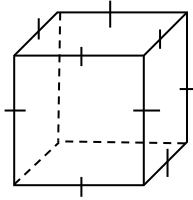
Example

Sphere, cone, cuboid, cube, pyramid, prism, cylinder, etc.

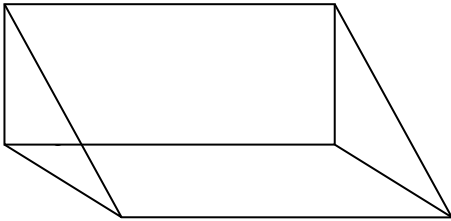
WEEK THREE
LESSON ONE AND TWO

Drawing and naming solid shapes

1. Cube



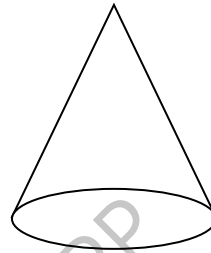
2. Triangular prism



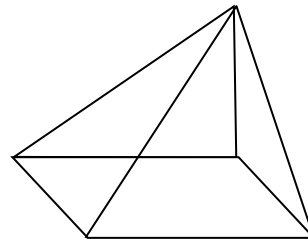
4 .Cylinder



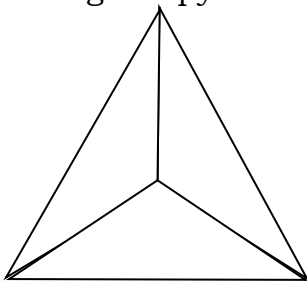
3. Cone



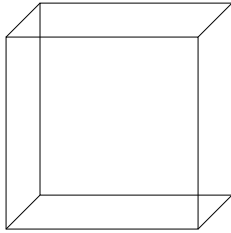
7. Rectangular pyramid



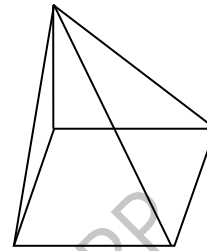
5.Triangular pyramid



6. Cuboid



8. Square pyramid



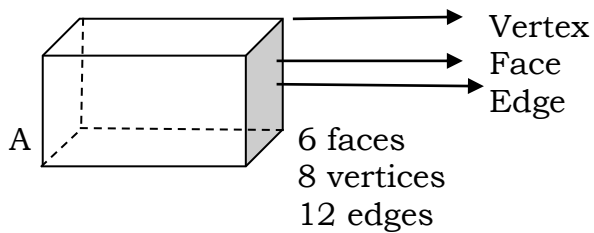
WEEK FOUR
LESSON ONE AND TWO

Naming parts of solid figures.

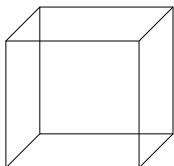
Parts of solid shapes are:

- Faces
- Edges
- Vertices

Cuboid

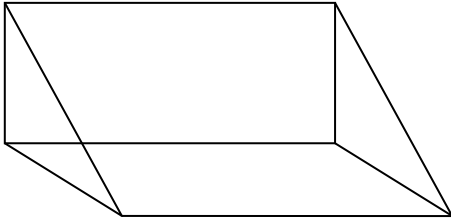


Cube



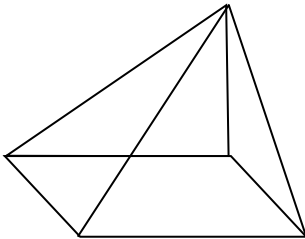
It has: 6 faces
 8 vertices
 12 edges

Triangular prism



It has: 5 faces
 6 vertices
 9 edges

Rectangular pyramid



It has: 5 faces
 5 vertices
 8 edges

WEEK FIVE

LESSON ONE AND TWO

Construction of angles
60° Angle

Steps

- -draw a line
- -open a compass to a given length
- -mark two points on a line
- -stand on each point and mark crossing arcs
- -join the points as shown below.

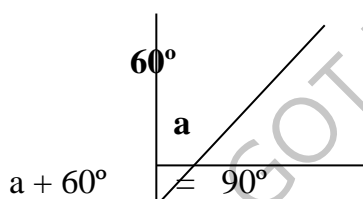
WEEK SIX
LESSON ONE AND TWO

Constructing an angle of 90°

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.

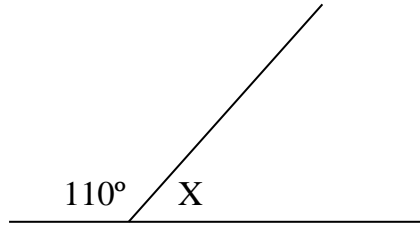
Finding the missing angles on a right angle.



$$a + 60^\circ - 60^\circ = 90^\circ - 60^\circ$$

$$\underline{a = 30^\circ}$$

Finding the missing angles on a straight line.



$$x + 110^\circ = 180^\circ$$

$$x + 110^\circ - 110^\circ = 180^\circ - 110^\circ$$

$$\underline{x = 70^\circ}$$

ALGEBRA

WEEK TWO

Collecting like terms

$$\begin{aligned} 1. \text{ Collect like terms: } & 4x + 8y + 2x + 5y \\ & = (4x + 2x) + (8y + 5y) \\ & = 6x + 13y \end{aligned}$$

$$\begin{aligned} 2. \text{ Collect like terms: } & 9m + 7n - 2m - 3n \\ & = (9m - 2m) + (7n - 3n) \\ & = 7m + 4n \end{aligned}$$

REF: MK Bk 4 pg 252

Understanding MTC Bk 4 pg 156

WEEK THREE

Substitution

Substitution means to replace:

$$\begin{aligned} 1. \text{ If } x = 3, y = 4 \text{ and } z = 5, \text{ Find the value of} \\ & = x + y + z \\ & = (3 + 4) + 5 \\ & = 7 + 5 \\ & = 12 \end{aligned}$$

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

$$\begin{aligned} 5h \text{ means } & 5 \times h \\ & = 5 \times 12 \\ & = 60 \end{aligned}$$

3. If $a = 5$, $y = 4$, find the value of ay

REF: MK Bk 4 pg 253 – 254

Learning MTC bk 4 pg 102 – 103

WEEK FOUR

Solving equations involving addition

1. Find the missing number

$$\begin{array}{rcl} \square & + & 3 = 9 \\ \square & + & 3-3 = 9-3 \\ \square & & = 6 \end{array}$$

\therefore The missing number is 6

–

2. Solve for k

$$\begin{aligned} K + 4 & = 9 \\ K + 4-4 & = 9-4 \\ K & = 5 \end{aligned}$$

If $3 + m = 8$

What is m ?

$$\begin{aligned} 3 + m & = 8 \\ 3 - 3 + m & = 8 - 3 \\ m & = 5 \end{aligned}$$

REF: MK Bk 4 pg 246 – 247

Understanding MTC Bk 4 pg 159

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 .

$$\begin{aligned} x + 3 & = 7 \\ x + 3-3 & = 7-3 \\ x & = 4 \end{aligned}$$

\therefore He had 4 books.

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

WEEK FIVE

Equations involving subtraction

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

\therefore The value of what is in the box is 10.

2. Solve for m:

$$\begin{aligned} m - 3 &= 2 \\ m - 3 + 3 &= 2 + 3 \\ m &= 5 \end{aligned}$$

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.

$$\begin{aligned} g - 5 &= 9 \\ g - 5 + 5 &= 9 + 5 \\ g &= 14 \\ \therefore \text{ He had 14 goats.} \end{aligned}$$

REF: MK Bk 4 pg 258

WEEK SIX

Equations involving multiplication

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

$$\square \times 3 = 12 \quad \text{OR; } \square \times 3 = 12$$

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

$$\square \times 1 = 4 \quad 3 \quad 3$$

$$\square = 4 \quad \square = 4$$

\therefore The box has got 4

–

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

$$3P = 21$$

$$3P = 21$$

$$3 \quad 3$$

$$P = 7$$

REF: MK Bk 4 pg 225

Understanding MTC Bk 4 pg 160

–

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.

$$4 \times c = 40$$

$$4c = 40$$

$$4 \quad 4$$

$$C = 10$$

\therefore Each group has 10 pupils.

REF: MK Bk 4 pg 259

WEEK SEVEN

Equations involving division

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

$$\square \div 2 = 4$$

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

$$\square \div 1 = 8$$

$$\square = 8$$

\therefore The box has got 8

4. Solve for x:

$$x \div 3 = 6$$

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

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

$$x = 18$$

5. $a/2 = 3$

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

$$a \times 1 = 2 \times 3$$

$$a = 6$$

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.

$$b \div 4 = 12$$

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

$$b = 48$$

\therefore She had 48 balls altogether.

WEEK EIGHT

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

$$3m - 9 = 12$$

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

$$3m = 21$$

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

$$m = 7$$

REF: MK Bk 5 Pg 278 – 279