

## P.3 Mathematics Lesson Notes

### THEME ONE: SET CONCEPT

#### WEEK 1

#### PD:1

#### **Definition of a set:**

A set is a collection of well defined members put together.

#### Examples of sets

A set of balls

A set of girls

A set of boys

A set of bottles

A set of tables

#### Exercise

1. Explain the term a set.
2. Mention 12 examples of sets

#### **Self evaluation**

Strong points:

Weak points:

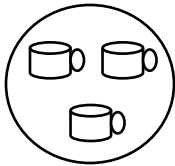
Way forward:

#### **PD: 2**

#### **Drawing and naming sets**

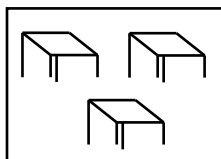
##### **Example 1**

Draw a set of 3 cups.



Drawing 2

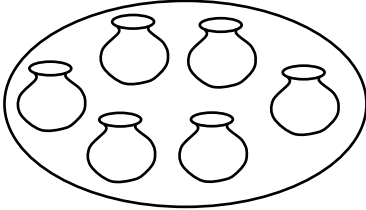
Draw a set of 3 tables



## Naming sets

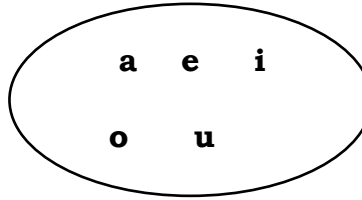
### Examples 1

A set of six pots



### Example 2

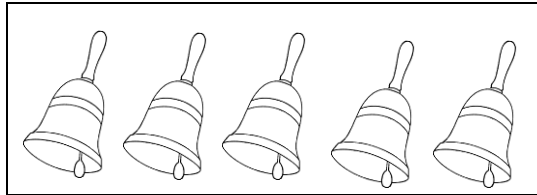
A set of vowel letters.



### Exercise

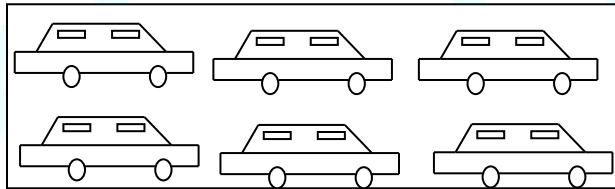
1. Name the sets drawn below.

a)



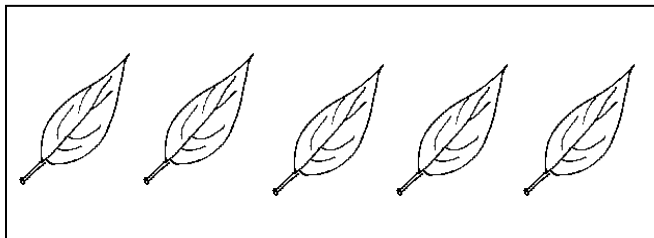
\_\_\_\_\_

b)



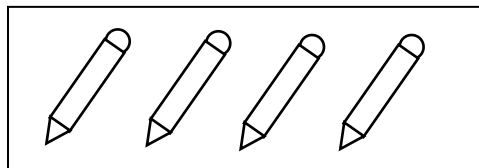
\_\_\_\_\_

c)



\_\_\_\_\_

d)



\_\_\_\_\_

1. Draw the following sets.

- A set of even numbers less than 13.
- A set of four names for girls.
- A set of 3 names for wild animals.

d) A set of 4 mangoes.

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### PD 3

#### SET SYMBOLS

$\cap$  \_\_\_\_\_ Intersection of/with

$\cup$  \_\_\_\_\_ Union of/with

$\emptyset$  Or  $\{ \}$  \_\_\_\_\_ Empty set, void, null

$\subset$  \_\_\_\_\_ Subset of

$\not\subset$  \_\_\_\_\_ Not subset of

$\Sigma$  \_\_\_\_\_ Universal set

$\in$  \_\_\_\_\_ Element of /member of

$\notin$  \_\_\_\_\_ Not element of /not member

$=$  \_\_\_\_\_ Equal to

$\neq$  \_\_\_\_\_ Not equal to

$\equiv$  Or  $\longleftrightarrow$  or  $\Leftrightarrow$  \_\_\_\_\_ Equivalent to

\_\_\_\_\_ Not equivalent to.  
 $n(B)$  \_\_\_\_\_ Number of elements in set B.

### Exercise

1. Draw the following set symbols.

a) Union of      b) Universal set      c) Subset of      d) Empty set

2. Give the name of the set symbols drawn below.

a)  $\emptyset$  \_\_\_\_\_      b)  $\neq$  \_\_\_\_\_      c)  $n(x)$  = \_\_\_\_\_      d)  $\Sigma$  = \_\_\_\_\_

## Self Evaluation

Strong points:

Weak points:

Way forward:

### Period 4

Listing members in a set

#### Example 1

$$\begin{array}{|c|} \hline \text{Martha, Alice} \\ \hline \text{Mary, Allen} \\ \hline \end{array} = \{ \text{Martha, Alice, Mary, Allen} \}$$

Example 2.

$$\text{a, b, c, d} = \{ \text{a, b, c, d} \}$$

Example 3

$$\begin{array}{|c|} \hline \text{⊙} \quad \text{🌳} \\ \hline \text{🛖} \\ \hline \end{array} = \{ \text{⊙}, \text{🌳}, \text{🛖} \}$$

#### Exercise

List the members in the following sets.

1.  $\begin{array}{|c|} \hline \text{Pigs, goats, sheep, rabbit} \\ \hline \end{array} = \underline{\hspace{2cm}}$

2.  $\begin{array}{|c|} \hline \triangle \quad \square \quad \square \\ \hline \end{array} = \underline{\hspace{2cm}}$

3.  $\begin{array}{|c|} \hline \text{Jimmy, Jerry, John} \\ \hline \end{array} = \underline{\hspace{2cm}}$

4.  $\begin{array}{|c|} \hline \text{H H H H H} \\ \hline \end{array} = \underline{\hspace{2cm}}$

5.  $\begin{array}{|c|} \hline \text{🍵 🍵 🍵 🍵} \\ \hline \end{array} = \underline{\hspace{2cm}}$

## Self evaluation

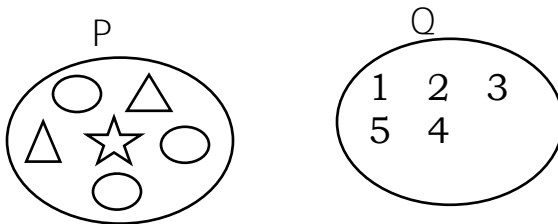
Strong points:

Weak point:

Way forward:

### Lesson 5

#### Examples 1



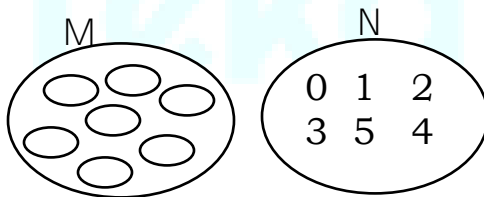
Set P has 6 members

Set Q has 5 members

Set P has more members than Q

#### Exercises

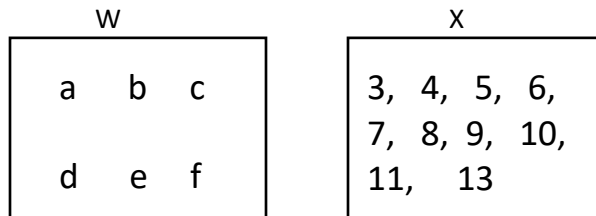
1. Compare the following sets correctly.



a) How many elements are in set M?

b) How many elements has set N?

2. Compare the following sets.



b) How many members has set W?

b) How many members has set X?

c) Which set has more members than the other?

d) Which set has less members.

## Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

## **FORMATION OF SMALL SETS FROM BIG SETS**

### Example 1

Form small sets from the set below.

John, Johnson, Jimmy

Betty, Annet, Alice,

0, 2, 4, 6, 8, 10

A set of names for boys.

John , Johnson,  
Jimmy

A set of names for girls.

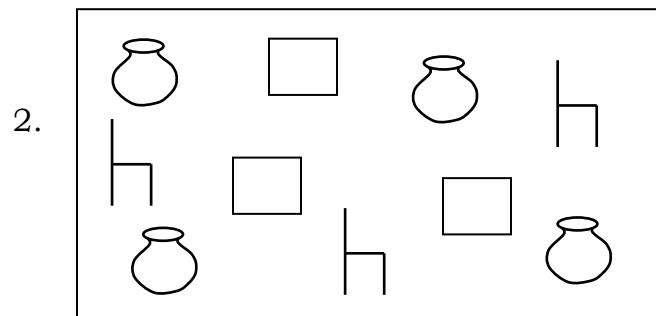
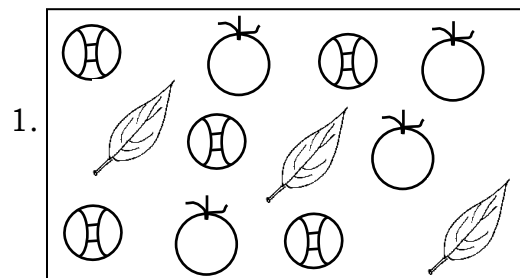
Betty, Annet,  
Alice

A set of seven number.

0, 2, 4, 6  
8, 10

### **Exercise**

Form small sets from the big sets below.



**Self Evaluation**

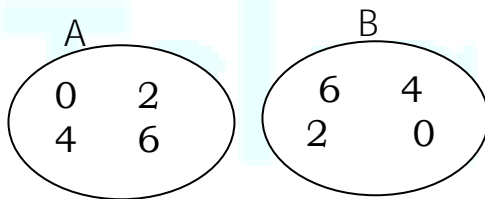
Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 7**Types of sets**Equal sets**

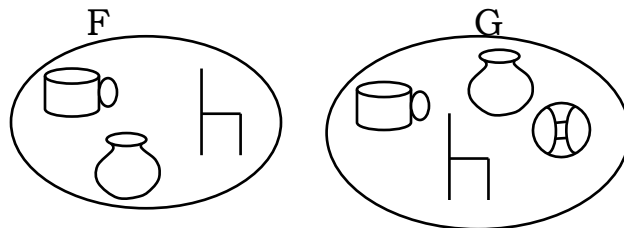
*Definition:* Equal sets are sets with the same number of members which are exactly the same.

Examples 1

Set A has 4 members.

Set B has 4 members.

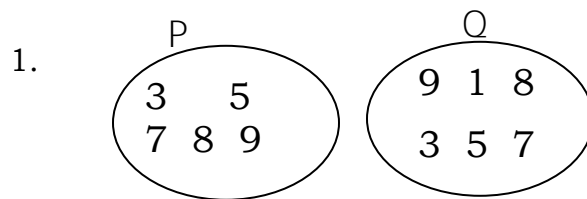
Members in set **A** and **B** are exactly the same with those in set **B**. Therefore set **A** is equal to set **B**.

**Example 2**

Set **F** and set **G** do not have the same type and number of members. So, set **F** is not equal to set **G**.

### Exercise

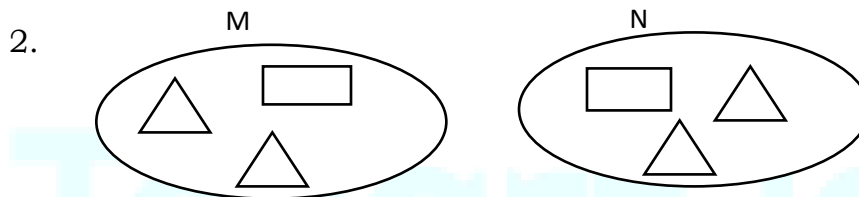
Use equal,  $=$ , not equal,  $\neq$  to complete the following:



i) Set P is \_\_\_\_\_ to set Q.

ii) Set P and set Q are \_\_\_\_\_ sets.

iii) Set P is \_\_\_\_\_ set Q.



a) Set M is \_\_\_\_\_ to set N.

b) Set M and N are \_\_\_\_\_ sets.

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 8

#### EQUIVALENT SETS AND NON EQUIVALENT SETS

*Definition:* Equivalent sets are sets with the same number of elements but different members.

#### Examples 1

$A = \{a, e, i, o, u\}$   $Y = \{1, 2, 3, 4, 5\}$



Set X and Y are equivalent sets.

Set X is equivalent to set Y.

Set X  $\longleftrightarrow$  set Y.

### Example 2

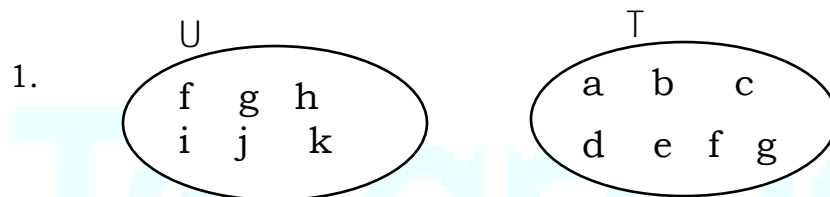
Set C and D are not equivalent sets.

Set C is not equivalent to set D.

Set C  $\nleftrightarrow$  set D.

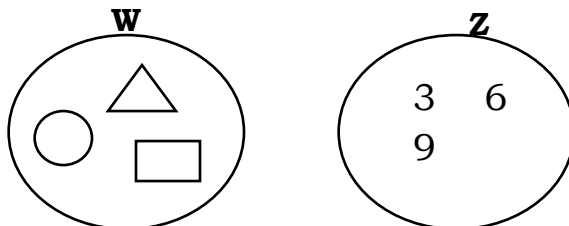
### Exercise

Use equivalent to, not equivalent,  $\longleftrightarrow$ ,  $\nleftrightarrow$  to complete the following statements.



- Set **U** and set **T** are \_\_\_\_\_ sets.
  - Set **U** is \_\_\_\_\_ to set **T**.
  - Set **U** is \_\_\_\_\_ set **T**.
2. **R** = {3, 4, 5, 6, 7, 87} **S** = {1, 2, 3, 4, 5, 6}
- Set **R** and set **S** are \_\_\_\_\_ sets.
  - Set **R** is \_\_\_\_\_ to set **S**.
  - Set **R** is \_\_\_\_\_ set **T**.

3. Given that.



- Set **W** and set **Z** are \_\_\_\_\_ sets.

b) Set W is \_\_\_\_\_ to set Z.

c) Set W is \_\_\_\_\_ set Z.

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Week 2****PD/lesson 1**Empty sets

**Definition:** These are sets with no members.

Examples

1. A set of girls with 3 eyes.
2. A set of boys with 4 ears.
3. A set of bees walking.
4. A set of boys with 2 heads.
5. A set of pencils with ink.

**Exercise**

Use “empty” or “not empty” in the statements below.

- a) A set of cows with 2 eyes \_\_\_\_\_ set.
  - b) A set of goats with 3 legs \_\_\_\_\_ set.
  - c) A set of table with hands \_\_\_\_\_ set.
  - e) A group of people walking with their heads \_\_\_\_\_ set.
2. Write five examples of empty sets.

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

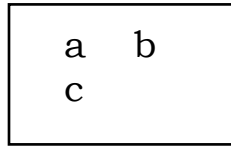
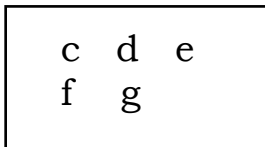
## **Lesson 2**

### **UNION SETS**

*Definition:* Union sets are sets which bring all the members from two or more sets together without repeating the common members.

#### **Examples**

Form union sets from the given sets below.



Union set = a, b, c, d, e, f,

#### **Example 2**

$A = \{0, 2, 4, 6, 8, 10\}$   $B = \{1, 2, 3, 4, 5\}$

Union set  $A \cup B$

$= \{0, 1, 2, 3, 4, 5, 6, 8, 10\}$

**Note:** Every member is written one in Union Set.

Exercise

Form union sets from the sets below.

1.  $R = \{2, 4, 6, 8, 10, 12\}$

$S = \{0, 1, 2, 3, 4, 5, 6, 7\}$

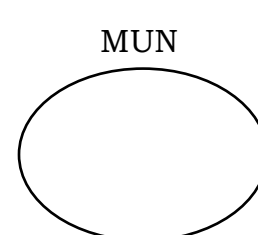
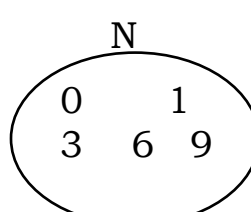
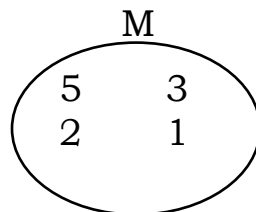
Set R Union Set S = { }

2.  $X = \{a, e, i, o, u\}$

$Y = \{a, b, c, d, e, f\}$

$X \cup Y = \{ \}$

3.



### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 3:

#### INTERSECTING SETS

*Definition:* These are sets which have common members.

##### Example 1

$$D = \{0, 2, 4, 6, 8, 10\}$$

$$E = \{0, 1, 2, 3, 4, 6\}$$

Set **D** and **E** are intersecting sets.

Therefore set **D** intersection set E ( $D \cap E$ )

$$D \cap E = \{0, 2, 4, 6\}$$

##### **Example 2**

Given that

$$A = \{e, o, w\} \quad B = \{c, a, t\}$$

$$A \cap B = \{C\}$$

Set D and E are intersecting sets.

Therefore set **D** intersection set E ( $D \cap E$ )

$$\underline{D \cap E = \{0, 2, 4, 6\}}$$

##### **Example 2**

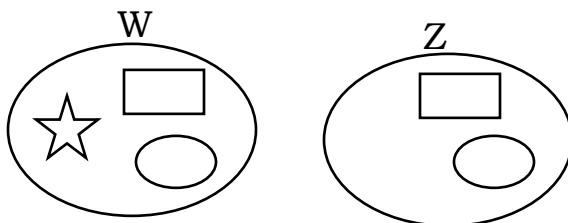
Given that

$$A = \{e, o, w\} \quad b = \{e, a, t\}$$

$$\underline{A \cap B = \{c\}}$$

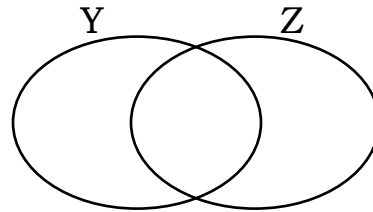
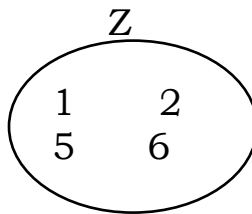
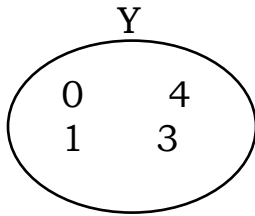
#### Exercise

- Workout the following correctly.



2.  $P = \{p, e, n, c, i, l\}$   $Q = \{p, e, n, n, y\}$

$$P \cap Q = \{ \quad \}$$



4.  $A = \{s, u, d, a, n\}$   
 $B = \{u, g, a, n, d, a\}$   
Find  $A \cap B$

5.  $X = \{a, b, c, d, e, f\}$   
 $Y = \{a, e, i, o, u\}$   
Find  $X \cap Y$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

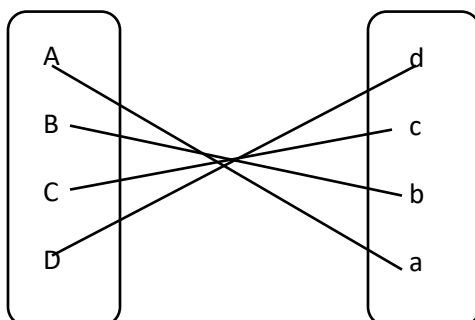
Way forward: \_\_\_\_\_

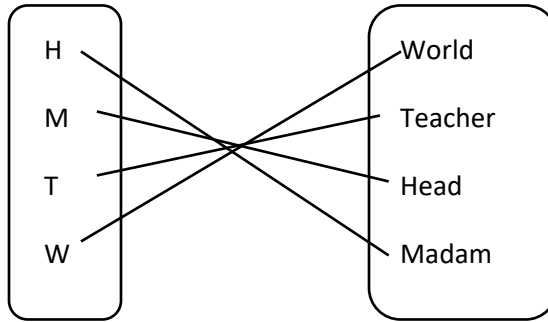
### LESSON 4

#### MATCHING AND NON MATCHING SETS

*Definition:* Matching sets are sets which have the same number of members.

#### Example 1



Example 2

**Note:** Same sets match according to their relationship.

**Exercise**

Match the following sets.

1.

Johan

Mercy

Dove

Goat

Mango

Fruit

Bird

Animal

Boy

Girl

2.

$$2 + 1$$

$$2 + 3$$

$$2 + 5$$

$$2 + 7$$

7

9

5

3

3.

10

6

4

8

7

Four

Eight

Seven

Six

Ten

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

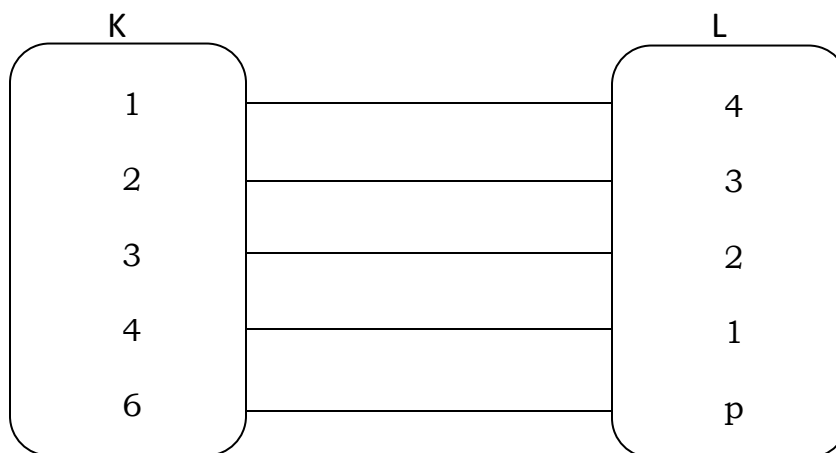
Way forward: \_\_\_\_\_

### Lesson 5

#### **NON MATCHING SETS**

*Definition:* Non matching sets are sets which do not have the same number of members.

#### Example 1



Set K and L are non matching sets.

### Example 2



- Set W has 3 members.
- Set X has 3 members.
- Set W and X are non matching sets

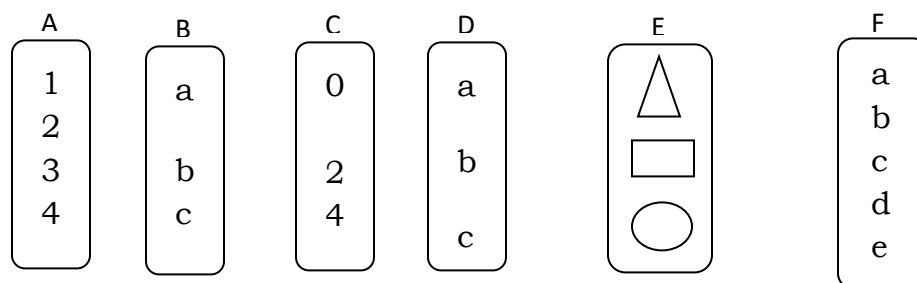
### Exercise

Work out the following correctly.

- Set P = {1, 2, 3, 4, 5, 6}  
Set Q = {7, 8, 9, 10, 11}

- Set P has \_\_\_\_\_ members.
- Set Q has \_\_\_\_\_ members.
- Set Q and P are \_\_\_\_\_ sets.

- Write matching sets, non matching sets or equal sets



- Set A and set B are \_\_\_\_\_
- Set A and set C are \_\_\_\_\_
- Set A and set D are \_\_\_\_\_
- Set B and set C are \_\_\_\_\_
- Set B and set D are \_\_\_\_\_
- Set C and set E are \_\_\_\_\_
- Set E and F are \_\_\_\_\_



## Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

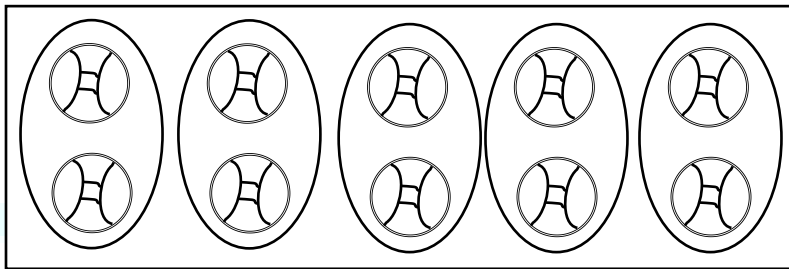
Way forward: \_\_\_\_\_

## LESSON 6

### GROUPING MEMBERS IN A SET

#### Example 1

Grouping members in twos and threes



There are 5 groups of 2 balls.

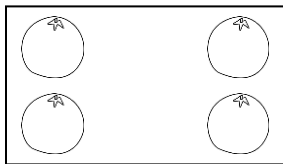
There are 10 balls altogether.



There are 3 groups of 3 bananas on a cluster.

There are 9 bananas altogether.

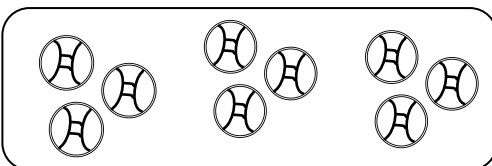
#### Exercise



There are \_\_\_\_\_ groups of 2 oranges.

There are \_\_\_\_\_ oranges altogether.

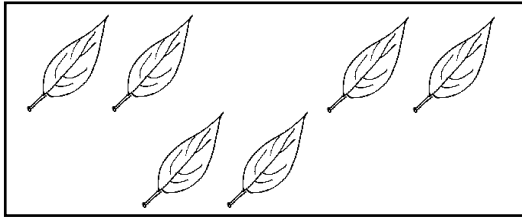
2.



There are \_\_\_\_\_ groups of 3 balls.

There are \_\_\_\_\_ balls altogether.

3.



There are \_\_\_\_\_ groups of two leaves.

There are \_\_\_\_\_ leaves altogether.

### Self Evaluation

Strong points: \_\_\_\_\_

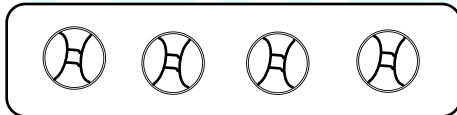
Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

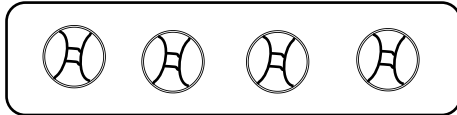
### Lesson 7

#### GROUPING IN FOUR AND FIVES

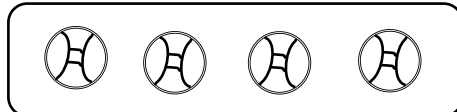
##### Example 1



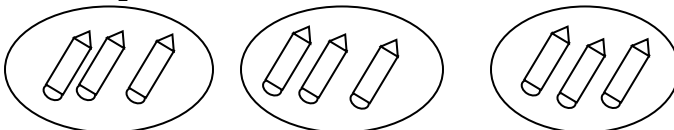
There are 3 groups of 4 balls.



There are 12 balls altogether.



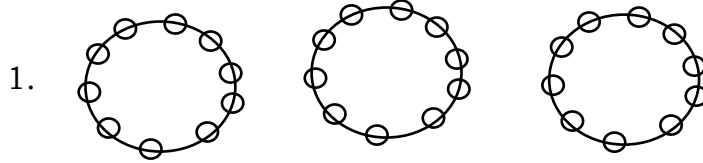
##### Example 2



There are 3 groups of 3 sticks.

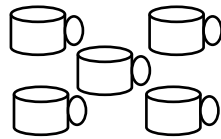
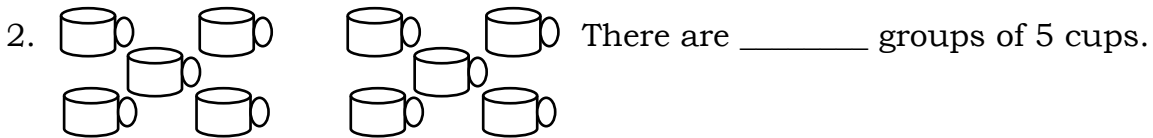
There are 9 sticks altogether.

### Exercise



There are \_\_\_\_\_ groups of 10 beads.

There are \_\_\_\_\_ beads altogether.



There are \_\_\_\_ cups altogether.

### ***Self evaluation***

Strong point: \_\_\_\_\_

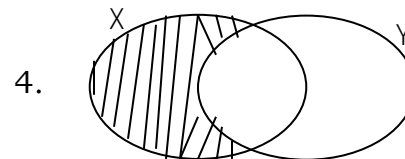
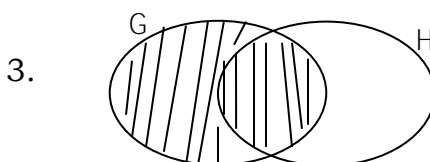
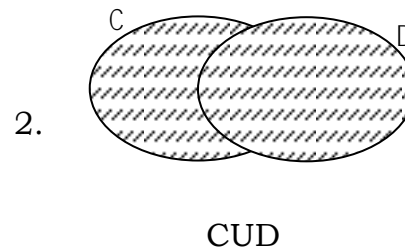
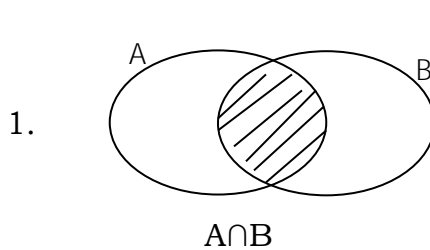
Weak point: \_\_\_\_\_

Way forward: \_\_\_\_\_

### **Lesson 8**

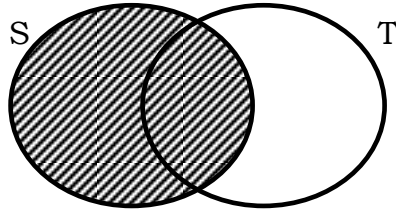
#### **Shading venn diagrams/Describing venn diagrams**

#### ***Examples***



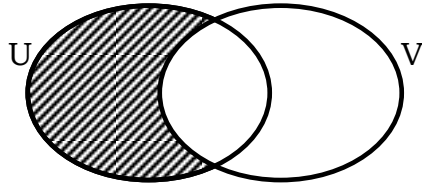
Set G

4.



Set X only

Set T

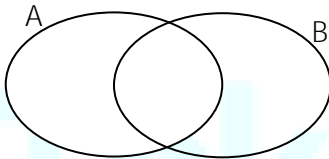


Set V only

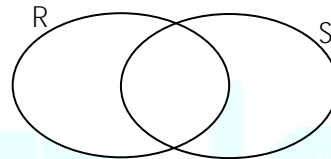
### Exercise

1. Shade the following regions

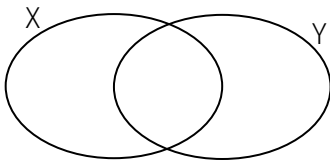
a)  $A \cup B$



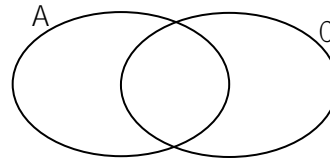
b)  $R \cup S$



c)  $X \cup Y$

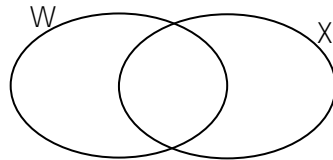


d)  $A \cup C$



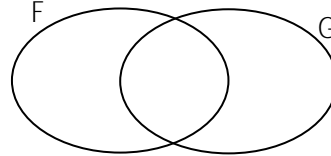
2. Describe the shaded regions.

i)



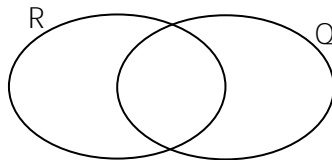
\_\_\_\_\_

ii)



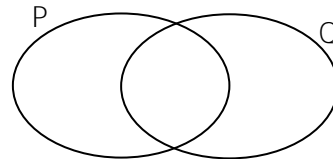
\_\_\_\_\_

iii)



\_\_\_\_\_

iv)



\_\_\_\_\_

## Self Evaluation

Strong points: \_\_\_\_\_

Weak Point: \_\_\_\_\_

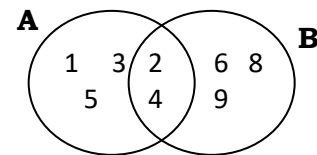
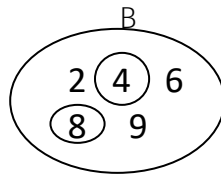
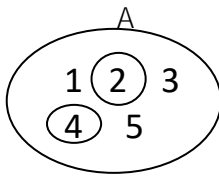
Way forward: \_\_\_\_\_

## Week 3

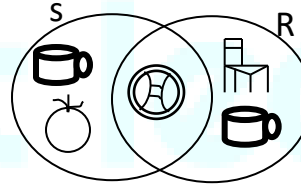
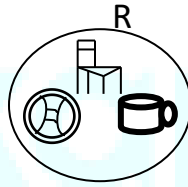
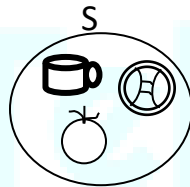
### Lesson 1:

### Representing members on a venn diagram

#### Examples 1



#### **Example 2**



#### **Example 3**

$$P = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$Q = \{2, 4, 6, 8, 10, 12\}$$

Represent the above information on the venn diagram below.

i) Find  $M \cap Q = \{2, 4, 6, 8\}$

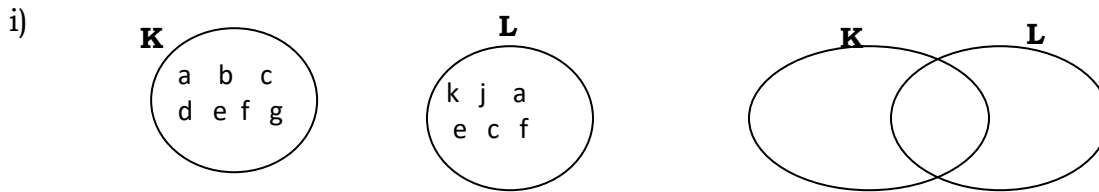
ii)  $PUQ = \{1, 2, 3, 4, 5, 6, 7, 8, 10, 12\}$

iii) Set P only =  $\{1, 3, 5, 7\}$

iv) Set Q only =  $\{10, 12\}$

### Exercise

Workout the following correctly.



2.  $S = \{\text{boy, cow, girl, man}\}$

$T = \{\text{woman, pen, boy, cow, cat}\}$

Put the above information on the venn diagram.

3.  $X = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

$Y = \{2, 3, 5, 7, 9, 11\}$

Draw a venn diagram to show the above information.

4. Given that  $A = \{a, b, c, d, e, f, g\}$  and  $B = \{a, e, i, o, u\}$

Put the information above on the venn diagram.

### Self evaluation

Strong pints: \_\_\_\_\_

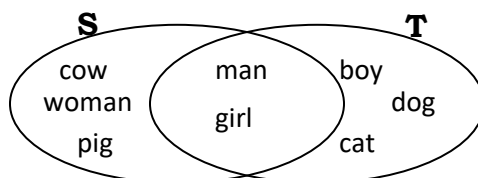
Weak point: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 2

Interpreting information on venn diagram

#### Example 1



List members of:

a) Set S = cow, man, woman, girl, pig

b) Set T = {man, boy, cat, girl, dog}

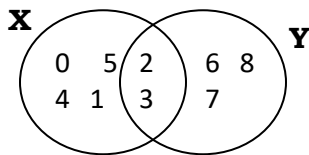
c)  $S \cap T = \{\text{girl, man}\}$ 

d)  $S \cup T = \{\text{cow, boy, cat, dog, girl, man, woman, pig}\}$ 

e) Set S only = {cow, woman, pig}

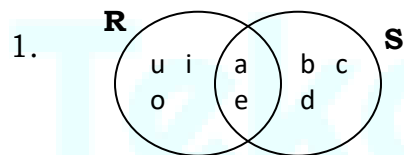
f) Set T only = {boy, cat, dog}

### Example 2


i) Find  $X \cap Y = \{2, 3\}$ 

ii)  $X \cup Y = \{0, 1, 2, 3, 4, 5, 6, 7, 8\}$ 
 $n(X) = \{0, 1, 2, 3, 4, 5\} = \underline{6 \text{ members}}$ 

### Exercise

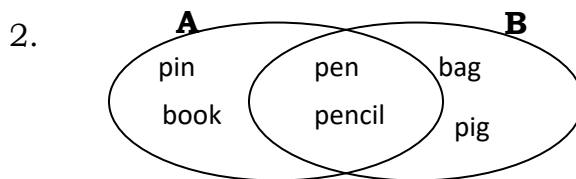


a) Find:

i)  $R \cap S$ 

ii)  $R \cup S$ 

iii) Set S only



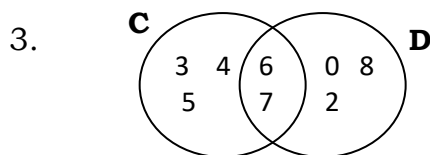
a) Find:

i)  $A \cap B$ 

ii)  $A \cup B$ 

iii) Set A

iv) Set B



a) Find:

i)  $C \cap D$ 

ii)  $C \cup D$ 

iii) Set D

iv) Set C      iv) Set C only

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 3*****Finding number of members in the given sets******Example 1***If set  $A = \{1, 2, 3, 4, 6, 8\}$ 

How many members are in set A?

**Solution**Six members or  $n(A) = 6$ ***Example 2***Given that  $P = \{0, 2, 4, 6, 8, 10, 12\}$ Find  $n(P)$ **Solution** $N(P) = 7$  members***Example 3***i) Find  $n(D)$   $D = \{1, 2, 5, 6, 7\}$   
 $= 5$  membersii) Find  $n(D)$  only  
 $= \{5, 6, 7\}$   
 $n(D)$  only  $= 3$  membersiii)  $n(D \cap E)$  $D \cap E = \{1, 2\}$  $n(D \cap E) = 2$  members**Exercise**

Find the number of members in the sets below.

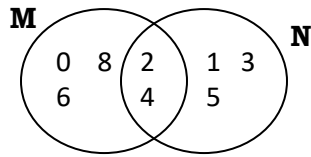
1.  $B = \{3, 6, 9, 12, 15\}$ . How many members are in set B?2. If  $R = \left\{ \text{leaf}, \text{wheel}, \triangle, \square \right\}$  Find  $n(R)$ 3. 

1, 3, 5
7, 9, 11
13

 How many members are in set W?



4. Use the venn diagram below and answer the questions about it.



a) How many Members are in set m?

b) How many elements are in:

i)  $n(M \cap N) =$       ii)  $n(M \cup N) =$       iii)  $n(N)$  only =

### Self evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 4

#### Revision work about sets

### Lesson 5

#### THEME TWO

#### Reading and filling in the missing numbers

10, 11, 12, 13, \_\_\_\_, \_\_\_\_, 16, 17, \_\_\_\_, \_\_\_\_, 20.

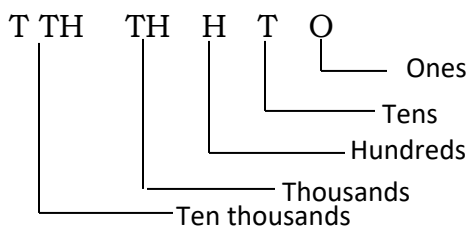
42, 44, 46, 48, \_\_\_\_, 52, 54, 56, \_\_\_\_, \_\_\_\_,

81, 82, 83, 84, \_\_\_\_, \_\_\_\_, \_\_\_\_, 88, \_\_\_\_, 90,

261, 262, \_\_\_\_, \_\_\_\_, 266, 267, \_\_\_\_, \_\_\_\_, 270.

401, 402, 403, \_\_\_\_, \_\_\_\_, \_\_\_\_, 407, 408, \_\_\_\_, 410

#### PLACE VALUES



### Example 1

Find the place value of each digit in the numbers below.

3	6
T	O
Tens	
One	

4	5	0	3
TH	H	T	O
4	5	0	3
Thousands		Ones	
Hundreds		Tens	

### Exercise

Find the place value of each digit in the numbers below.

1. 64

5. 734

2. 795

6. 7348

3. 571

7. 2506

4. 6104

8. 238

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 6

#### Finding the place value of underlined digits

#### Examples 1

Find the place value of the underlined digits

a) 25

b) 5628

2 5  
|  
Ones

5 6 2 8  
|  
Hundreds

*Examples 2*

Fill in the missing numbers

- a)  $421 = \underline{4}$  hundreds  $\underline{2}$  tens  $\underline{1}$  ones
- b)  $4309 = \underline{4}$  thousands  $\underline{3}$  hundred  $\underline{0}$  tens  $\underline{9}$  ones
- c)  $246 = \underline{2}$  hundreds  $\underline{4}$  tens  $\underline{6}$  ones

*Exercise*

Fill in the missing numbers

1.  $24 = \underline{\quad}$  tens  $\underline{\quad}$  ones
2.  $603 = \underline{\quad}$  hundreds  $\underline{\quad}$  tens  $\underline{\quad}$  ones
3.  $946 = \underline{\quad}$  hundreds  $\underline{\quad}$  tens  $\underline{\quad}$  ones
4.  $3965 = \underline{\quad}$  thousands  $\underline{\quad}$  hundreds  $\underline{\quad}$  tens  $\underline{\quad}$  ones
5.  $246 = \underline{\quad}$  thousands  $\underline{\quad}$  hundreds tens  $\underline{\quad}$  ones
6.  $437 = \underline{\quad}$  hundreds  $\underline{\quad}$  tens  $\underline{\quad}$  ones
7.  $868 = \underline{\quad}$  hundreds  $\underline{\quad}$  tens  $\underline{\quad}$  ones
8.  $9634 = \underline{\quad}$  thousands  $\underline{\quad}$  hundreds  $\underline{\quad}$  tens  $\underline{\quad}$  ones

***Self Evaluation***

Strong Points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

***Lesson 7******Filling in the correct numbers****Examples 1*

3 hundred 5 tens 2 ones = 352

*Examples 2*

4 thousands 3 hundreds 3 tens 6 ones = 4336

### Exercise

Fill in the missing numbers correctly

1. 2 hundreds 2 tens 8 ones
2. 6 hundreds 0 tens 4 ones
3. 4 hundreds 2 tens 4 ones
4. 9 thousands 6 hundreds 9 tens 4 ones
5. 5 thousands 7 hundreds 3 tens 6 ones
6. 8 hundreds 3 tens 5 ones
7. 9 hundreds 7 tens 6 ones
8. 3 thousands 2 hundreds 3 tens 8 ones

### Self Evaluation

Strong point: \_\_\_\_\_

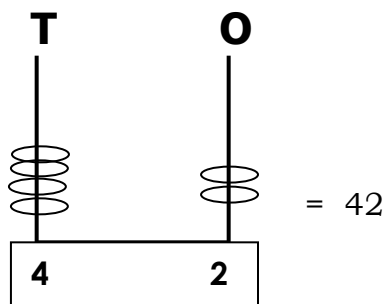
Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

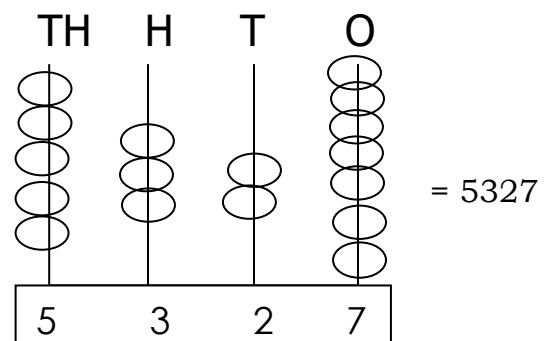
### Lesson 8

#### Writing the numbers shown on the abacus

Example 1

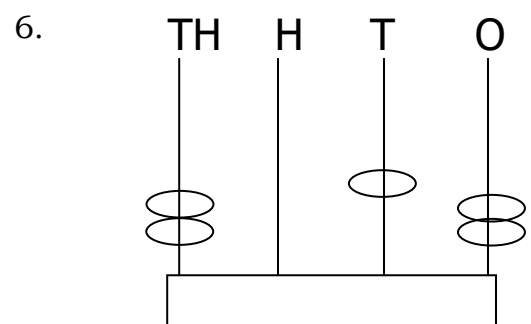
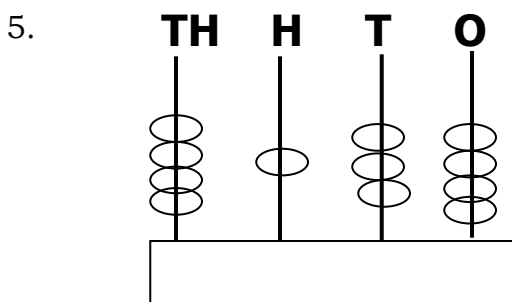
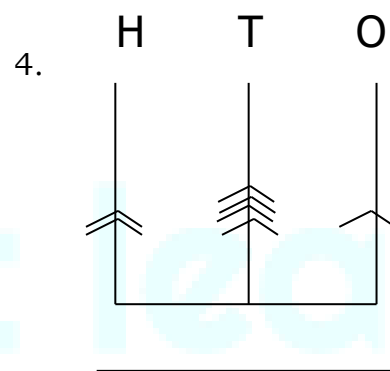
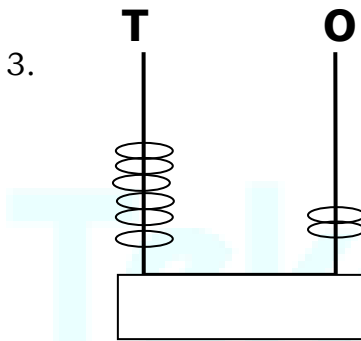
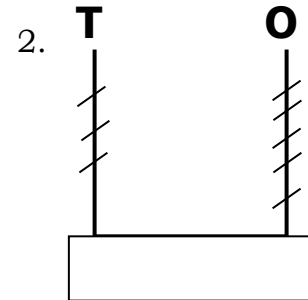
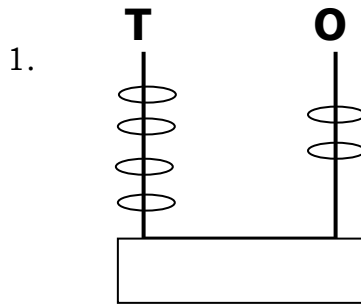


Example 2



## Exercise

Write the numbers shown on the abacus.



## Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

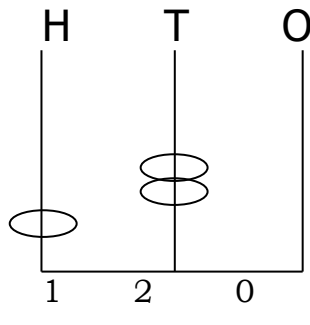
Way forward: \_\_\_\_\_

**Week 4**  
**Lesson 1**

**Showing numbers on the abacus**

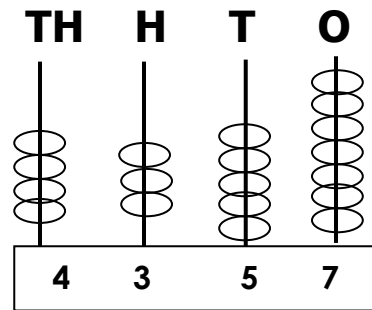
*Example 1*

123



*Example 2*

4357



*Exercise*

Show the numbers below on an abacus.

- 1) 407      2) 6173      3) 43      4) 3269      5) 634  
6) 468      7) 404      8) 530

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

## Lesson 2

### Values

Find the value of each digit in the number below.

Example 1

29

T	O
2	9

$$9 \times 1 = 9$$

$$2 \times 10 = 20$$

Example 2

3 8 5

H	T	O
3	8	5

$$5 \times 1 = 5$$

$$8 \times 10 = 80$$

$$3 \times 100 = 300$$

### Exercise

Find the value of each digit in the numbers below.

- |        |         |         |
|--------|---------|---------|
| 1. 96  | 4. 975  | 7. 2049 |
| 2. 278 | 5. 4975 | 8. 726  |
| 3. 534 | 6. 278  | 9. 70   |

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

## Lesson 3

### Finding the value of the identified digits

#### Example 1

Find the value of the underlined digits below

a) 375

3	7	5
H	T	O

$$V = D \times PV$$

$$V = 7 \times 10$$

$$\underline{V = 70}$$

b) 3269

TH	H	T	O
3	2	6	9

$$V = D \times PV$$

$$V = 2 \times 100$$

$$\underline{V = 200}$$

### Exercise

1. Find value of 3 in the numbers below.

a) 23                      c) 439                      e) 3475

b) 32                      d) 3847                      f) 9653

2. Workout the value of the underlined digits in the figures.

a) 49                      b) 236                      c) 124                      d) 724

e) 567                      f) 892                      g) 4562                      h) 9758

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 4

#### Expanding numbers

##### Examples 1

Write the following numbers in expanded form

a) 25

T	O
2	5

$$(2 \times 10) + (5 \times 1)$$

$$\underline{20 + 5}$$



b) 4345

TH	H	T	O
4	3	4	5

$$= (4 \times 1000) + (3 \times 100) + (4 \times 10) + (5 \times 1)$$

$$= \underline{4000 + 300 + 40 + 5}$$

### Exercise

Write the following numbers in expanded form

1. 53

5. 9264

7. 345

2. 565

6. 6095

8. 732

3. 717

11. 3467

9. 8385

4. 962

11. 3467

12. 1343

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 5

Writing the numbers which have been expanded

Write the following numbers in short.

### Example 1

a)  $30 + 6$ 

b)  $5000 + 400 + 30 + 6$ 
soln:

$$\begin{array}{r} 30 + 6 \\ 30 \\ + 6 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 5000 + 400 + 30 + 6 \\ 5000 \\ 400 \\ 30 \\ + 6 \\ \hline 5436 \end{array}$$

### Exercise

Write the following numbers in short.

1.  $30 + 4$

7.  $800 + 60 + 40$

2.  $300 + 10 + 8$

8.  $700 + 70 + 7$

3.  $900 + 60 + 4$

9.  $1000 + 900 + 6$

4.  $5000 + 200 + 4$

10.  $900 + 70 + 8$

5.  $6000 + 5$

11.  $3000 + 200 + 4$

6.  $9000 + 400 + 30 + 1$

12.  $200 + 40 + 3$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

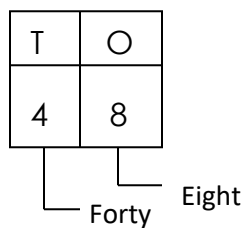
### Lesson 6

#### Writing numbers in words

Example 1

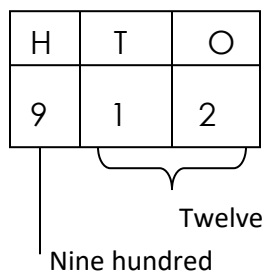
Write these numerals in words.

a) 48



forty eight

b) 912



Nine hundred twelve

1. Write the following in words.

- |       |       |       |         |
|-------|-------|-------|---------|
| a) 1  | f) 15 | k) 20 | p) 100  |
| b) 11 | g) 16 | l) 30 | q) 1000 |
| c) 12 | h) 17 | m) 40 |         |
| d) 13 | i) 18 | n) 50 |         |
| e) 14 | j) 19 | o) 60 |         |

2. Write in words.

- |         |         |         |         |       |
|---------|---------|---------|---------|-------|
| a) 199  | c) 9625 | e) 7284 | g) 2001 | i) 96 |
| b) 6948 | d) 8762 | f) 424  | h) 2615 |       |

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 7****Writing numerals in figures***Examples 1*

Write two hundred twelve in figures

Two hundred = 200

Twelve = 
$$\begin{array}{r} + 12 \\ 200 \\ \hline \end{array}$$
= 212

**Example 2**

Write eight thousand, nine hundred eight in figures.

$$\begin{array}{rcl} \text{Eight thousand} & = & 8,000 \\ \text{Nine hundred} & = & 900 \\ \text{Eight} & + & 8 \\ \hline & & 8,908 \\ & = & \underline{8,908} \end{array}$$

**Exercise**

Write the following in figures

1. Two hundred thirty four
2. Ninety six
3. One thousand ninety six
4. Six hundred four
5. Four hundred ninety three
6. Eight thousand eight hundred eighty eight.

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

## Lesson 8

### Roman numerals

Writing numbers in Roman numerals

1	___	I
2	___	II
3	___	III
4	___	IV
5	___	V
6	___	VI
7	___	VII
8	___	VIII
9	___	IX
10	___	X
11	___	XI
12	___	XII
13	___	XIII
14	___	XIV
15	___	XV
16	___	XVI
17	___	XVII
18	___	XVIII
19	___	XIX
20	___	XX

30	___	XXX
40	___	XL
50	___	L
60	___	LX
70	___	LXX
80	___	LXXX
90	___	XC
100	___	C
200	___	CC
300	___	CCC
400	___	CD
500	___	D

*Example 1*

a)  $25 = 20 + 5$   
 $= \text{xx} + \text{v}$   
 $= \text{x x v}$

b)  $85 = 80 + 5$   
 $= \text{LXXX} + \text{V}$   
 $= \text{LXXXV}$

**Exercise**

Write the following in Roman numerals.

- |        |         |
|--------|---------|
| 1. 5   | 7. 42   |
| 2. 6   | 8. 48   |
| 3. 51  | 9. 87   |
| 4. 97  | 10. 34  |
| 5. 952 | 11. 39  |
| 6. 123 | 12. 246 |

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Week 5****Lesson 1***Writing Roman numerals in Hindu – Arabic numerals*

Example 1

$$\begin{aligned} \text{XXVI} &= \text{XX} + \text{VI} \\ &= 20 + 6 \\ &= \underline{\underline{26}} \end{aligned}$$

**Example 2**

$$\begin{aligned} \text{XLIX} &= \text{XL} + \text{IX} \\ &= 40 + 9 \\ &= \underline{\underline{49}} \end{aligned}$$

**Exercise**

Write the following in Hindu - Arabic numerals.

- |           |           |
|-----------|-----------|
| 1. XVI    | 7. XCVII  |
| 2. XLV    | 8. LXIX   |
| 3. XXXIX  | 9. XCIX   |
| 4. CDV    | 10. CCIX  |
| 5. LXXXIV | 11. XIX   |
| 6. CCCVII | 12. LXXXV |

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 2****Application of Roman numerals***Example 1*

Janet got 20 books. Express her number of books in Roman numerals.

20 = XX books

*Example 2*

Joan got 30 pens, Jesca got 68 pens

Express their total number of pens in Roman numerals.

30 + 68 = 98

98 = 90 + 8  
= XC + VIII = XCVIII pens

*Exercise*

1. Annet had 32 mangoes, she picked 17 more mangoes, how many mangoes did she have altogether?  
Express your answer in Roman numerals.
2. Judith made 24 pan cakes, her friend gave him 30 more pan cakes.  
Express her total number of pan cakes in roman numerals.
3. Acen picked 40 guavas and Acan picked 37. Express their total number of guavas in Roman numerals.

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 3****THEME:** Operation on numbers**Sub theme:** Addition*Addition of numbers without carrying**Example 1*

Add the following numbers correctly.

$$\begin{array}{r} \text{a) } 60 + 24 \\ 60 \\ + 24 \\ \hline 84 \end{array}$$

$$\begin{array}{r} \text{b) } 312 + 43 \\ 312 \\ + 43 \\ \hline 355 \end{array}$$

Add the following numbers correctly.

$$\begin{array}{r} \text{1) } 13 \\ + 24 \\ \hline \end{array}$$

$$\begin{array}{r} \text{2) } 20 \\ + 22 \\ \hline \end{array}$$

$$\begin{array}{r} \text{3) } 40 \\ + 45 \\ \hline \end{array}$$



$$\begin{array}{r} 4) \quad 4 \quad 0 \\ + 3 \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 3 \quad 6 \\ + 2 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 2 \quad 7 \\ + 3 \quad 2 \\ \hline \end{array}$$

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 4****Addition of numbers with carrying***Examples 1*

$$\begin{array}{r} \text{a)} \quad 2 \quad 4 \\ + 7 \quad 6 \\ \hline 10 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b)} \quad 8 \quad 6 \\ + 7 \quad 8 \\ \hline 16 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c)} \quad 3 \quad 6 \\ + 4 \quad 6 \\ \hline 8 \quad 2 \\ \hline \end{array}$$

**Exercise**

Add the following numbers correctly.

$$\begin{array}{r} 1) \quad 3 \quad 8 \\ + 8 \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 4 \quad 9 \\ + 3 \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 5 \quad 9 \\ + 8 \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 8 \quad 9 \\ + 3 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 9 \quad 7 \\ + 3 \quad 6 \\ \hline \end{array}$$

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 5****Application of word questions***Example 1*

Margaret had 42 oranges. She picked 27 more oranges. How many oranges did she have altogether?

Margaret has 42 oranges  
She picked + 27 oranges  
69 oranges

*Examples 2*

Juma had 158 books, he got 89 more. How many books did he have altogether?

Before 158 books  
He got + 89 books  
247 books

*Exercise*

1. Akello picked 60 guavas and Okello picked 73 guavas. How many guavas did they pick altogether?
2. Okumu had 65 goats, his brother had 31 goats. How many goats did they have altogether?
3. Wasswa collected 32 bottle tops and Nakate collected 48 tops. How many bottle tops did they collect altogether?
4. A trader bought 294 turkeys and bought 164 more turkeys. How many turkeys did she buy altogether?
5. Joy had 508 bags of sorghum. She bought 396 more bags. How many bags did she have?
6. A farmer has 194 cows and 94 sheep. How many animals does he have altogether?

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

## Lesson 6

### Subtraction of numbers without borrowing

Example 1

$$\begin{array}{r} 24 \\ - 13 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 57 \\ - 21 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 9756 \\ - 434 \\ \hline 9322 \end{array}$$

### Exercise

$$\begin{array}{r} 1) \quad 46 \\ - 24 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 79 \\ - 53 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 65 \\ - 33 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 648 \\ - 42 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 34 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 9999 \\ - 838 \\ \hline \end{array}$$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

## Lesson 7

### Subtraction with borrowing

Example 1

$$\begin{array}{r} 1 \quad 12 \\ 2 \quad 2 \quad 7 \\ - 3 \quad 5 \\ \hline 1 \quad 9 \quad 2 \end{array}$$

$$\begin{array}{r} 5 \quad 13 \\ 4 \quad 6 \quad 3 \\ - 1 \quad 3 \quad 9 \\ \hline 3 \quad 2 \quad 4 \end{array}$$

### Exercise

Workout the following

$$\begin{array}{r} 1) \quad 263 \\ - 49 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 123 \\ - 44 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 238 \\ - 66 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 3 \ 3 \ 8 \\ \quad \underline{6 \ 5} \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 3 \ 8 \ 2 \\ \quad \underline{6 \ 8} \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 8 \ 1 \ 2 \\ \quad \underline{6 \ 3 \ 6} \\ \hline \end{array}$$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 8

#### Word statements involving subtraction

##### Example 1

There were 36 mangoes in a basket, 23 of them got rotten. How many mangoes are still good?

Solution

$$\begin{array}{r} \text{Before} \quad 3 \ 6 \text{ mangoes} \\ \text{Rotten} \quad \underline{2 \ 3 \text{ mangoes}} \\ \quad \quad \underline{1 \ 3} \\ \hline \quad \quad = \underline{\underline{13 \text{ mangoes}}} \end{array}$$

##### Example 2

Take away 63 from 95

**Soln.**

$$\begin{array}{r} 9 \ 5 \\ \underline{6 \ 3} \\ 3 \ 2 \end{array}$$

##### Example 3

What is the difference between 854 and 285?

Soln.

$$\begin{array}{r} 8 \ 5 \ 4 \\ \underline{2 \ 8 \ 5} \\ 5 \ 6 \ 9 \end{array} = \underline{\underline{569}}$$

**Exercise**

1. Samuel had 43 cows, he sold off 23. Find the number of cows which remained after selling?
2. A farm has 58 goats. If 43 goats were sold, how many goats remained?
3. Take away 96 from 322.
4. What is the difference between 446 and 309?
5. Remove 83 from 159.
6. Kalema has 800 shillings, he gave his friend Juma shillings 450. How much money did he remain with?
7. Mwesigye had 214 books, he sold 174 of them. How many books remained?

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Week 6****Lesson 1**Multiplication of numbers by 2 without carrying**Example 1**

$1 \times 2 = 2$

$2 \times 4 = 8$

$9 \times 4 = 36$

$8 \times 2 = 16$

$$\begin{array}{r} 40 \\ \times 2 \\ \hline 80 \end{array}$$

$$\begin{array}{r} 43 \\ \times 2 \\ \hline 86 \end{array}$$

$$\begin{array}{r} 304 \\ \times 2 \\ \hline 608 \end{array}$$

**Exercise**

Workout the following:

$$\begin{array}{r} 1) \quad 32 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 44 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 32 \quad 1 \\ \times 3 \\ \hline \end{array}$$

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 2****Multiplication of numbers by 2 with carrying***Example 1*

$$\begin{array}{r} 49 \\ \times 2 \\ \hline 98 \end{array}$$

$$\begin{array}{l} 9 \times 2 = 18 \\ 4 \times 2 = 8 + 1 \\ = 9 \end{array}$$

$$\begin{array}{r} 45 \\ \times 2 \\ \hline 90 \end{array}$$

$$\begin{array}{l} 5 \times 2 = 10 \\ 4 \times 2 = 8 + 1 \\ = 9 \end{array}$$

**Exercise**

Workout the following:

$$\begin{array}{r} 1) \quad 68 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 69 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 88 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 87 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 245 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 656 \\ \times 2 \\ \hline \end{array}$$

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 3****Multiplication of numbers by 3 and 4 with or without carrying***Example 1*

$$\begin{array}{r} a) \quad 24 \\ \times 3 \\ \hline 72 \end{array}$$

$$\begin{array}{l} 4 \times 3 = 12 \\ 2 \times 3 = 6 + 1 \\ = 7 \end{array}$$

$$\begin{array}{r} b) \quad 26 \\ \times 4 \\ \hline 104 \end{array}$$

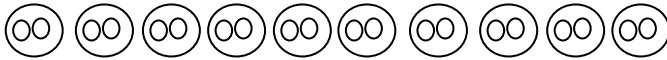
$$\begin{array}{l} 6 \times 4 = 24 \\ 2 \times 4 = 8 + 2 \\ = 10 \end{array}$$

## MULTIPLICATION OF NUMBERS

### GROUPING



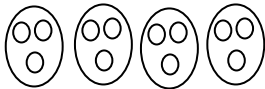
6 groups of 2 = 12



10 groups of 2 = 20

$$10 \times 2 = 20$$

$$4 \text{ groups of } 3 = 12$$



$$4 \times 3 = 12$$

Multiplying numbers using repeated addition

$$4 \times 2 = 8$$

$$4 \text{ groups of } 2 = \begin{array}{c} 2 \\ \circ \end{array} + \begin{array}{c} 2 \\ \circ \end{array} + \begin{array}{c} 2 \\ \circ \end{array} + \begin{array}{c} 2 \\ \circ \end{array}$$

$$3 \times 5 = 15$$

$$3 \text{ groups of } \begin{array}{c} 5 \\ \circ \circ \circ \end{array} = \begin{array}{c} 5 \\ \circ \circ \circ \end{array} + \begin{array}{c} 5 \\ \circ \circ \circ \end{array} + \begin{array}{c} 5 \\ \circ \circ \circ \end{array}$$

### Exercise

Workout the following numbers

$$\begin{array}{r} 1) \quad 1 \quad 3 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 4 \quad 9 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 4 \quad 6 \quad 3 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 2 \quad 0 \quad 5 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 2 \quad 5 \quad 3 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 2 \quad 1 \quad 5 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7) \quad 4 \quad 4 \quad 2 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8) \quad 2 \quad 7 \quad 4 \\ \times \quad 4 \\ \hline \end{array}$$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 4****Word problems involving multiplication by 3 and 4****Example 1**

One picture book has 48 pages. How many pages do 3 similar books have?  
Soln.

$$\begin{array}{r} 48 \\ \times 3 \\ \hline 144 \end{array}$$

$$\begin{aligned} 8 \times 3 &= 24 \\ 4 \times 3 &= 12 \times 2 \\ &= 24 \end{aligned}$$

= 144 pages**Example 2**

Joana sells 124 litres of milk every day. How many litres does she sell in 4 days?

Soln.

$$\begin{array}{r} 124 \\ \times 4 \\ \hline 496 \text{ litres} \end{array}$$

$$\begin{aligned} 4 \times 4 &= 16 \\ 2 \times 4 &= 8 + 1 \\ 1 \times 4 &= 4 \\ &= 496 \text{ litres} \end{aligned}$$

**Exercise**

1. How many wheels are there on 36 cars, if one car has 4 wheels?
2. The teacher gave each child in class 4 books. How many books were given to a class of 48 children?
3. Hormisdallen School – Kyebando uses 348kg of maize flour in a week. How many kilograms does the school use in 4 weeks?
4. An Omni bus carries 36 passengers. How many passengers are carried by 4 same Omni bus?
5. Akello's family uses 69 litres of milk in one week. How many litres of milk will the family use in 4 weeks?

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_



Way forward: \_\_\_\_\_

**Lesson 5****Multiplication of numbers by 5 and 6 with or without carrying**

Example 1

$$\begin{array}{r} 1) \quad 1 \ 0 \\ \times \ 5 \\ \hline 5 \ 0 \end{array}$$

$$\begin{array}{r} 2) \quad 1 \ 9 \\ \times \ 5 \\ \hline 9 \ 5 \end{array}$$

$$\begin{array}{r} 3) \quad 1 \ 6 \\ \times \ 6 \\ \hline 9 \ 6 \end{array}$$

$$\begin{array}{r} 4) \quad 4 \ 6 \\ \times \ 6 \\ \hline 2 \ 7 \ 6 \end{array}$$

**Exercise**

Workout the following

$$\begin{array}{r} 1) \quad 3 \ 4 \\ \times \ 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 3 \ 9 \\ \times \ 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 6 \ 4 \\ \times \ 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 6 \ 4 \ 6 \\ \times \ 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 7 \ 6 \\ \times \ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 8 \ 9 \\ \times \ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7) \quad 6 \ 7 \\ \times \ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8) \quad 8 \ 6 \\ \times \ 6 \\ \hline \end{array}$$

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 6****Word problems involving multiplication by 5 and 6**

Example 1

What is the product of 38 and 6?

Soln.

$$\begin{array}{r} 3 \ 8 \\ \times \ 6 \\ \hline 2 \ 2 \ 8 \end{array}$$

$$\begin{aligned} 6 \times 8 &= 48 \\ 6 \times 3 &= 18 + 4 \\ &= 22 \\ &= \underline{\underline{228}} \end{aligned}$$

### Example 2

If Apio carried 28 books, how many books will five girlsf carry?

Soln.

$$\begin{array}{r} 28 \\ \times 5 \\ \hline 140 \end{array}$$

$$\begin{aligned} 5 \times 8 &= 40 \\ 5 \times 2 &= 10 + 4 \\ &= 14 \end{aligned}$$

$$= 140 \text{ books}$$

### Exercise

1. Multiply 138 by 6.
2. Find the product of 26 and 6.
3. Allan bought 6 books at 500 shillings each. How much did he pay?
4. A box contains 196 mangoes. How many mangoes can 6 boxes carry?
5. What is the product of 268 and 5?
6. Multiply 282 by 5.

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 7

#### Multiplication of numbers by 7, 8 and 9

##### Example 1

a) 
$$\begin{array}{r} 32 \\ \times 7 \\ \hline 224 \end{array}$$

$$\begin{aligned} 7 \times 2 &= 14 \\ 3 \times 7 &= 21 + 1 \end{aligned}$$

b) 
$$\begin{array}{r} 67 \\ \times 8 \\ \hline 536 \end{array}$$

$$\begin{aligned} 8 \times 7 &= 56 \\ 8 \times 6 &= 48 + 5 \\ &= 53 \end{aligned}$$

##### Example 1

$$\begin{array}{r} 18 \\ \times 8 \\ \hline 144 \end{array}$$

$$\begin{aligned} 8 \times 8 &= 64 \\ 8 \times 1 &= 8 + 6 \\ &= 14 \end{aligned}$$

### Exercise

Multiply the following correctly

$$\begin{array}{r} 1) \quad 4 \ 1 \\ \times \ 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 3 \ 2 \\ \times \ 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 1 \ 5 \\ \times \ 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 7 \ 4 \ 5 \\ \times \ 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 6 \ 5 \\ \times \ 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 6 \ 3 \\ \times \ 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7) \quad 7 \ 8 \\ \times \ 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8) \quad 5 \ 4 \\ \times \ 8 \\ \hline \end{array}$$

9. A loaf of breads costs sh. 800. If one buys 7 loaves of bread. How much money shall he pay?
10. Namboole stadium has 7 gates. If 300 people enter through each gate, how many people will enter in the stadium?

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 8

#### Multiplication of number by 10

##### Example 1

$$\begin{array}{r} 4 \ 2 \\ \times 1 \ 0 \\ \hline 4 \ 20 \end{array}$$

$$\begin{array}{r} 40 \ + \ 2 \\ \times \ 10 \\ \hline 400 \ + \ 20 \end{array}$$

$$\begin{array}{r} 2 \ 0 \\ + 4 \ 0 \ 0 \\ \hline 4 \ 2 \ 0 \end{array}$$

##### Example 2

$$\begin{array}{r} 2 \ 3 \ 4 \\ \times 1 \ 0 \\ \hline 2 \ 3 \ 4 \ 0 \end{array}$$

$$\begin{array}{r} 200 \ + \ 30 \ + \ 4 \\ \times \ 10 \\ \hline 2000 \ + \ 300 \ + \ 40 \end{array}$$

$$\begin{array}{r} 4 \ 0 \\ + 3 \ 0 \ 0 \\ \hline 2 \ 0 \ 0 \ 0 \\ 2 \ 3 \ 4 \ 0 \end{array}$$

## Exercise

Workout the following

$$\begin{array}{r} 1) \quad 2 \quad 4 \\ \times 1 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad 4 \quad 3 \\ \times 1 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad 2 \quad 6 \quad 4 \\ \times 1 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad 9 \quad 6 \\ \times 1 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad 4 \quad 2 \quad 6 \\ \times 1 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad 7 \quad 2 \quad 1 \\ \times 1 \quad 0 \\ \hline \end{array}$$

## Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

Week 7

Completing multiplication tables

## Lesson 1

Example

x	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2	4	6	8	10	12
3	3	6	9	12	15	18
4	4	8	12	16	20	24
5	5	10	15	20	25	30

$$1 \times 1 = 1$$

$$1 \times 2 = 2$$

$$1 \times 3 = 3$$

$$1 \times 4 = 4$$

$$1 \times 5 = 5$$

$$1 \times 6 = 6$$

$$3 \times 3 = 9$$

$$4 \times 4 = 16$$

$$5 \times 6 = 30$$

$$4 \times 2 = 8$$

### Exercise

Complete the tables below

1.

X	2	4
1		
3		
5		

2.

X	0	2	4
1			
3			
5			

$$1 \times 2 = 2$$

3.

X	1	2	3	4	5
3					
5					
8					
10					

4.

X	6	7	8
1			
2			
3			
4			

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 2

Division of numbers

Division of numbers by 2 and 3 without remainders

#### Example 1

Divide  $22 \div 2$

**Soln.**

$$\begin{array}{r}
 11 \\
 2 \overline{) 22} \\
 \underline{(1 \times 2)} \phantom{0} \\
 02 \\
 \underline{(1 \times 2)} \phantom{0} \\
 0
 \end{array}
 \quad
 \begin{array}{l}
 2 \div 2 = 1 \\
 2 \div 2 = 1 \\
 \underline{22 \div 2 = 11}
 \end{array}$$

### Example 2

Divide  $36 \div 3$

**Soln.**

$$\begin{array}{r} 12 \\ 3 \overline{) 36} \\ \underline{(1 \times 3) \phantom{0}} 36 \\ 06 \\ \underline{(3 \times 2) \phantom{0}} 6 \\ - \phantom{0} \end{array} \quad \begin{array}{l} 3 \div 3 = 1 \\ 6 \div 3 = 2 \end{array}$$

$$\underline{36 \div 3 = 12}$$

### Exercise

Workout the following:

$$1) \quad 2 \overline{) 24} \quad 2) \quad 2 \overline{) 68} \quad 3) \quad 2 \overline{) 28}$$

$$4) \quad 3 \overline{) 96} \quad 5) \quad 2 \overline{) 84} \quad 6) \quad 3 \overline{) 30}$$

$$7) \quad 3 \overline{) 36} \quad 8) \quad 3 \overline{) 69} \quad 9) \quad 3 \overline{) 54}$$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 3

Division of numbers by 2 and 3 with remainders

### Example 1

Divide  $7 \div 2$

$$\begin{array}{r} 3 \text{ remainder } 1 \\ 2 \overline{) 7} \\ \underline{(2 \times 3) \phantom{0}} 6 \\ 1 \phantom{0} \end{array} \quad 7 \div 2 = 3$$

$$\underline{7 \div 2 = 3 \text{ rem. } 1}$$

### Example 2

Divide  $7 \div 3$

$$\begin{array}{r} 05 \\ 3 \overline{) 17} \\ (3 \times 0) - \underline{0} \phantom{0} \\ 17 \\ - \underline{15} \\ 2 \end{array} \quad \begin{array}{l} 1 \div 3 = 0 \\ 17 \div 3 = 5 \end{array}$$

$$\underline{17 \div 3 = 5 \text{ rem. } 2}$$

### **Exercise**

Workout the following

$$1) \quad 2 \overline{) 9} \quad 2) \quad 2 \overline{) 13} \quad 3) \quad 2 \overline{) 15}$$

$$4) \quad 3 \overline{) 22} \quad 5) \quad 3 \overline{) 19} \quad 6) \quad 2 \overline{) 29}$$

### **Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

## **Lesson 4**

### **More about division by 2 and 4**

#### *Example 1*

Divide  $38 \div 2$

$$\begin{array}{r} 19 \\ 2 \overline{) 38} \\ \underline{2} \phantom{0} \\ 18 \\ - \underline{18} \\ 0 \end{array} \quad \text{II Divide } 60 \div 4 = 15$$

### **Exercise**

Workout the following

- 1)  $2 \overline{) 32}$       2)  $2 \overline{) 34}$       3)  $5 \overline{) 60}$
- 4)  $5 \overline{) 75}$       5)  $5 \overline{) 90}$       6)  $2 \overline{) 36}$
- 7)  $3 \overline{) 54}$       8)  $4 \overline{) 76}$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

Lesson of numbers by 6, 7, 8 and 9

#### Example 1

Divide 38 by 6.

$$\begin{array}{r} 6 \overline{) 38} \\ 6 \times 0 \quad - \underline{0} \downarrow \\ \quad \quad 38 \\ 6 \times 2 \quad - \underline{12} \downarrow \\ \quad \quad \quad 18 \\ 6 \times 3 \quad - \underline{18} \\ \quad \quad \quad = \underline{23} \end{array}$$

#### Example 2

Divide  $112 \div 7$

$$\begin{array}{r} 7 \overline{) 112} \\ (0 \times 7) \quad - \underline{0} \downarrow \\ \quad \quad 11 \\ (7 \times 1) \quad - \underline{07} \downarrow \\ \quad \quad \quad 42 \\ (7 \times 6) \quad - \underline{42} \\ \quad \quad \quad \quad - - \\ \quad \quad \quad \quad \underline{112 \div 7 = 16} \end{array}$$

$$\begin{array}{l} 1 \div 7 = 0 \\ 11 \div 7 = 1 \\ 42 \div 7 = 6 \end{array}$$

### Lesson 7

#### Word statements about division

1. Share 12 mangoes among three 3 children.  
How many mangoes does each child get?

Divide  $38 \div 2$

$$\begin{array}{r} 3 \overline{) 38} \\ (8 \times 0) \quad - \underline{0} \downarrow \\ \quad \quad 38 \\ (8 \times 2) \quad - \underline{16} \\ \quad \quad \quad 16 \\ 8 \times 2 \quad \underline{16} \\ \quad \quad \quad - - \\ \quad \quad \quad = \underline{22 \text{ books}} \end{array}$$

$$1 \div 8 = 0$$

$$17 \div 8 = 2$$

$$16 \div 8 = 2$$



### Exercise

1. Divide 145 by 5
2. Share 24 balls among 4 schools. How many balls does each school get?
3. 128 sweets are to be shared equally to 8 children. What does each child get?
4. A farmer got 56 eggs from his farm. If each hen laid 7 eggs, how many hens does he have?
5. A box contained 505 pencils to be given to 5 schools. How many pencils does each school get?

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

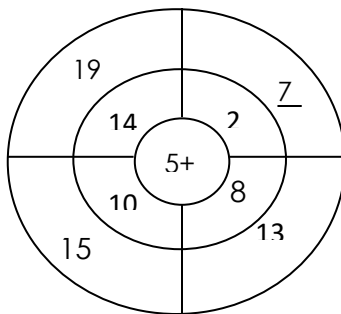
### Lesson 8

#### TERM II -III 2018

### Number patterns and sequences

#### Filling in the missing numbers by adding

##### Example 1



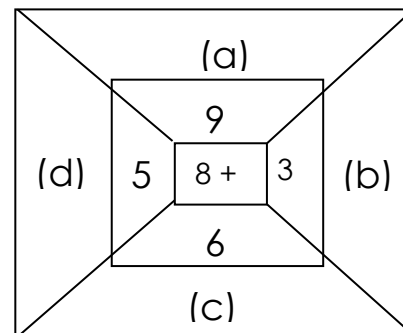
$$a = 8 + 9$$

$$\underline{a = 17}$$

$$c = 8 + 6$$

$$\underline{c = 14}$$

##### Example 2



$$b = 8 + 3$$

$$\underline{= 11}$$

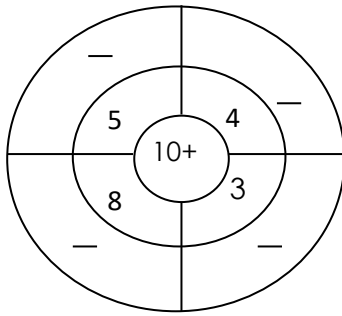
$$d = 8 + 5$$

$$\underline{d = 13}$$

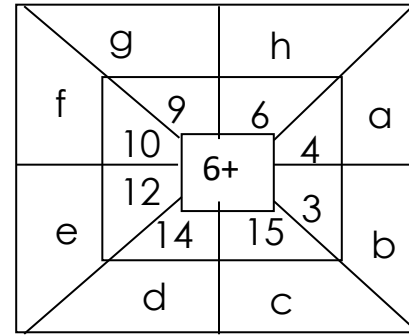
### Exercise

Fill in the missing numbers.

1.



2.



$$a = b = c = d = e = f = g = h =$$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

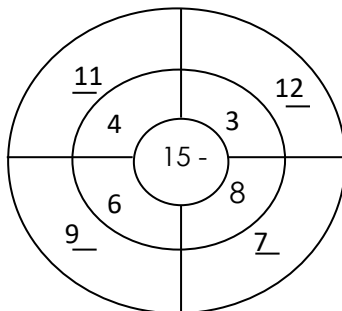
Way forward: \_\_\_\_\_

### Week 8

### Lesson 1

Finding the missing numbers by subtracting

Example 1



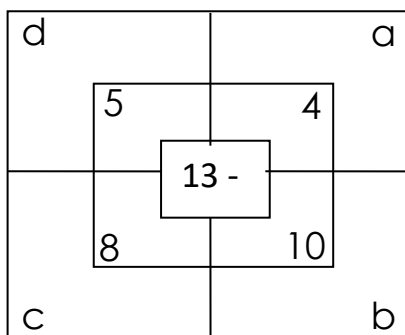
$$15 - 3 = 12$$

$$15 - 8 = 7$$

$$15 - 6 = 9$$

$$15 - 4 = 11$$

Examples



$$a = 15 - 4$$

$$a = 1$$

$$b = 13 - 10 = 3$$

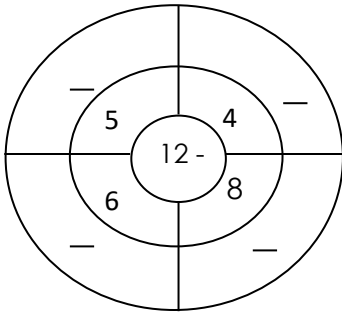
$$c = 13 - 8 = 5$$

$$d = 13 - 5 = 8$$

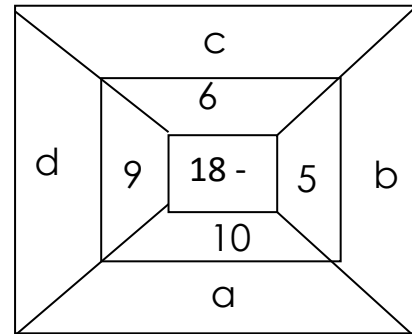
### Exercise

Fill in the missing numbers in the tables below.

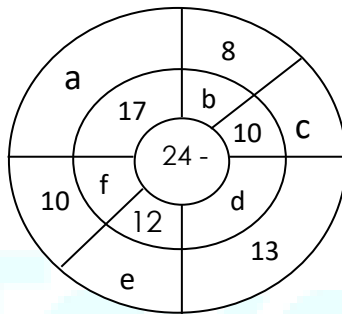
1)



a =  
b =  
c =  
d =



a =  
b =  
c =  
d =  
e =  
f =



### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

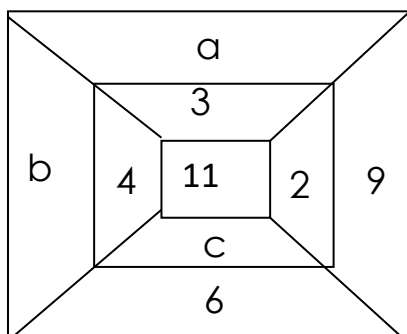
Way forward: \_\_\_\_\_

### Lesson 2

#### Finding the missing numbers when the sum is given

##### Example 1

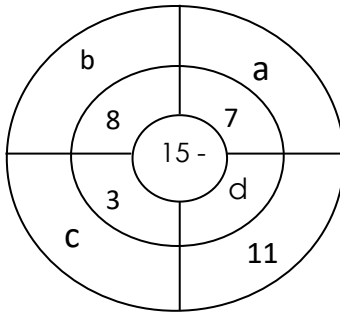
The sum at the centre is 11.



a = 11 - 3  
a = 8  
b = 11 - 4  
b = 7  
c = 11 - 6 = 5

### Exercise

Fill in the missing numbers below.



a =

b =

c =

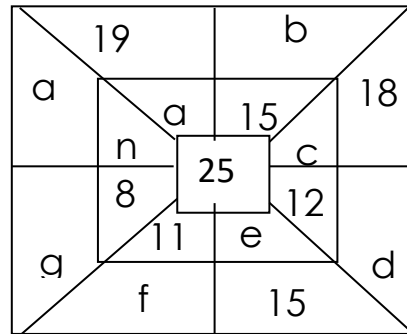
d =

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_



a =

b =

c =

d =

e =

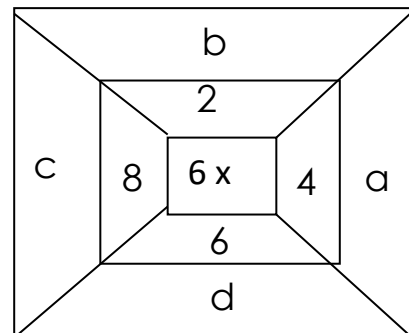
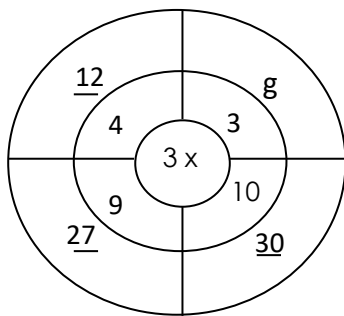
f =

g =

### Lesson 3

#### Finding the missing numbers by multiplying

#### Example 1



### Soln.

$$a = 6 \times 4 = 24$$

$$b = 6 \times 2 = 12$$

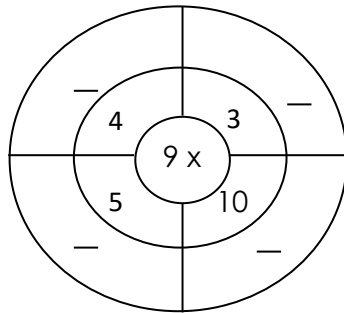
$$c = 6 \times 8 = 48$$

$$d = 6 \times 6 = 36$$

### Exercise

Fill in the missing numbers

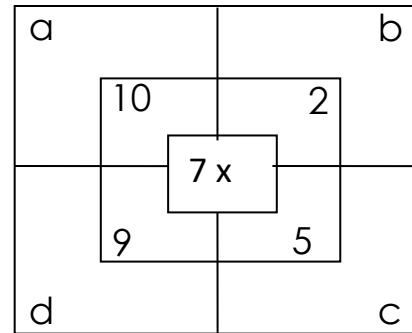
1.



a =                      c =

b =                      d =

2.



### Self Evaluation

Strong points: \_\_\_\_\_

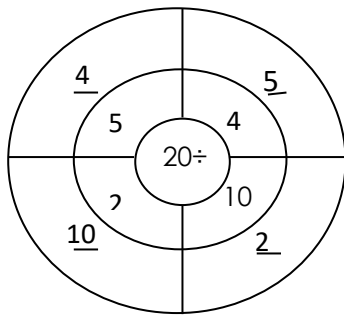
Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

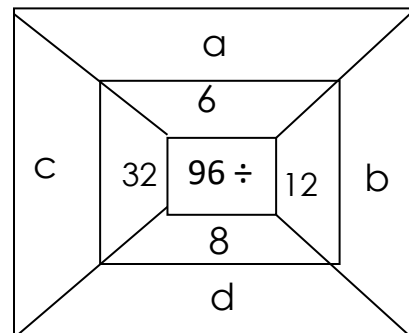
### Lesson 4

#### Finding the missing numbers by dividing

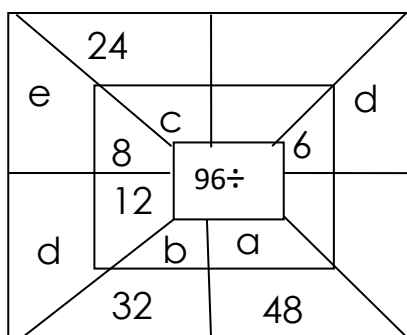
Example 1



Example 2



### Activity



a =

b =

c =

d =

e =

### Self Evaluation

Strong points: \_\_\_\_\_

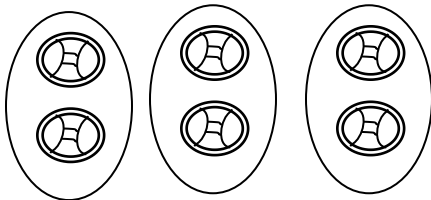
Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 5

#### Multiplication and division of numbers

##### Example 1



There are 3 groups of 2 balls.

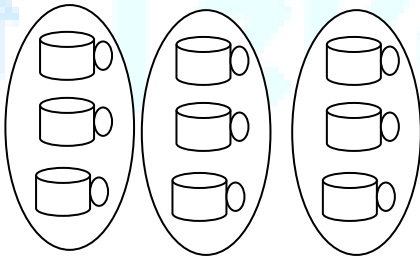
6 balls grouped into twos

$$3 \times 2 = 6 \text{ and } 6 \div 3 = 2$$

##### Exercise

1.

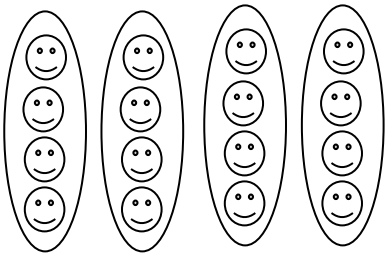
These are 3 groups of 3 cups.



9 cups grouped into 3's.

$$\square \times \square = \square \quad \text{or} \quad \square \div \square = \square$$

2.



These are 4 groups of 4 buttons.

16 buttons grouped into fours.

$$\square \times \square = \square \quad \text{or} \quad \square \div \square = \square$$

### Self Evaluation

Strong points: \_\_\_\_\_

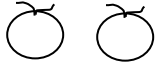
Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 6

#### Counting in two, three, fours, fives

### Example 1



1 group of 2 = 2



2 groups of 2 = 2 + 2 = 4



3 groups of 2 = 2 x 2 x 2 = 6

### Exercise



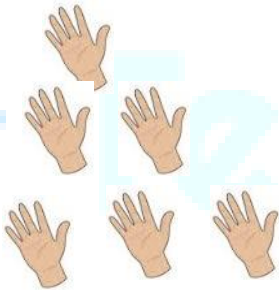
groups of 2 =

$$2 \times 2 \times 2 \times 2 = \text{$$



groups of 2

$$2 \times 2 \times 2 \times 2 \times 2 = \text{$$



1 group of 5 = 5 = 5

groups of 5 = 5 + 5 =

groups of 5 = 5 + 5 + 5 =

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 7

#### Multiply in twos threes, forms, fives, etc

##### Example A

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

$$2 \times 2 = 2 \text{ twos} = 2 + 2 = 4$$

$$3 \times 2 = 3 \text{ twos} = 2 + 2 + 2 = 6$$

$$4 \times 2 = 4 \text{ twos} = 2 + 2 + 2 + 2 = 8$$

*Example B*

$$\begin{array}{lclcl} 1 \times 3 = & 1 \text{ three} & = & 3 & = 3 \\ 2 \times 3 = & 2 \text{ threes} & = & 3 + 3 & = 6 \\ 3 \times 3 = & 3 \text{ threes} & = & 3 + 3 + 3 & = 9 \\ 4 \times 3 = & 4 \text{ threes} & = & 3 + 3 + 3 + 3 & = 15 \end{array}$$

*Exercise*

- |                 |                  |                   |
|-----------------|------------------|-------------------|
| 1. $5 \times 2$ | 6. $8 \times 3$  | 11. $8 \times 4$  |
| 2. $6 \times 3$ | 7. $1 \times 4$  | 12. $8 \times 5$  |
| 3. $6 \times 2$ | 8. $1 \times 5$  | 13. $9 \times 4$  |
| 4. $4 \times 3$ | 9. $2 \times 4$  | 14. $9 \times 5$  |
| 5. $7 \times 2$ | 10. $2 \times 5$ | 15. $10 \times 4$ |

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 8****Counting in twos, threes, fours, fives, etc***Example 1*

$$7 \text{ twos} = 7 \times 2 = 14$$

$$5 \text{ fives} = 5 \times 5 = 25$$

$$8 \text{ tens} = 8 \times 10 = 80$$

$$12 \text{ fours} = 12 \times 4 = 48$$

*Exercise*

- |                         |                          |
|-------------------------|--------------------------|
| 1. $8 \text{ twos} =$   | 3. $15 \text{ fours} =$  |
| 2. $8 \text{ fives} =$  | 4. $6 \text{ fives} =$   |
| 5. $3 \text{ fives} =$  | 7. $9 \text{ threes} =$  |
| 6. $3 \text{ fours} =$  | 8. $4 \text{ fours} =$   |
| 9. $10 \text{ fives} =$ | 10. $13 \text{ fives} =$ |

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_



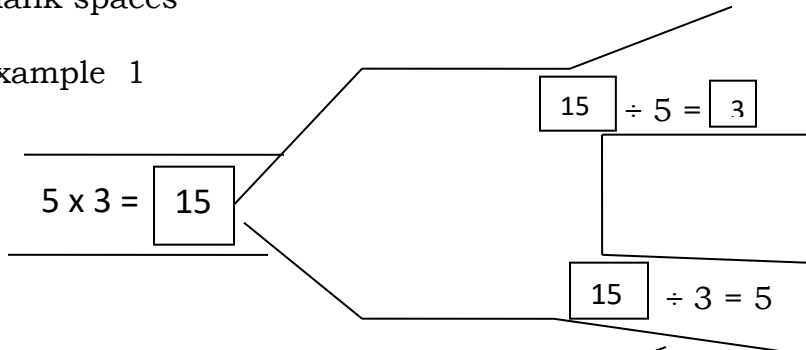
Way forward: \_\_\_\_\_

## Week 9

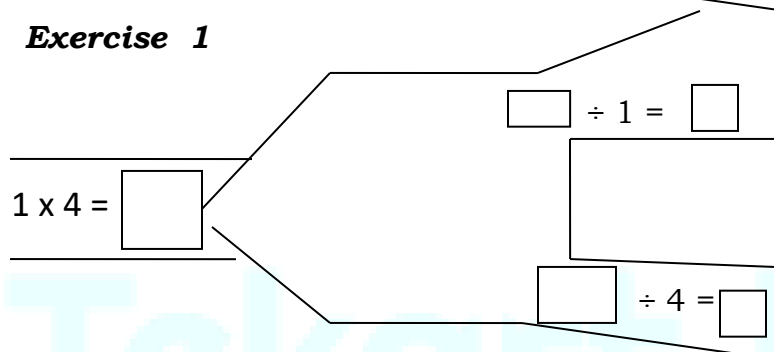
### Lesson 1

Blank spaces

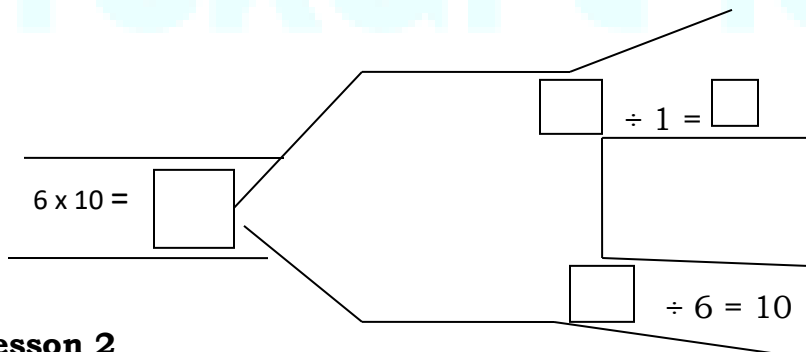
Example 1



### Exercise 1



2.



## Lesson 2

### Magic squares

Example

In the square below, the sum of any three digits added is 12.

7	0	5
2		
3		

$$\square = 12 - (7 + 2) \quad \square = 12 - (5 + 6)$$

$$\square = 12 - 9) \quad \square = 12 - 11$$

$$\underline{\underline{\square}} = 3 \quad \underline{\underline{\square}} = 1$$

$$\square = 12 - (7 + 5)$$

$$\square = 12 - 12 \quad \underline{\underline{\square}} = 0$$

$$7 + 0 + 5 = 12$$

$$7 + 2 + 3 = 12$$

$$2 + 4 + 6 = 12$$

$$0 + 4 + 8 = 12$$

$$3 + 8 + 1 = 12$$

$$5 + 6 + 1 = 12$$

$$\underline{7 + 4 + 1 = 12}$$

$$\underline{5 + 4 + 3 = 12}$$

### Exercise

The sum of the magic square below is 15, find the missing numbers.

1.

2	<u>9</u>	4
7	—	3
6	—	—

2.

8	<u>1</u>	6
—	5	—
4	—	2

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 3

#### Finding the missing numbers when the sum is not given

Example

Sum

7	a	5
2	4	c
b	8	1

This is got by adding three digits given in the square  
e.g, in rows, columns or diagonals.

$$\text{Sum} = 7 + 4 + 1 = 12$$

Value of a

$$a = 12 - (7 + 5)$$

$$a = 12 - 12$$

$$a = 0$$

Value of b

$$b = 12 - (7 + 2)$$

$$b = 12 - (9)$$

$$b = 3$$

value of c

$$c = 12 - (5 + 1)$$

$$c = 12 - (6)$$

$$c = 6$$

### Exercise

Find the missing numbers below.

1.

a	<u>8</u>	3
6	b	2
5	c	7

2.

2	<u>9</u>	a
7	b	3
6	c	d

3.

8	<u>1</u>	6
a	5	b
4	c	d

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 4

#### Finding missing numbers

Example 1

10, 2, 4, 6, 8, 10, 12

**Soln.**

$$0 + 2 = 2$$

$$2 + 2 = 4$$

$$4 + 2 = 6$$

$$6 + 2 = \textcircled{8}$$

$$8 + 2 = \textcircled{10}$$

$$10 + 2 = \textcircled{12}$$

0, 2, 4, 6, 8, 10, 12

Example 2

1, 4, 7, 1, 0, \_\_, \_\_, \_\_.

**Soln.**

$$1 + 3 = 4$$

$$4 + 3 = 7$$

$$7 + 3 = 10$$

$$10 + 3 = 13$$

$$13 + 3 = 16$$

$$16 + 3 = 19$$

1, 4, 7, 10, 13, 16, 19

### Exercise

Find the missing numbers in the sequences below

1. 0, 1, 2, 3, 4, \_\_, \_\_, \_\_
2. 0, 2, 4, 6, 8, 10, \_\_, \_\_, \_\_
3. 5, 10, 15, 20, 25, \_\_, \_\_, \_\_
4. 35, 30, \_\_, \_\_, \_\_

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**LENGTH**

These are units in length.

Kilometres(km), Hectometres(Hm), Decametres(Dm), Metres(M),  
decimeters(dm), centimetres(cm) and Millimetres(Mm)

Note: 1 m = 100cm

**Changing metres to centimetres**

Examples

1. Change 2 metres to centimetres.

Soln: 1m = 100cm

$$2\text{m} = 100 \times 2$$

$$= 200\text{cm}$$

2. Jack walked 4 metres. What distance did he walk in centimetres?

Soln: 1m = 100cm

$$4\text{m} = 100 \times 4$$

$$= 400\text{cm}$$

**Exercise**

1. Change the following metres to centimetres.

a) 5m

b) 9m

c) 11m

d) Sarah's mat is 10 metres long. How long is her mat in centimetres?

e) Paul is 12m tall. What is the height in centimeters?

f) Change 7m to centimeters

**Changing centimeters to metres****Examples**

1. Change 400cm to metres

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

2. Joan had a rope of 1800cm long. What is the length of the rope she had in metres?

$$\begin{aligned} 100\text{cm} &= 1\text{m} \\ 1800\text{cm} &= \frac{1800}{100} \\ &= 18\text{ m} \end{aligned}$$

### **Exercise**

- Change the following into metres.
  - 500cm
  - 700cm
  - 600cm
  - 1100cm
- Stella had a piece of cloth of 800cm. What is the length of the cloth she had in metres?
- The school main hall measures 1200cm long. Find the length of the hall in metres.
- Change 300cm to metres.

### **Addition of length without carrying**

#### **Examples**

$$\begin{array}{r} 1. \quad \text{m} \quad \text{cm} \\ \quad 6 \quad 45 \\ + 2 \quad 30 \\ \hline \quad 8 \quad 75 \end{array}$$

2. The length of our black board is 1m 35cm. The length of the P.4 black board is 2m 10cm. Find the length of the two black boards.

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 1 \quad 35 \\ + 2 \quad 10 \\ \hline 3 \quad 45 \end{array}$$

### **Exercise**

1. Work out the following.

$$\begin{array}{r} \text{a) m} \quad \text{cm} \\ 3 \quad 40 \\ + 6 \quad 36 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b) m} \quad \text{cm} \\ 5 \quad 05 \\ + 0 \quad 70 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c) m} \quad \text{cm} \\ 20 \quad 20 \\ + 19 \quad 15 \\ \hline \end{array}$$

- b) Anitah is 1m 25cm tall and Cissy is 1m 30cm tall. Find the total height of the two girls.
- c) Nakkazi's mat is 2m 50cm long and Nakato's mat is 3m 36cm long. Find the total length of the two mats.
- d) Find the sum of 7m 42cm and 6m 20cm.

### **Addition of length with carrying**

#### **Examples**

$$\begin{array}{r} 1. \quad \text{m} \quad \text{cm} \\ \quad 8 \quad 35 \\ + 6 \quad 90 \\ \hline \quad 15 \quad 25 \end{array}$$

2. The length of Amel's garden is 40m 87cm. Akello's garden is 5m 46cm. Find the total length of the two gardens.

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 40 \quad 87 \\ + 5 \quad 46 \\ \hline 46 \quad 33 \end{array}$$

#### **Exercise**

1. Add the following.

$$\begin{array}{r} \text{a) } \quad \text{m} \quad \text{cm} \\ \quad 4 \quad 42 \\ + 3 \quad 77 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b) } \quad \text{m} \quad \text{cm} \\ \quad 13 \quad 84 \\ + 9 \quad 20 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c) } \quad \text{m} \quad \text{cm} \\ \quad 8 \quad 35 \\ + 2 \quad 68 \\ \hline \end{array}$$

$$\begin{array}{r} \text{d) } \quad \text{m} \quad \text{cm} \\ \quad 4 \quad 56 \\ + 7 \quad 75 \\ \hline \end{array}$$

2. A shopkeeper has 40m 38cm of nylon cloth, 60m 32cm of cotton cloth. What is the total length of all pieces of clothes?

### **Subtraction of length without borrowing**

#### **Examples**

$$\begin{array}{r} \text{a) } \quad \text{m} \quad \text{cm} \\ \quad 6 \quad 40 \\ - 3 \quad 10 \\ \hline \quad 3 \quad 30 \end{array}$$

$$\begin{array}{r} \text{b) } \quad \text{m} \quad \text{cm} \\ \quad 5 \quad 55 \\ - 2 \quad 42 \\ \hline \quad 3 \quad 13 \end{array}$$

### **Exercise**

$$\begin{array}{r} \text{a)} \quad \text{m} \quad \text{cm} \\ 4 \quad 60 \\ - 3 \quad 40 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b)} \quad \text{m} \quad \text{cm} \\ 8 \quad 15 \\ - 6 \quad 15 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c)} \quad \text{m} \quad \text{cm} \\ 3 \quad 85 \\ - 1 \quad 42 \\ \hline \end{array}$$

$$\begin{array}{r} \text{d)} \quad \text{m} \quad \text{cm} \\ 25 \quad 56 \\ - 12 \quad 43 \\ \hline \end{array}$$

### **Subtraction of length with borrowing**

#### **Examples**

$$\begin{array}{r} 1. \quad \text{m} \quad \text{cm} \\ 45 \quad 125 \\ - 20 \quad 50 \\ \hline 24 \quad 75 \end{array}$$

2. Nakato had a string of 8m 40cm. She cut off 2m 70cm.

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 8 \quad 40 \\ - 2 \quad 70 \\ \hline 5 \quad 70 \end{array}$$

### **Exercise**

$$\begin{array}{r} 1. \quad \text{a)} \quad \text{m} \quad \text{cm} \\ 10 \quad 25 \\ - 7 \quad 16 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b)} \quad \text{m} \quad \text{cm} \\ 15 \quad 75 \\ - 8 \quad 29 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c)} \quad \text{m} \quad \text{cm} \\ 12 \quad 40 \\ - 8 \quad 80 \\ \hline \end{array}$$

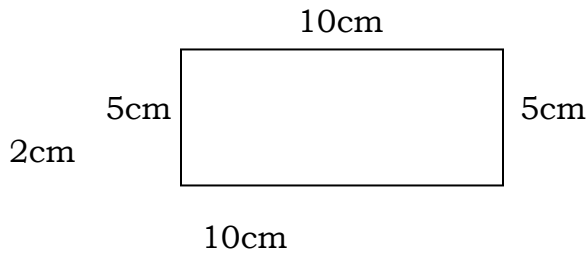
2. A carpenter had a piece of wood 10m 60cm long. He cut off 4m 53cm to make a bench. What length of the piece of wood remained?
3. A trader had 15m 54cm of cloth. He sold 5m 70cm of it. What length of the cloth was left?

## **PERIMETER**

Perimeter is the total distance around the figure.

### **Examples**

1. Find the perimeter of figures below.



$$P = s + s + s + s$$

$$P = 10\text{cm} + 5\text{cm} + 10\text{cm} + 5\text{cm}$$

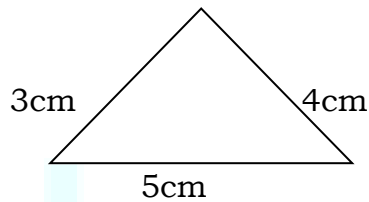
$$\mathbf{P = 20\text{cm}}$$



$$P = s + s + s + s$$

$$P = 8\text{cm} + 8\text{cm} + 2\text{cm} + 2\text{cm}$$

$$\mathbf{P = 20\text{cm}}$$



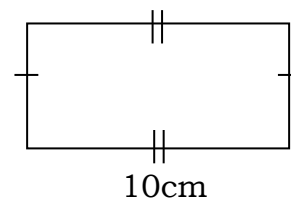
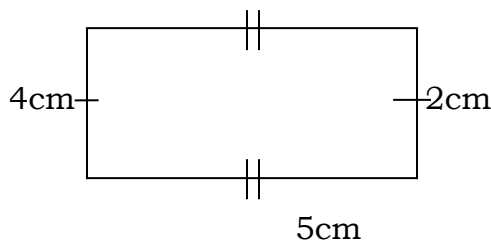
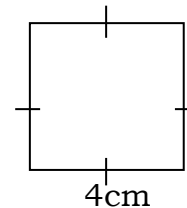
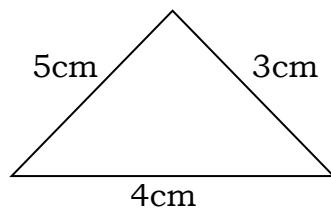
$$P = s + s + s + s$$

$$P = 5\text{cm} + 4\text{cm} + 3\text{cm}$$

$$\mathbf{P = 12\text{cm}}$$

### **Exercise**

Find the total distance around these figures.



### **Finding area by counting squares**

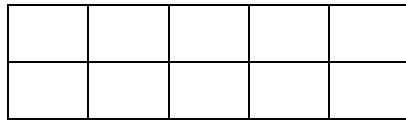
Area is the amount of space covered by flat objects.



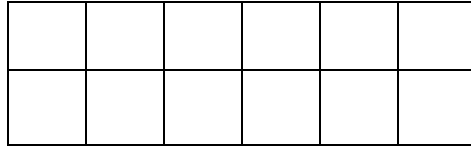
### Examples

Finding the area by counting squares.

a)



Area = 8 squares



Area = 12 squares

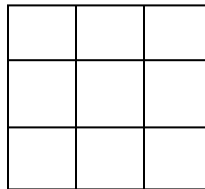
### Activity

Count and find the area.

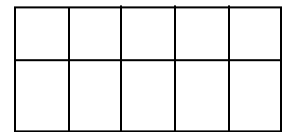
a)



b)



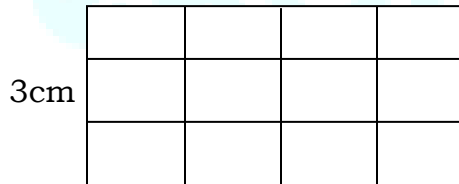
c)



### Finding area by multiplying

**Area = Length x Width**

a)



Length

$$\text{Length} = 4\text{sq}$$

$$\text{Width} = 3\text{sq}$$

$$\text{Area} = L \times W$$

$$\text{Area} = 4\text{sq} \times 3\text{sq}$$

$$\text{Area} = 12\text{sq}$$

b)



7cm

$$A = L \times W$$

$$A = 7\text{cm} \times 3\text{cm}$$

$$\mathbf{A = 21\text{cm}^2}$$

Finding perimeter and area in word problems

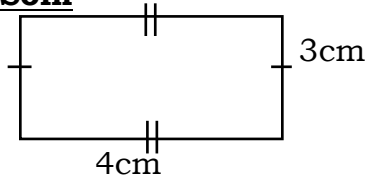
### Examples

1. Musa's note book is 4cm long and 3cm wide.

a) Find its area.

b) Find its perimeter

**Soln**



Area

$$A = L \times W$$

$$A = 4\text{cm} \times 3\text{cm}$$

$$\mathbf{A = 12\text{cm}^2 / 12 \text{ square centimeters}}$$

Perimeter

$$P = s + s + s + s$$

$$P = 4\text{cm} + 3\text{cm} + 4\text{cm} + 3\text{cm}$$

$$P = 7\text{cm} + 7\text{cm}$$

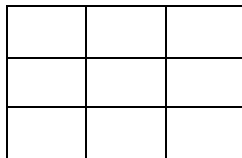
$$\mathbf{P = 14\text{cm}}$$

**Activity**

1. Find the area of a square whose one side is 9cm.
2. Mr. Mwanje's cassava garden is 12m long and 4m wide. Find its area.
3. A rectangular sheet of paper is 6cm long and 4cm wide. Find its perimeter.
4. A netball court is 7m long and 3m wide.
  - i) Find its area
  - ii) Find its perimeter

**Exercise**

1. Find the area of the figures below.



$$L =$$

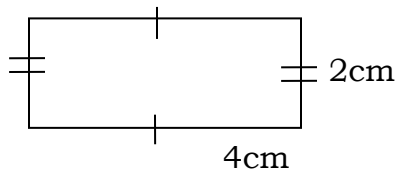
$$W =$$

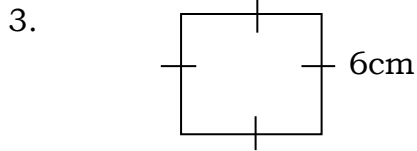
$$A = L \times W$$

$$A = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

$$A = \underline{\hspace{1cm}}$$

- 2.



***Self Evaluation***

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**CAPACITY**

Measuring different containers.

**Examples**

- 20 litres jerrycan
- 500ml bottles
- 1 litre jerrycan
- 10 litre jerrycan
- 5 litre jerrycan

20 litre jerrycan can hold more water than 5 litre jerrycan.

**Litres and half litres**

1 litre = 100 centilitres

 $\frac{1}{2}$  litre = 50cl

1 litre = 2 half litres

**Examples**

1. How many 1 litre jugs will fill a 5 litre jerrycan?

$$\begin{aligned} 5 \text{ litres} &= 1 \times 5 \\ &= \mathbf{5 \text{ jugs}} \end{aligned}$$

2. How many  $\frac{1}{2}$  litre bottles will fill a 6 litre container?

$$\begin{aligned} 1 \text{ litres} &= 2 \text{ half litres} \\ 6 \text{ litres} &= 2 \times 6 \\ &= \mathbf{12 \text{ half litres}} \end{aligned}$$

**Exercise**

1. How many 1 litre cups will fill a 14 litre jerrycan?
2. How many  $\frac{1}{2}$  litre cups will fill a 10 litre jerrycan?
3. How many 1 litre bottle will fill a 20 litre jerrycan?
4. How many  $\frac{1}{2}$  litre bottles will fill a 15 litre container?

**Addition of litres without carrying****Examples**

$$\begin{array}{r} 1. \quad 150 \text{ litres} \\ + 320 \text{ litres} \\ \hline 470 \text{ litres} \end{array}$$

2. A family uses 120 litres of water in a week and a dairy uses 158 litres in a week. How much water do they use altogether?

$$\begin{array}{r} 120 \text{ litres} \\ + 158 \text{ litres} \\ \hline 278 \text{ litres} \end{array}$$

**Exercise**

1.			
a)	$\begin{array}{r} 1501 \\ + 3401 \\ \hline \end{array}$	b)	$\begin{array}{r} 3501 \\ + 6301 \\ \hline \end{array}$
		c)	$\begin{array}{r} 1201 \\ + 1501 \\ \hline \end{array}$

2. How many litres are there in tanks of 850l and that of 200l?  
3. Mr. Okello made 240l of juice and Kasozi made 700l of juice. Find the sum of litres the two people made.

**Addition of litres with carrying****Examples**

$$\begin{array}{r} 1. \quad 250 \text{ litres} \\ + 275 \text{ litres} \\ \hline 525 \text{ litres} \end{array}$$

2. Nkalubo's water tank holds 125 litres. Kato's tank holds 158 litres. Find the amount of water the two tanks hold.

$$\begin{array}{r} 1251 \\ + 1581 \\ \hline 283 \text{ litres} \end{array}$$

**Exercise**

1. Work out the following.			
a)	$\begin{array}{r} 3501 \\ + 6501 \\ \hline \end{array}$	b)	$\begin{array}{r} 1201 \\ 1401 \\ + 4501 \\ \hline \end{array}$
		c)	$\begin{array}{r} 2471 \\ + 9561 \\ \hline \end{array}$

2. Namutebi's pot holds 77 litres of water and Omara's pot holds 59 litres.  
Find the amount of water both pots hold.
3. What is the sum of 485 litres and 564 litres?

**Subtraction of litres without borrowing****Examples**

$$\begin{array}{r} 1. \quad 48 \text{ litres} \\ - 23 \text{ litres} \\ \hline 25 \text{ litres} \end{array}$$

2. There are 82 litres of water in the big pot, mother used 20 litres when cooking. How much water was left in the pot?

$$\begin{array}{r} 82 \\ - 20 \\ \hline 62 \end{array}$$

**Exercise**

1. Work out the following.

$$\begin{array}{r} \text{a) } 56 \text{ litres} \\ - 32 \text{ litres} \\ \hline \end{array}$$

$$\begin{array}{r} \text{b) } 247 \text{ litres} \\ - 25 \text{ litres} \\ \hline \end{array}$$

$$\begin{array}{r} \text{c) } 6701 \\ - 2601 \\ \hline \end{array}$$

2. Mugawe bought 84 litres of soda. HE served himself 24 litres of soda.  
How much soda was left?
3. There are 670 litres of water in a tank. 360 litres were used. How much water was left?

**Subtraction of litres with borrowing****Examples**

$$\begin{array}{r} 1. \quad 436 \text{ litres} \\ - 57 \text{ litres} \\ \hline 379 \text{ litres} \end{array}$$

2. Mr. Musoke had 165 litres of water. He used 97 litres. How much water was left?

$$\begin{array}{r} 165 \text{ litres} \\ - 97 \text{ litres} \\ \hline 68 \text{ litres} \end{array}$$

### Exercise

1.

$$\begin{array}{r} \text{a)} \quad 731 \\ - 241 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b)} \quad 4751 \\ - 461 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c)} \quad 6101 \\ - 2641 \\ \hline \end{array}$$

2. Ninsiima collected 63 litres of milk from her farm. He sold 55 litres. How much milk was left?



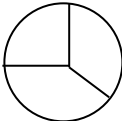


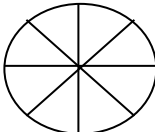
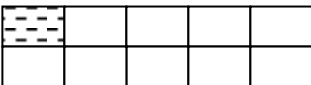
3. A shopkeeper had 565 litres of paraffin. 498 litres were sold. How much paraffin remained?

### Lesson 5

#### Fractions

*Definition:* Fractions is a part of a whole.

Naming parts of a fraction

We see	We write	We read
	1	One whole
	$\frac{1}{2}$	A half One half
	$\frac{1}{3}$	A third One third
	$\frac{1}{4}$	A quarter One quarter
	$\frac{1}{5}$	A fifth One fifth
	$\frac{1}{8}$	An eighth One eighth
	$\frac{1}{10}$	A tenth One tenth

In the fraction  $\frac{2}{3}$  ← Numerator  
                               3 ← Denominator

## Lesson 6

### Naming the shaded and unshaded parts of a fraction

#### Example

Shade part:

2 parts out of 5 parts



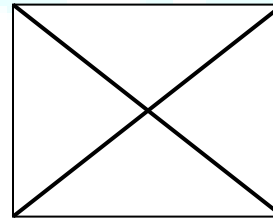
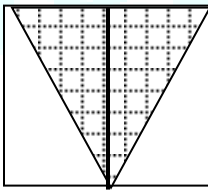
5 equal parts

Shade fraction =  $\frac{2}{5}$  or two fifth

Unshaded part                      unshaded fraction  
 3 parts out of                      =  $\frac{3}{5}$  or three fifth  
5 parts

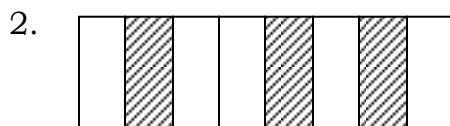
#### Exercise

1. What fraction is shaded and un-shaded?

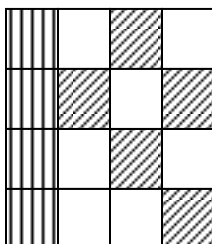


a) Shade fraction =  
 b) Unshaded fraction =

a) Shaded fraction =  
 b) Unshaded fraction =



a) Shade fraction =  
 b) Unshaded fraction =



a) Shade fraction =  
 b) Unshaded fraction =

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 7

#### Shading the identified regions

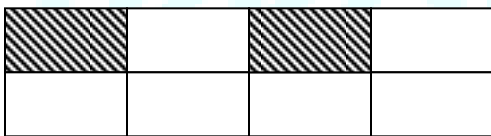
##### Example 1

Shade  $\frac{2}{7}$  of the figure below.



##### Example 2

Shade  $\frac{1}{4}$  of the figure below



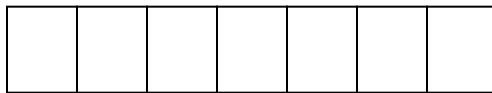
$$= \frac{1}{4} \text{ of } 8$$

$$\frac{1}{4} \times 8$$

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

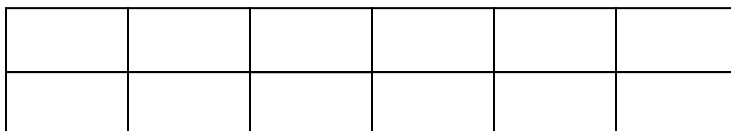
#### Exercise

1. Shade  $\frac{3}{7}$  of the figure below.

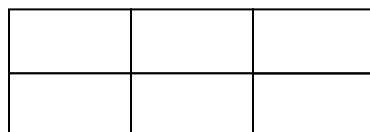


2. Draw and shade  $\frac{4}{9}$

3. Shade  $\frac{1}{4}$  of the figure.



4. Shade  $\frac{2}{3}$





### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 8

#### Comparing using signs

< less than      > greater than      = equal to

#### Example I

$$\frac{1}{10} < \frac{1}{9}$$

#### Example II

$$\frac{1}{9} < \frac{1}{8}$$

#### Exercise

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

2.  $\frac{1}{3}$  \_\_\_\_\_  $\frac{1}{6}$

3.  $\frac{1}{6}$  \_\_\_\_\_  $\frac{1}{4}$

4.  $\frac{1}{2}$  \_\_\_\_\_  $\frac{1}{8}$

5.  $\frac{1}{7}$  \_\_\_\_\_  $\frac{1}{3}$

6.  $\frac{1}{5}$  \_\_\_\_\_  $\frac{1}{3}$

### Self Evaluation

Strong points: \_\_\_\_\_

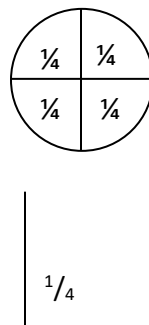
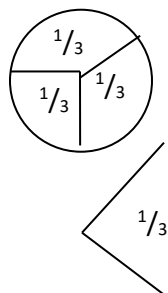
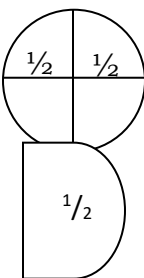
Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Week 10

#### Lesson 1

#### Comparing fractions



$\frac{1}{2}$  is greater than  $\frac{1}{3}$  and  $\frac{1}{2}$  is greater than  $\frac{1}{4}$

$\frac{1}{3}$  is greater than  $\frac{1}{4}$

Use of greater than or less than

a)  $\frac{1}{2}$  greater than  $\frac{1}{3}$

b)  $\frac{1}{4}$  is less than  $\frac{1}{2}$

### Exercise

Write less than or greater than

a)  $\frac{1}{2}$  is \_\_\_\_\_  $\frac{1}{3}$

b)  $\frac{1}{3}$  is \_\_\_\_\_  $\frac{1}{6}$

c)  $\frac{1}{7}$  is \_\_\_\_\_  $\frac{1}{8}$

d)  $\frac{1}{4}$  is \_\_\_\_\_  $\frac{1}{6}$

e)  $\frac{1}{6}$  is \_\_\_\_\_  $\frac{1}{2}$

f)  $\frac{1}{2}$  is \_\_\_\_\_  $\frac{1}{2}$

g)  $\frac{1}{6}$  \_\_\_\_\_  $\frac{1}{7}$

### **Self Evaluation**

Strong points: \_\_\_\_\_

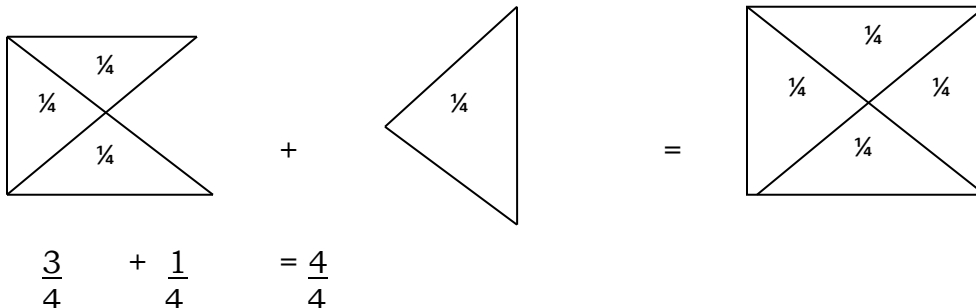
Weak points: \_\_\_\_\_

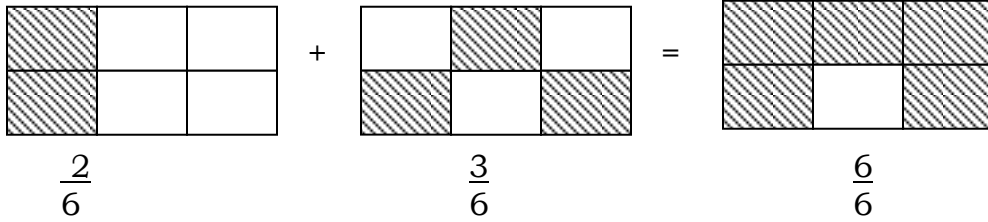
Way forward: \_\_\_\_\_

### **Lesson 2**

#### **Addition of fractions using diagrams**

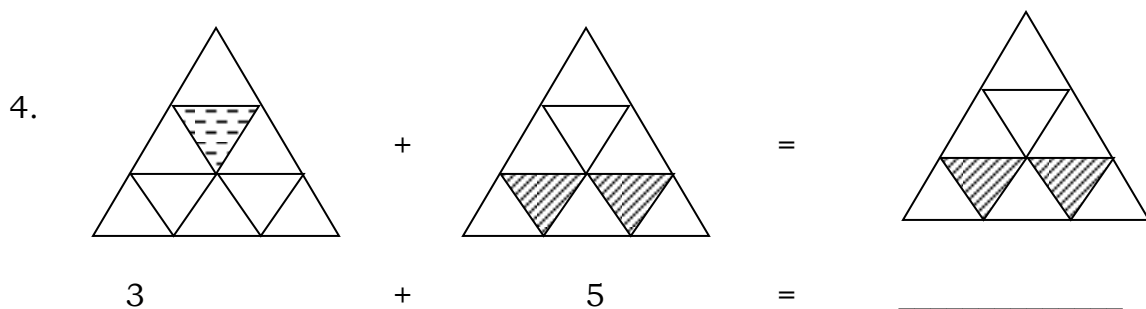
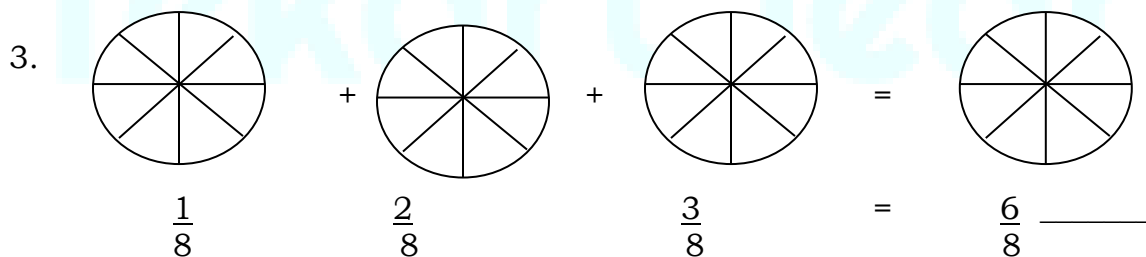
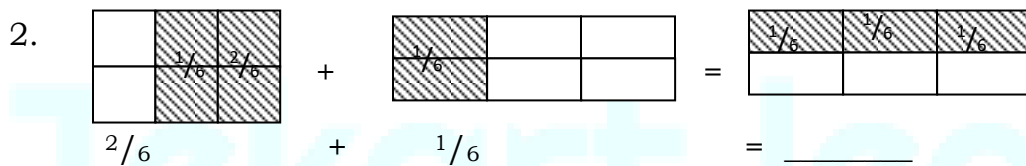
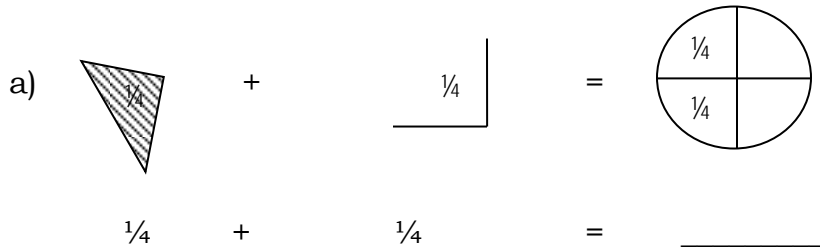
##### *Example 1*





### Exercise

Add these



### **Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 3****More about addition of fractions***Example 1*

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

*Example 2*

$$\frac{1}{8} + \frac{3}{8} + \frac{1}{8}$$
$$= \frac{1+3+1}{8} = \frac{5}{8}$$

Exercise

Add the following fractions carefully.

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

4.  $\frac{1}{5} + \frac{1}{5}$

7.  $\frac{1}{6} + \frac{2}{6} + \frac{2}{6}$

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

5.  $\frac{1}{7} + \frac{2}{7}$

8.  $\frac{2}{12} + \frac{3}{12} + \frac{2}{12}$

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

6.  $\frac{1}{6} + \frac{2}{6}$

9.  $\frac{1}{15} + \frac{2}{15} + \frac{4}{15}$

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 4****Addition of fraction involving words****Example 1**

A man read  $\frac{1}{9}$  of the newspaper on Monday and  $\frac{3}{7}$  of it on Tuesday. What fraction did he read altogether?

*Soln.*

Monday =  $\frac{1}{9}$

Tuesday =  $\frac{3}{9}$

Altogether =  $\frac{1}{9} + \frac{3}{9}$

$$= \frac{1 \times 3}{9} = \frac{4}{9}$$

### Exercise

1. I walked  $\frac{4}{9}$  of the journey and I run  $\frac{3}{9}$  of it. What fraction did I cover altogether?
2. Juliet dug  $\frac{3}{11}$  of the garden and Dan dug  $\frac{4}{11}$ . What fraction did they dig altogether?
3. Andrew wrote  $\frac{3}{8}$  of the book in the morning and  $\frac{4}{8}$  of it in the afternoon. What fraction of the book did he write?
4. Find the sum of  $\frac{7}{17}$  and  $\frac{6}{17}$ .

### Self Evaluation

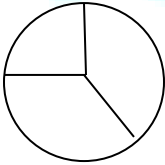
Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 5 Subtract of fractions

#### Example 1



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

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

#### Example 2




$$\frac{3}{5} - \frac{1}{5} = \frac{3-1}{5}$$


$$= \frac{2}{5}$$

### Exercise

Workout the following:

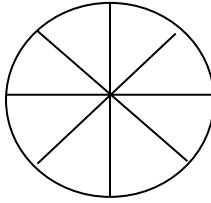
1. 

$$\frac{3}{4} - \frac{1}{4} = \underline{\hspace{2cm}}$$

2. 

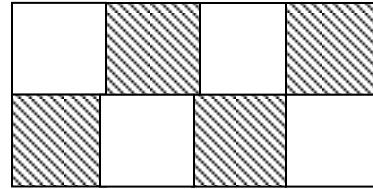
$$\frac{5}{6} - \frac{2}{6} = \underline{\hspace{2cm}}$$

3.



$$\frac{4}{8} - \frac{2}{8} = \underline{\quad}$$

4.



$$\frac{4}{8} - \frac{2}{8} = \underline{\quad}$$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Lesson 6

#### More about subtraction of fractions

*Example 1*

$$\frac{4}{5} - \frac{1}{5}$$

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

$$= \underline{\underline{\frac{3}{5}}}$$

*Example 2*

$$\frac{3}{5} - \frac{2}{6}$$

$$\frac{3-2}{6}$$

$$= \underline{\underline{\frac{1}{6}}}$$

### Exercise

Workout the following

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

5.  $\frac{11}{20} - \frac{4}{20}$

9.  $\frac{8}{11} - \frac{5}{11}$

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

6.  $\frac{18}{23} - \frac{9}{23}$

10.  $\frac{3}{8} - \frac{1}{8}$

3.  $\frac{9}{21} - \frac{3}{21}$

7.  $\frac{5}{9} - \frac{2}{9}$

11.  $\frac{13}{15} - \frac{12}{15}$

4.  $\frac{5}{7} - \frac{3}{7}$

8.  $\frac{7}{10} - \frac{3}{10}$

12.  $\frac{3}{13} - \frac{5}{13}$

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

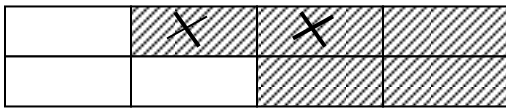
### Lesson 7

#### Word statements involving subtraction

##### Example 1

A boy had 5 of a cake. He ate  $\frac{2}{8}$  of it. What fraction remained?

##### Soln.



$$\frac{5}{8} - \frac{2}{8} = \frac{5-2}{8} = \frac{3}{8}$$

1. Mukasa had an orange. He gave away  $\frac{3}{4}$  of it, what fraction remained?
2. A garden has 8 equal parts, 3 parts out of 8 are planted with maize. What fraction remained?
3. What is the difference between  $\frac{5}{6}$  and  $\frac{2}{6}$ ?
4. A shopkeeper sold  $\frac{4}{6}$  of sugar on Monday, what fraction of the bag is left?
5. Fancy ate  $\frac{4}{5}$  of an orange, what fraction remained?
6. A girl used  $\frac{3}{20}$  of the water in the jerrycan for bathing, what fraction remained?
7. Joel painted  $\frac{5}{9}$  of his house on Friday. What fraction of his house has not been painted?

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

## Multiplication of fractions

### Examples

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

$$b) \frac{2}{3} \times \frac{2}{3} = \frac{2 \times 2}{3 \times 3} = \frac{4}{9}$$

$$c) \text{ What is } \frac{1}{2} \text{ of } 12 \text{ books?}$$

$$\frac{1}{2} \times \frac{12}{1} = \frac{1 \times 12}{2 \times 1} = \frac{12}{2}$$

$$= 12 \div 2$$

**= 6 books**

d) In a class of 15 pupils,  $\frac{2}{5}$  of the pupils are boys. How many girls are in the class?

$$\frac{2}{5} \times \frac{15}{1} = \frac{2 \times 15}{5 \times 1} = \frac{30}{5}$$

**= 6 girls**

### Exercise

$$a) \frac{5}{10} \times \frac{1}{9}$$

$$b) \frac{1}{2} \times \frac{1}{4}$$

$$c) \text{ What is } \frac{1}{5} \times 15$$

$$d) \text{ Find } \frac{2}{7} \text{ of } 21$$

$$e) \text{ Find } \frac{1}{9} \text{ of } 18$$

$$f) \frac{3}{6} \times \frac{3}{3}$$



























$$g) \text{ What is the product } \frac{1}{5} \text{ of } \frac{2}{3}$$

h) There are 36 eggs in a bucket. If  $\frac{1}{3}$  of the eggs broke. How many eggs broke?

i) How many eggs were left?

### DATA HANDLING

#### Interpreting information on the picto-graph without a scale

Monday	   
Tuesday	 
Wednesday	        
Thursday	    
Friday	
Saturday	    



1. How many balls were sold on Wednesday?
2. How many more balls were sold on Thursday than Tuesday?
3. On which day were more balls sold?
4. How many balls were sold for the whole week?
5. How many more balls were sold on Wednesday than Friday?
6. How many balls were sold in the first three days?

### Drawing simple pictographs

Five girls were told to pick flowers from the garden and each of them picked the following:






Jane picked 6 lowers

Rose picked 3 flowers

Fatuma picked 6 flowers


Sarah picked 5 flowers




Anne picked 2 flowers

Jane	   
Rose	
Fatuma	
Sarah	
Anne	










### Interpreting information on the picto-graph with a scale






When using picto-graphs, one picture stands for a given number of pictures.

If  stands for 10 cups

Then    will stand for:  $(10 + 10 + 10)$  cups

= 30 cups

Moses	  
Alex	
Josephine	    


Teo	 
Haruna	  



Stands for 2 cups  
How many cups did Moses get?

Moses got =  $(3 \times 2)$   
= 6 cups

### **Drawing picto-graphs using a scale**

Scale  stands for 5 apples

Four boys picked apples from the box

Tom 3  
Ben 4  
Timothy 2  
John 6

**Complete the graph below.**










Tom	
Ben	
Timothy	
John	









### ***Lesson 8*** ***Pictographs***


***Definition:*** A pictograph is a graph where information is represented using pictures.

#### **Example**

The pictograph below shows the number of books given to five best pupils in different games. Study it and answer the questions that follow.

Alex	 
Juma	     
Aziz	






















Joseph	  
Haruna	    











 represents 20 books

- How many books did Alex get?  
 $= 2 \times 20$   
 $= \underline{40 \text{ books}}$
- How many books did Aziz get?  
Aziz got 20 books
- How many books did Juma and Haruna get?  
Juma = 6 pictures  
Haruna = 5 pictures  
 $= 6 + 5 = 11$   
1 picture represents 20  
 $11 = 11 \times 20$   
 $= \underline{220 \text{ books}}$
- How many more books did Juma get than Joseph?  
Soln:  
Juma = 6  
Joseph = 3  
 $= 6 - 3$   
 $= 3 \text{ books}$   
  
1 book = 20  
3 =  $3 \times 20$   
 $= \underline{60 \text{ books}}$

### Exercise

The pictograph shows the number of balls sold in madhus shop in a week. Study it and answer the questions that follow.

Monday	   
Tuesday	 
Wednesday	        
Thursday	     

Friday	      
Saturday	  

- How many balls were sold on Monday?
- On which day was the smallest number of balls sold?
- How many balls were sold on Friday?
- How many balls were sold on Tuesday?
- On which day was the largest number of balls sold?
- On which day did Madhu sell 60 balls?
- How many balls were sold for the whole week?

### Self Evaluation

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Week 11

#### Lesson 1

#### Drawing simple pictographs

Five girls were told to pick flowers from the garden and each of them picked the following:

Jane picked 6 flowers























Rose picked 3 flowers

Fatuma picked 6 flowers

Sarah picked 5 flowers

Anne picked 2 flowers

#### Complete the table below

Jane	     
Rose	  
Fatuma	     
Sarah	    
Anne	 

**Exercise**

Mike sat by the road side counted and recorded card which passed by in 9 week.

<b>Days of the week</b>	<b>No. of cars</b>
Sunday	5
Monday	12
Tuesday	10
Wednesday	8
Thursday	9
Friday	10
Saturday	7

- Make a pictograph and show the information on it.
- On which two days did mike count the same number of cars?
- When did mike count the least number of cars?
- On which day did he count the biggest number of cars?
- Find the number of cars he counted the whole week.

**Self Evaluation**

Strong points: \_\_\_\_\_

Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

**Lesson 2****Bar graphs**Example

The headteacher asked some pupils of P.3 namely; Roseline, Akon, Ssali, Joan and Juliana to carry boxes of books to his office.

Roseline carried 8 boxes

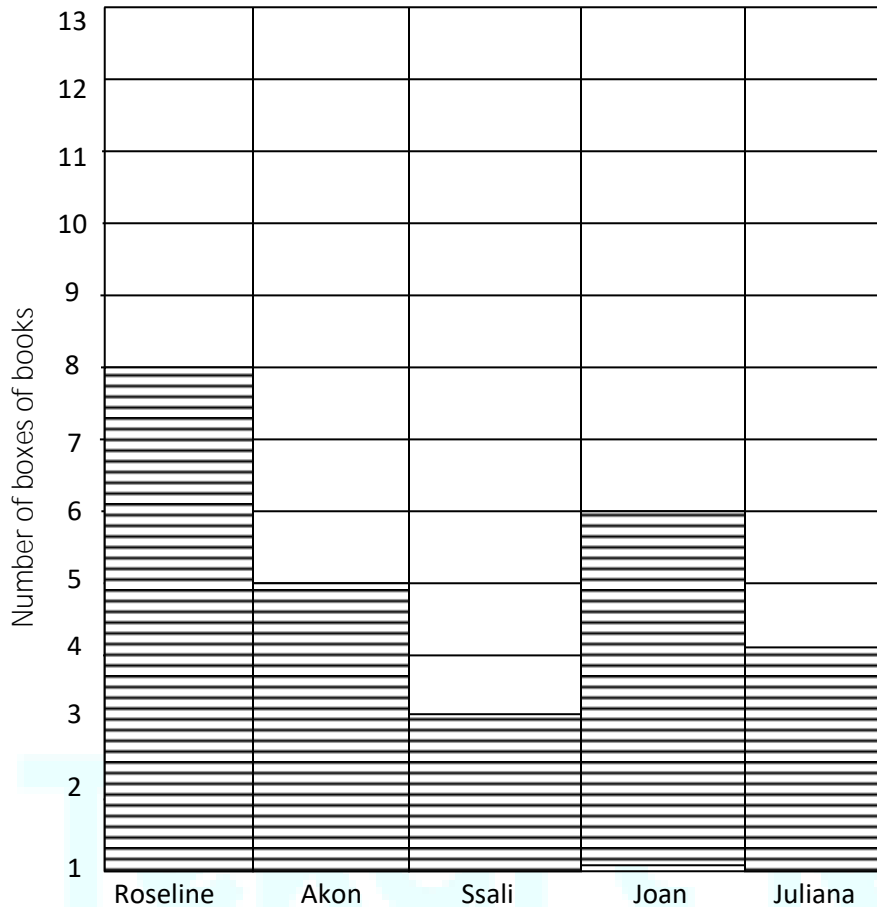
Akon carried 5 boxes

Ssali carried 3 boxes

Joan carried 6 boxes

Juliana carried 4 boxes

The above information can he put on a graph as shown below.



### Questions

- Who carried the least number of boxes of books?  
Ssali carried the least number of boxes of books.
- Who carried the largest number of boxes?  
Roseline
- What was the total number of boxes carried by Akon and Joan?  
 $6 + 5 = 11$  boxes
- What is the difference between the biggest and least number of boxes carried?  
 $= 8 - 3$   
 $= 5$  boxes
- If each box had 50 books, how many books did Juliana carry?  
 Soln.  
 $1 \text{ box} = 80 \text{ books}$   
 $4 \text{ boxes} = 4 \times 80$   
 $= 320 \text{ books}$

### Self Evaluation

Strong points: \_\_\_\_\_

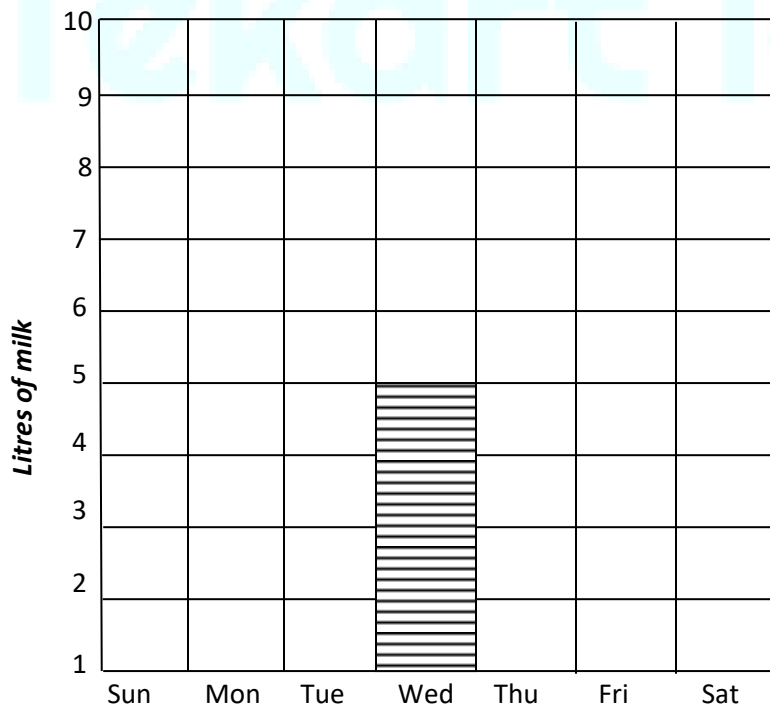
Weak points: \_\_\_\_\_

Way forward: \_\_\_\_\_

### Exercise

1. Mrs Byaruhanga has a cow. The information below shows the amount of milk she gets from it in litres per week.

Sunday	=	9 litres
Monday	=	10 litres
Tuesday	=	8 litres
Wednesday	=	5 litres
Thursday	=	8 litres
Friday	=	7 litres
Saturday	=	3 litres

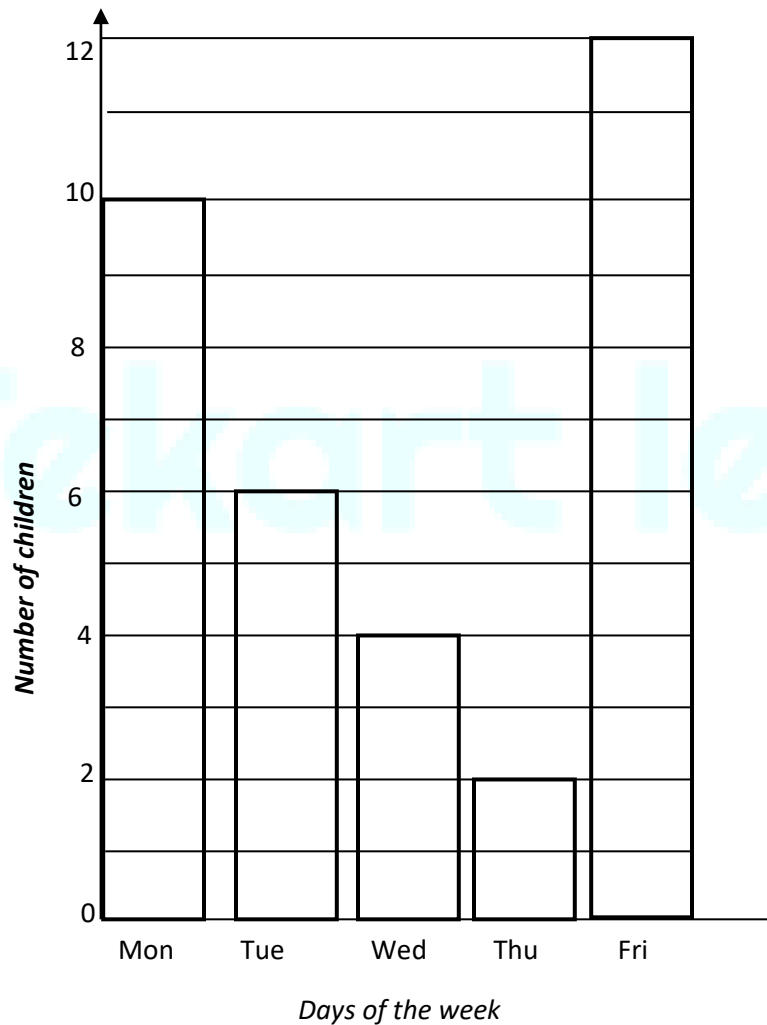


### Questions

Days of the week

- How many litres did Mrs Byaruhanga get on Sunday?
- On which day did Mrs. Byaruhanga get litres of milk?
- When did she get the biggest amount of milk?

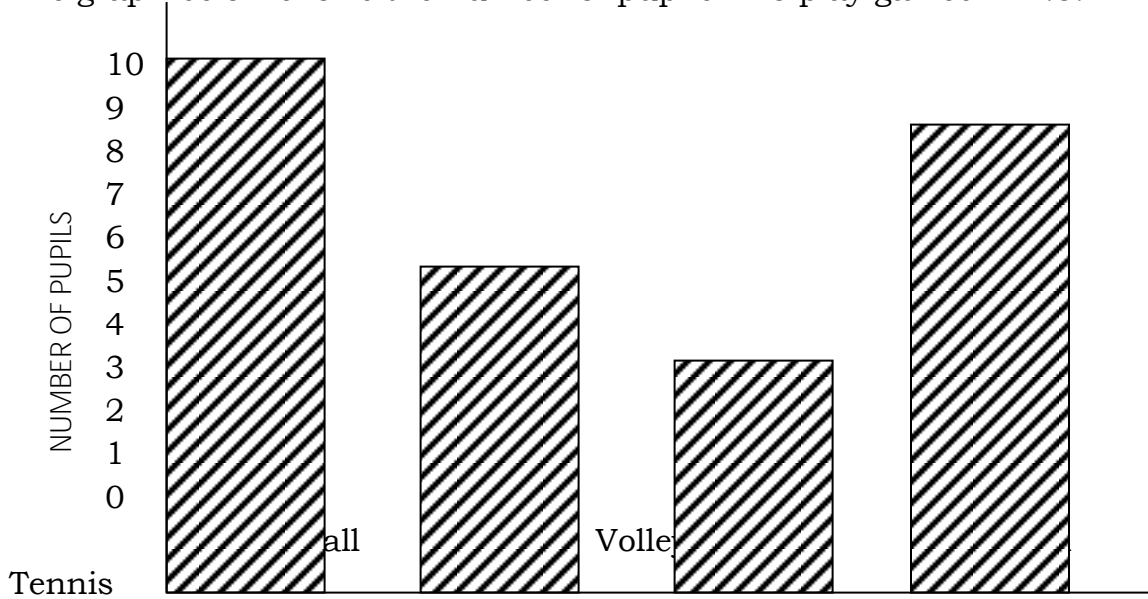
- d) How many litres did she get on Monday?
- e) On which two days did she get the same amount of milk?
- f) When did she get the least amount of milk?
- g) How much milk does she get in the whole week?
2. The graph below shows the number of late comers recorded in P.3 in a week?



- a) How many children came late on Monday?
- b) How many children came late on Tuesday?
- c) Which day had the least number of late comers?
- d) Find the number of children who came late on Friday.
- e) How many children came late that week?



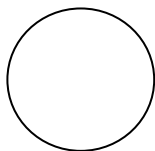
The graph below shows the number of pupils who play games in P.3.



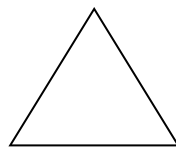
1. How many pupils play football?
2. How many pupils play volleyball?
3. Which game has the least number of players?
4. Which game has the biggest number of players?
5. Find the total number of pupils who play games.
6. How many pupils play football more than volleyball?
7. How many pupils play netball more than volleyball?
8. What is the least liked game?
9. Which is the most liked game?

### TOPIC: **GEOMETRY**

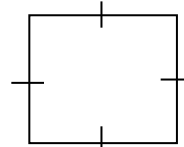
#### SUB-TOPIC: **Drawing shapes and naming shapes.**



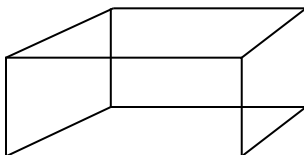
Circle



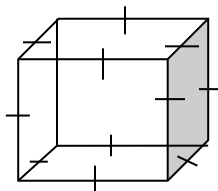
Triangle



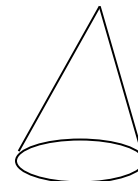
Square



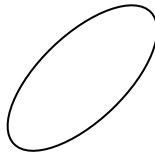
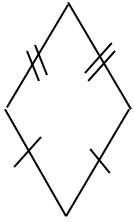
Cuboid



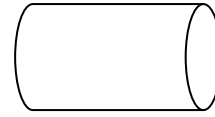
Cube



\_\_\_\_\_



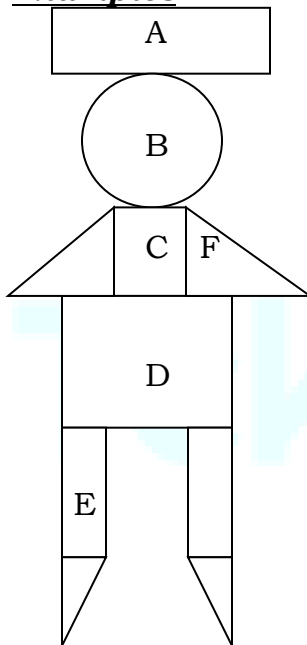
Oval



\_\_\_\_\_

Naming shapes in the given figures.

**Examples**



A - Rectangle

B - Circle

C - \_\_\_\_\_

D - \_\_\_\_\_

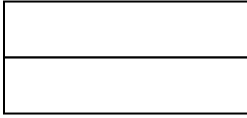
E - \_\_\_\_\_

F - \_\_\_\_\_

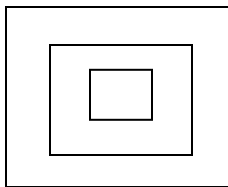
## Counting the number of shapes

### Examples:

How many rectangles and squares can you see?



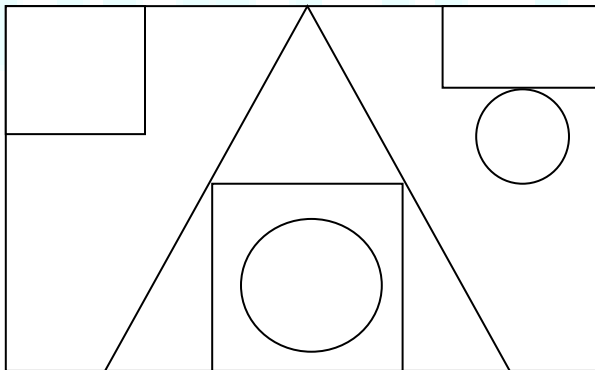
3 rectangles



3 squares

### Exercise

1. Let us count the number of triangles, squares, circles and rectangles.



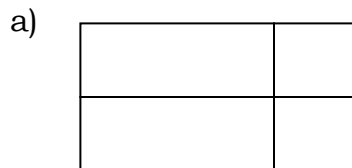
a) Triangles = \_\_\_\_\_

b) Squares = \_\_\_\_\_

c) Circles = \_\_\_\_\_

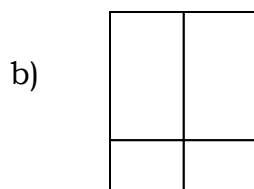
d) Rectangles = \_\_\_\_\_

2. Let us count number of rectangles and squares.



A i) \_\_\_\_\_ squares

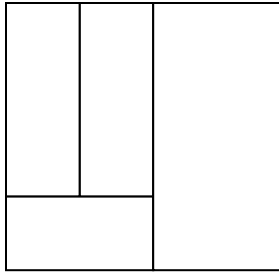
ii) \_\_\_\_\_ rectangles



B i) \_\_\_\_\_ squares

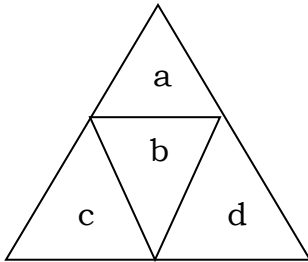
ii) \_\_\_\_\_ rectangles

c)



C i) \_\_\_\_\_ squares

ii) \_\_\_\_\_ rectangles



a \_\_\_\_\_

b \_\_\_\_\_

c \_\_\_\_\_

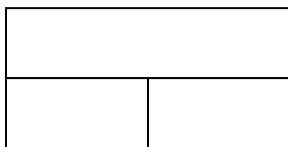
d \_\_\_\_\_

a b c d

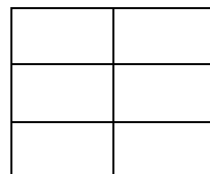
5 triangles

### **Exercise:**

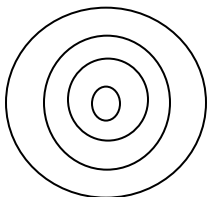
Find the number of shapes in the given figures.



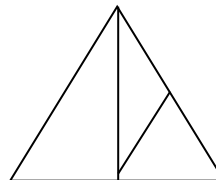
\_\_\_\_\_



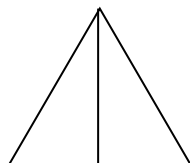
\_\_\_\_\_



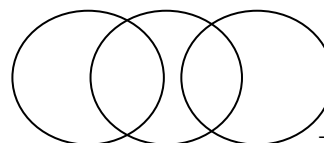
\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

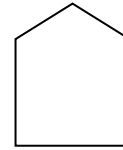
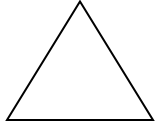


\_\_\_\_\_

### Polygon frames

A polygon is a closed figure with straight edges.

### **Examples:**



3 sided polygon is called a triangle

4 sided polygon is called a quadrilateral

5 sided polygon is called a pentagon

6 sided polygon is called a hexagon

7 sided polygon is called a heptagon

8 sided polygon is called an octagon

9 sided polygon is called a nonagon

10 sided polygon is called a decagon

### **Exercise:**

1. How do we call the following polygons?

a) Four sided \_\_\_\_\_

b) Five sided \_\_\_\_\_

c) Three sided \_\_\_\_\_

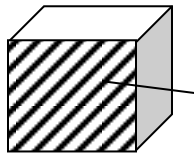
d) Six sided \_\_\_\_\_

2. Sarah drew a six sided figure, she drew a \_\_\_\_\_

3. In which group of polygons is your classroom drawn? \_\_\_\_\_

### **Exercise:**

Identify different plane figures on different solid figures.



a



b



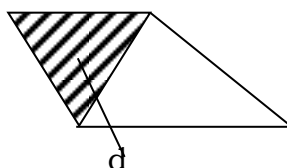
c

a \_\_\_\_\_

b \_\_\_\_\_

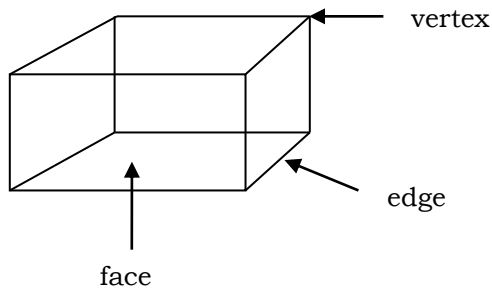
c \_\_\_\_\_

d \_\_\_\_\_



d

### Naming parts of solid shapes (cuboid)



It has 6 faces

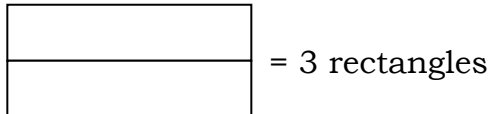
It has 12 edges

It has 8 vertices

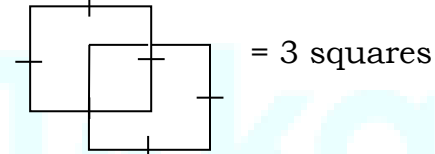
### Counting shapes

Example

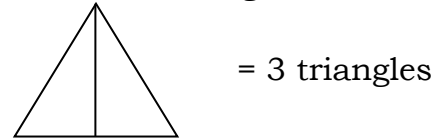
a) Count the rectangles



c) Count the squares



b) Count the triangles



An activity from MK Bk3 Pg. 118

### TOPIC: MEASURES

#### Subtopic: Days of the week

##### Listing the days of the week

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

##### Questions

- What is the first day of the week?
- What is the last day of the week?
- Which day of the week comes after the first day of the week?
- Name the day of the week that comes before a day Muslims go for prayers?

Activity from MK Bk3 Pg.126

Changing weeks to days

### Examples

How many days are there in 2 weeks?

1 week has 7 days

2 weeks have (2 x 7)

= 14 days

An activity from MK Bk3 Pg.126

### **Changing days to weeks**

#### Examples

1. Convert 21 days to weeks

7 days = 1 week

21 days =  $\frac{21}{7}$

7

= 3 weeks

2. Changing 35 days to weeks

7 days = 1 week

35 days =  $35 \div 7$

= 5 days

### **Completing tables about days and weeks**

#### Examples

Weeks	1	2	3	4	___	___
Days	7	14	<b>21</b>	___	35	42

$$1 \times 7 = 7$$

$$3 \times 7 = 21$$

$$4 \times 7 = 28$$

$$35 \div 7 = 5$$

An activity from MK Maths Bk Pg.126

### **Addition of weeks and days**

#### Examples

Work out the following correctly.

1. Wks	Days
3	3
+ 2	2
5	5

2. Weeks	Days
3	4
+ 2	0
5	4

3. Weeks	Days
6	5
+ 2	1
8	6

4. Weeks	Days
1	3
+ 4	3
5	6

5. Sam worked on his farm for 3 weeks and 5 days. Peter worked for 2 weeks and 1 day. How much time did they spend altogether?

Wks	Days
3	5
+ 2	1
5	6

They spent 5 weeks and 6 days

Subtraction of weeks and days

Examples

1. Weeks Days

5	6
- 4	1
3	5

2. Weeks Days

9	5
- 2	4
7	1

3. Wk days

4	6
- 2	1
2	5

4. Weeks days

3	4
- 1	2
2	2

Months of the year with their days

Listing months of the year

January	31 days
February	28/29 days
March	31 days
April	30 days
May	31 days
June	30 days
July	31 days
August	31 days
September	30 days
October	31 days
November	30 days
December	31 days

Exercise

1. The months of the year are;

January	April	July	_____
February	_____	_____	November
_____	June	September	_____

2. Name all the months of the year with 30 days.  
 3. List all months of the year with 31 days.  
 4. How many months are in 3 years?



5. How many years are in 48 months?
6. Write the names of the months which start with letter J.

**TOPIC: MEASURES**

**SUBTOPIC: Changing years to months**

Example

There are 12 months in a year. How many months are in 2 years?

1 year has 12 months

2 years have (2 x 12)

$$= 24 \text{ months}$$

An activity from MK Bk 3 Pg.139

**Changing months to years**

Example

How many years are in 36 months? (Use repeated subtraction)

$$\begin{array}{r} 3 \quad 6 \\ - 1 \quad 2 \quad (1 \text{ year}) \\ \hline 2 \quad 4 \\ - 1 \quad 2 \quad (1 \text{ year}) \\ \hline 1 \quad 2 \\ - 1 \quad 2 \quad (1 \text{ year}) \\ \hline 0 \quad 0 \end{array}$$

Therefore 3 years are in 36 months

An activity for teacher's own collection

**Completing tables about months and years**

Example

Complete the table below.

Years	1	2	3	4	_____
Months	12	24	36	_____	60

$$2 \times 12 = 24 \text{ months}$$

$$36 \div 12 = 3 \text{ years}$$

An activity from MK Bk 3 Pg 139

## CALENDAR

### Example

The calendar below shows the months of May 2015. Use it to answer the questions that follow.

MAY 2015

Sun		3	10	17	24	31
Mon		4	11	<b>18</b>	25	
Tue		5	12	19	26	
Wed		6	13	20	27	
Thur		7	14	21	28	
Fri	<b>1</b>	8	15	22	29	
Sat	2	9	16	23	30	

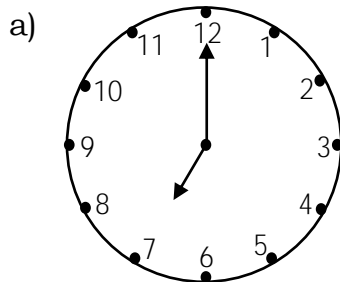
### Questions

- What day of the week was 8th? **Friday**
- What date was the first Monday of the month? **4th**
- Which month is shown on the calendar? **May**
- How many days has this month?
- Which month comes before May?
- How many Sundays are in this month?
- Name the month which comes after May?

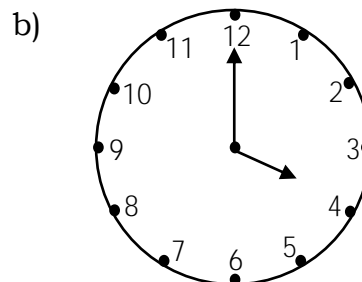
## TELLING AND SHOWING TIME

### Telling time in hours

#### Examples



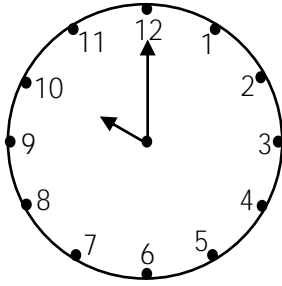
It is 7 o'clock



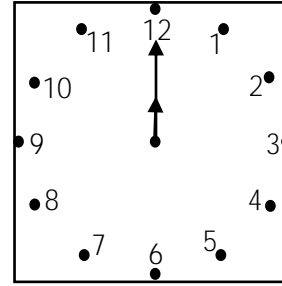
It is 4 o'clock

### Showing the time

a) It is 10 o'clock



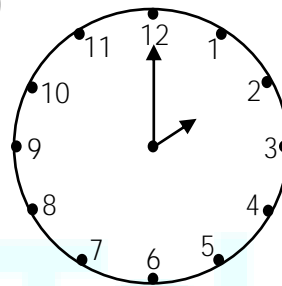
b) It is 12 o'clock



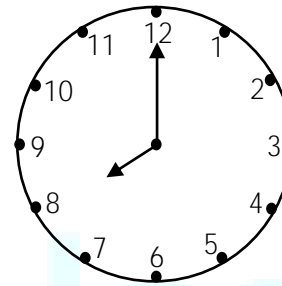
### Activity

What is the time?

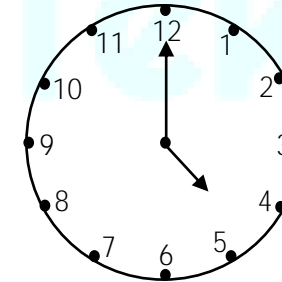
a)



b)

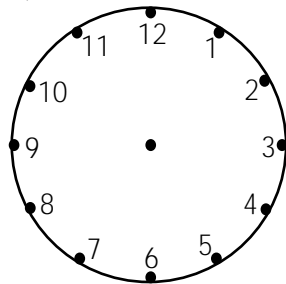


c)

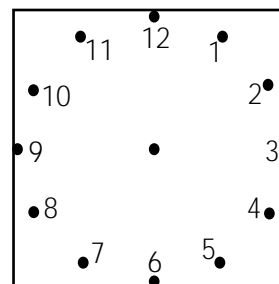


### Show the time

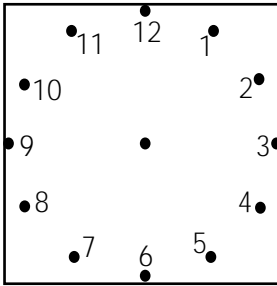
a) It is 4 o'clock



b) It is 3 o'clock



c) It is 1 o'clock

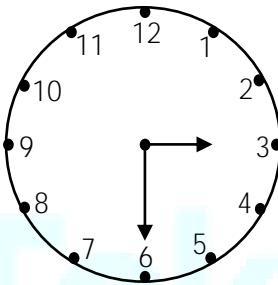


Mk Maths Bk 3 Pg. 127

### **Telling and showing time at ahalf past**

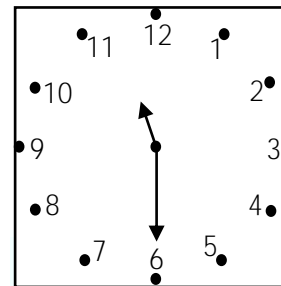
#### **Examples**

a)



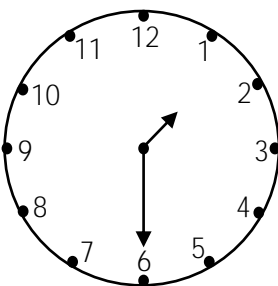
It is ahalf past 3

b)



It is ahalf past 11

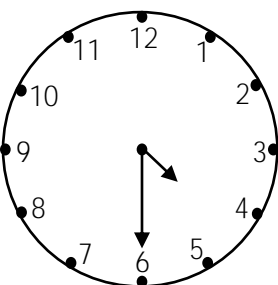
c)



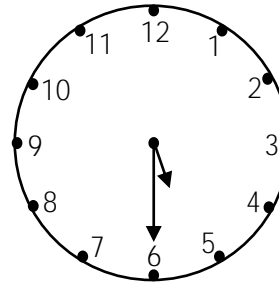
It is ahalf past 1

### **Show the time**

a) It is ahalf past 4



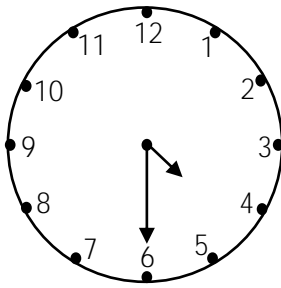
b) It is ahalf past 5



#### **Activity**

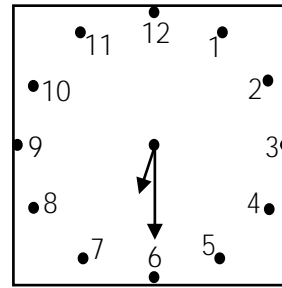
What is the time?

a)



It is \_\_\_\_\_

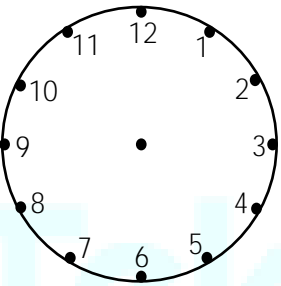
b)



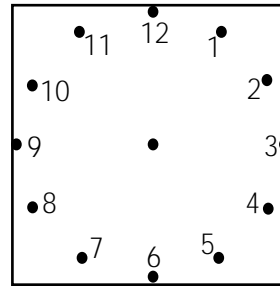
It is \_\_\_\_\_

### **Show the time**

a) It is a half past 2



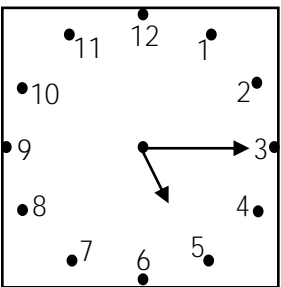
b) It is a half past 9



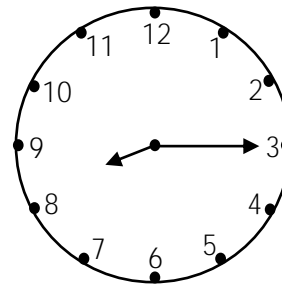
### **Telling and showing time at a quarter past**

#### **Examples**

a) It is a quarter past 5

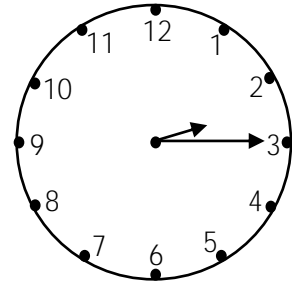


b) It is a quarter past 8

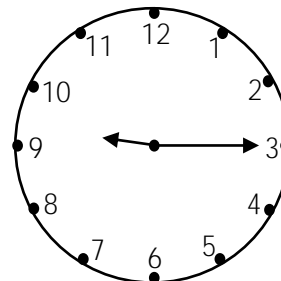


### **Show the time**

a) It is a quarter past 2

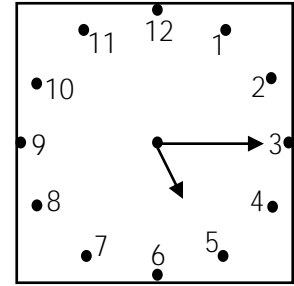
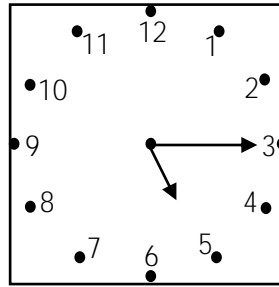
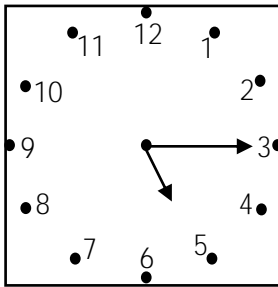


b) It is a quarter past 9



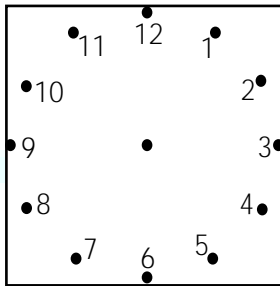
### Activity

Tell the time



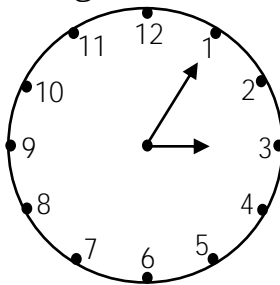
Show the time

It is aquarter past 2

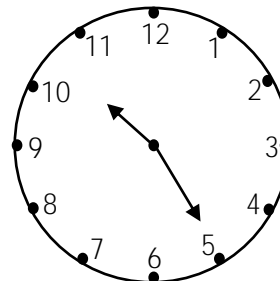
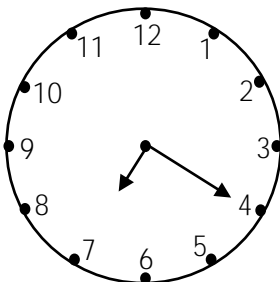


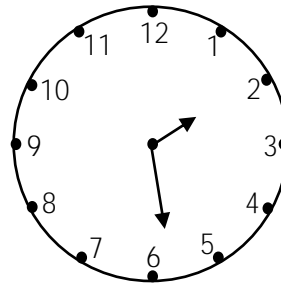
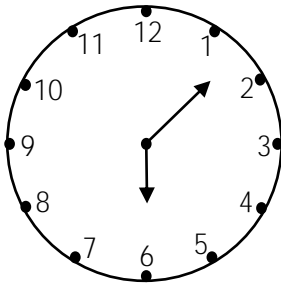
### Telling time

Telling time in minutes past



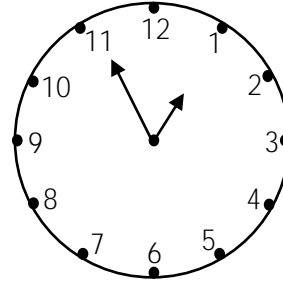
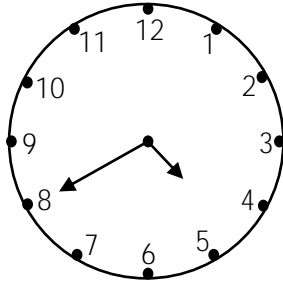
It is 5 minutes past 3





### **Telling time in minutes to**

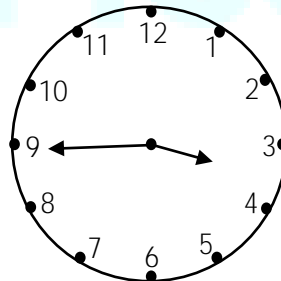
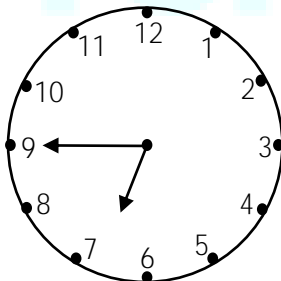
It is 20 minutes to 5



More activity MK Bk3 page 135

### **Telling and showing time at a quarter to**

Examples

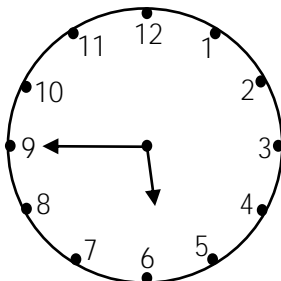


It is aquarter to 7

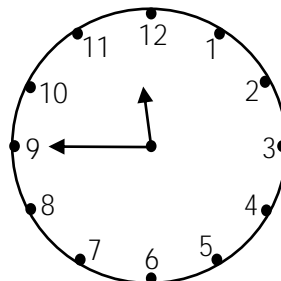
It is aquarter to 4

### **Show the time**

It is aquarter to 6



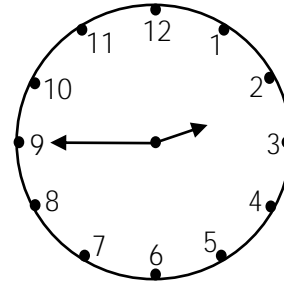
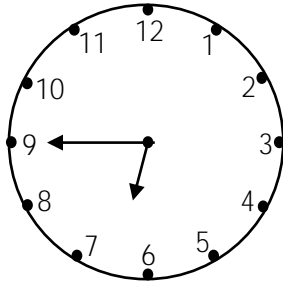
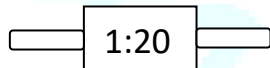
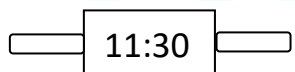
It is aquarter to 12



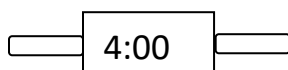
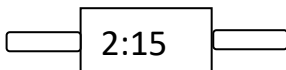
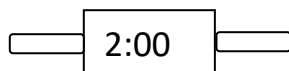
**Activity**

MK Bk 3 Pg 129

Tell the time

**Telling time on digital watches****Examples** It is 6 o'clock It is 20 minutes past 1 It is half past 11 It is quarter to 9**Activity**

What is the time?

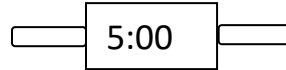
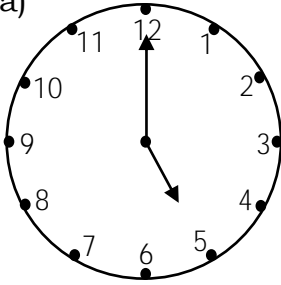




## Changing time from clock faces to digital

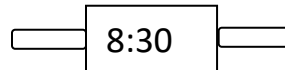
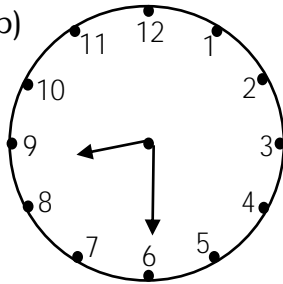
### Examples

a)



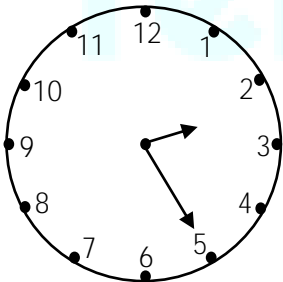
It is 5 o'clock

b)

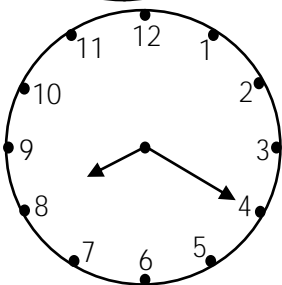


It is a half past 8

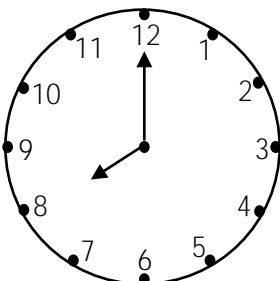
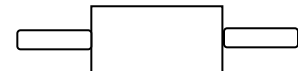
### Activity



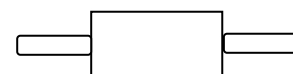
25 minutes past 2



It is 20 minutes past 8 o'clock



\_\_\_\_\_



**Telling time****Word problem**Example**Change 2 hours to minutes**

$$\begin{aligned} 1 \text{ hour} &= 60 \text{ minutes} \\ 2 \text{ hours} &= 60 \times 2 \\ &= \mathbf{120 \text{ minutes}} \end{aligned}$$

Exercise

1. Convert 3 hours to minutes
2. Change 4 hours to minutes
3. How many minutes are there in 5 hours?

**Changing minutes to hours**Example

Convert 120 minutes to hours

$$\begin{aligned} 60 \text{ minutes} &= 1 \text{ hour} \\ 120 \text{ minutes} &= 120 \div 60 \\ &= \mathbf{2 \text{ hours}} \end{aligned}$$

Exercise**Change the following minutes to hours**

1. 360 minutes
2. 180 minutes
3. 300 minutes
4. 240 minutes
5. Convert 420 minutes to hours

**Addition and subtraction of hours and minutes**Examples

Work out the following.

Hrs	Mins
5	20
+ 8	25
13	45

Hrs	Mins
6	30
+ 2	15
8	45

Hrs	Mins
7	35
- 3	22
4	13

Hrs	Mins
9	45
- 3	35
6	10

**Exercise**

Work out the following correctly.

Hrs	Mins
4	20
+ 3	15
<hr/>	

Hrs	Mins
12	40
+ 14	10
<hr/>	

Hrs	Mins
4	18
+ 8	30
<hr/>	

Hrs	Mins
4	55
+ 2	20
<hr/>	

Subtract Hours and minutes correctly.

Hrs	Mins
8	28
- 3	10
<hr/>	

Hrs	Mins
14	34
- 8	15
<hr/>	

Find how old

Examples

1. Peter is 20 years old. Paul is 15 years old.

a) Who is younger? Paul

b) Who is older? Peter

c) Find their total age.

$$20 + 15 = 35 \text{ years}$$

2. Sarah is 3 years older than Tom who is 6 years old.

How old is Sarah?

$$\text{Sarah} = 6 + 3$$

$$= \mathbf{9 \text{ years}}$$

3. Bob is 4 years younger than Betty who is 10 years old. How old is Bob?

$$\text{Bob} = 10 - 4$$

$$= \mathbf{6 \text{ years old}}$$

Exercise

1. Annet is 10 years old. Betty is 15 years old.

a) Who is older?

b) Who is younger?

c) Find their total age.

d) What is the difference between their age?

2. Musa is 3 years older than Tim who is 7 years old. How old is Musa?

3. Jane is 5 years younger than Bob who is 15 years old. How old is Jane?

4. Betty is 2 years older than Sarah who is 10 years old. How old is Betty?

### **More about finding how old is ...**

#### **Examples**

1. Mike was born in 1989. How old was he in 1997?

$$\begin{array}{r} 1997 \\ - 1989 \\ \hline 8 \text{ years} \end{array}$$

#### **Exercise**

1. Mr. Obbo was born in 1970. How old was he in 1989?

2. Alice was born in 1988. How old was Alice in 1996?

3. My mother was born in 1967. How old was she in 1982?

4. My brother was born in 1983. How old was he in 1999?

### **Comparing weight**

(using heavier, lighter or equal)

#### **Examples**

1. 1kg of sugar and 500g of salt. Which is heavier?

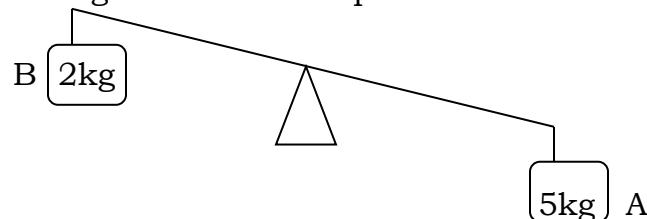
Sugar is heavier

2. 2kg of stones and 2kg of cotton. Which one is heavier?

They are equal

#### **Activity**

1. Use the diagram to answer questions



a) Which one is heavier?

b) Which one is lighter?

2. A kilo of feathers and a kilo of wood. Which one is heavier?

**WEIGHT**

Weight is measured in kg or grams

$$\begin{aligned}\text{Note: } 1\text{kg} &= 1000\text{g} \\ \frac{1}{2}\text{ kg} &= 1000 \div 2 = 500\text{g} \\ \frac{1}{4}\text{ kg} &= 1000 \div 4 = 250\text{g}\end{aligned}$$

**Changing kilograms to grams****Examples**

1. Change 4kg to grams.

$$\begin{aligned}1\text{kg} &= 1000\text{g} \\ 4\text{kg} &= (4 \times 1000)\text{g} \\ &= \mathbf{4000\text{g}}\end{aligned}$$

2. Change 11kg to grams

$$\begin{aligned}1\text{ kg} &= 1000\text{g} \\ 11\text{kg} &= (11 \times 1000)\text{g} \\ &= \mathbf{11000\text{g}}\end{aligned}$$

**Exercise**

Convert the following kilograms to grams.

- |         |         |         |        |
|---------|---------|---------|--------|
| 1. 2kg  | 2. 5kg  | 3. 20kg | 4. 7kg |
| 5. 85kg | 6. 80kg | 7. 30kg | 8. 9kg |

**Changing grams to kilograms****Examples**

1. Change 8000g to kilograms

$$\begin{aligned}1000\text{g} &= 1\text{kg} \\ 8000\text{g} &= \frac{8000}{1000} \\ &= \mathbf{8\text{kg}}\end{aligned}$$

2. Change 12000g to kg

$$\begin{aligned}1000\text{g} &= 1\text{kg} \\ 12000\text{g} &= \frac{12000}{1000} \\ &= \mathbf{12\text{ kg}}\end{aligned}$$

**Exercise**

Convert the following grams to kilogram.

- |           |          |          |
|-----------|----------|----------|
| 1. 10000g | 2. 850g  | 3. 6000g |
| 4. 5000g  | 5. 9000g | 6. 8700g |
| 7. 2000g  | 8. 4000g |          |

**Addition of kilograms and grams****Example**

1.	Kg	g
	4	250
	+ 2	300
	<hr/>	
	6	550

Activity in MK Bk3 Pg.171

**Word problem involving addition of kilograms and grams****Example**

Kato weighs 17kg 280g. His sister weighs 20kg 250g. Find their total weight.

	Kg	g
	17	280
	+ 20	250
	<hr/>	
	37	530

Activity in MK Bk3 Pg.172

**Subtraction of kilograms and grams****Example**

	Kg	g
	9	650
	- 7	200
	<hr/>	
	2	450

Activity in MK Bk 3 Pg. 173

**Word problem involving subtraction of kilograms and grams****Example**

Akot had 5kg 750g of salt. She gave 3kg 250g to her friend. How much salt was left?

	Kg	g
	5	750
	- 3	250
	<hr/>	
	2	500

Activity in MK Bk.3 Pg.174

**MONEY****Identifying money**

Money is a medium of exchange. There are two forms of money i.e notes and coins

**Examples of notes**

A one thousand note

A two thousand note

A five thousand note

A ten thousand note

Twenty thousand note

A fifty thousand note

**Examples of notes**

A one hundred coin

A two hundred coin

A five hundred coin

A fifty shilling coin

One thousand coin

Exercise from MK Learners Bk.3 Pg. 177 - 178

**Addition and subtraction of money****Examples**

Add and subtract these money correctly

1. Sh.300 + Sh.50

$$\begin{array}{r} \text{Sh. 300} \\ + \text{Sh. 50} \\ \hline 350 \end{array}$$

2. Sh. 450

$$\begin{array}{r} - \text{Sh. 300} \\ \hline 150 \end{array}$$

**Exercise**

Work out the following correctly.

a) Sh

$$\begin{array}{r} 100 \\ + 120 \\ \hline \end{array}$$

b) Sh

$$\begin{array}{r} 200 \\ + 100 \\ \hline \end{array}$$

c) Sh

$$\begin{array}{r} 400 \\ + 300 \\ \hline \end{array}$$

**Multiplication of money (Simple rates)****Examples**

1. A book costs sh.900. How much will I pay for 3 books?

$$\begin{array}{rcl} 1 \text{ book} & = & 900 \\ 3 \text{ books} & = & \text{sh.}(3 \times 900) \\ & = & \text{sh. 2700} \end{array}$$

2. Find the cost of 5 cups if one cup costs sh. 500.

$$\begin{array}{rcl} 1 \text{ cup} & = & 500 \\ 5 \text{ cups} & = & \text{sh. } (5 \times 500) \\ & = & \text{sh. } 2500 \end{array}$$

### Exercise

1. A pencil costs sh. 200. How much money will I pay for 4 pencils?
2. A small jerrycan of paraffin costs sh.4000. What will 5 jerrycans cost?
3. Kapere bought 4 belts at sh.2000 each. How did he pay?
4. An onion costs sh.100. How much will Ruth pay for 6 onions?

### Division of money

#### Examples

1. If 4 dresses cost sh.8000. What is the cost of 1 dress?  
$$\begin{array}{rcl} 4 \text{ dresses} & = & 8000 \\ 1 \text{ dress} & = & 8000 \div 4 \\ & = & \textbf{sh. 2000} \end{array}$$
2. Edwin had sh.600. He shared it equally among 2 children. How much money did each child get?  
2 children got sh.600  
$$\begin{array}{rcl} 1 \text{ children} & = & 600 \div 2 \\ & = & \textbf{sh.300} \end{array}$$

### Exercise

1. 5 pens cost sh.2000. Find the cost of 1 pen.
2. The cost of 2 pineapples is sh.3000. Find the cost of one pineapple.
3. If 4 sweets cost sh.1200. What is the cost of one sweet?
4. The cost of 3 pencils is sh.600. Find the cost of 1 pencil.
5. Manderia had sh.1000. She shared it equally among two girls. how much money did each girl get?

### Shopping list

1. Study the shopping list below.  
A pencil costs shs. 200  
A ruler costs shs. 700  
A book costs shs. 1000
  - a) What is the cheapest item?  
**A pencil**
  - b) What is the most expensive item?  
**A book**



c) How much money will I pay for 3 books?

$$1 \text{ book} = 1000/=$$

$$3 \text{ books} = 1000 \times 3$$

$$= \text{shs. } 3000$$

Exercise (refer to MK Bk3 Pg 181 – 82)

### Shopping bill

1. John went and bought the following items.

$$2 \text{ pens each at } 400/=$$

$$1 \text{ set at } 1500/=$$

$$3 \text{ rulers each at } 500/=$$

$$2 \text{ books each at } 500/=$$

a) How much money did he pay for pens?

$$1 \text{ pen} = 400/=$$

$$2 \text{ pens} = 400 \times 2$$

$$= \text{800}/=$$

2. Find the cost of a set and the books.

$$\text{A set} = 1500/=$$

$$\begin{array}{r} \text{Books} = 2 \times 500 = + 1000 \\ \hline = \text{2500}/= \end{array}$$

3. Find the cost of 3 sets.

4. How much did he pay for 5 rulers?

5. Find the cost of 4 pens.

6. Find the total cost for all the above items.

7. If John went with 10,000 note, find the balance he took home.

### Shopping tables

Completing shopping tables

#### Completing the table

Item	Quantity	Unit cost	Total cost
Tin	2	Shs. 600	<u>1200/=</u>
Cup	1	Shs. 800	<u>800/=</u>
Plate	4	Shs. <u>300</u>	Shs. 1200
Spoon	5	Shs. 100	<u>Shs. 500</u>

Working

Total cost of tins

$$\text{sh.}600 \times 2$$

$$= \text{sh.}1200$$

Total cost of a cup

$$\text{sh.}800 \times 1$$

$$= \text{sh.}800$$

Total cost of a plate

$$\text{sh.}1200 \div 4$$

$$= \text{sh.}300$$

Total cost of spoons

$$\text{sh.}100 \times 5$$

$$= \text{sh.}500$$

Exercise (Refer to MK Bk3 Pg. 183 – 184)

**ALGEBRA****Equations****Finding the missing numbers by subtracting****Examples**

$$1. \quad \square + 3 = 6$$

$$\square + 3 - 3 = 6 - 3$$

$$\square = 3$$

2. Olara had some eggs. Her mother gave her 24 more eggs.

She now has 40 eggs.

How many eggs had she before?

Let Olara's eggs be  $m$ 

$$m + 24 = 40$$

$$m + 24 - 24 = 40 - 24$$

$$m = 16 \text{ eggs}$$

**Exercise**

Workout the following correctly

$$1. \quad \square + 4 = 8$$

$$2. \quad \square + 8 = 10$$

$$3. \quad \square + 16 = 20$$

$$4. \quad \square + 5 = 20$$

$$5. \quad \square + 4 = 24$$

**Find the missing numbers by adding****Examples**

1. Fill in the missing numbers.

$$\square - 2 = 8$$

$$\square - 2 + 2 = 8 + 2$$

$$\square = 10$$

2. Father had some books. He gave me 5 books and remained with 7 books.  
How many books did he have at first?

Let the books be  $\square$

$$\square - 5 = 7$$

$$\square - 5 + 5 = 7 + 5$$

$$\square = \mathbf{12 \text{ books}}$$

### Exercise

1. Find the missing numbers.

a)  $\square - 2 = 1$

b)  $\square - 10 = 10$

c)  $\square - 5 = 8$

d)  $\square - 14 = 26$

e)  $\square - 2 = 12$

f)  $\square - 3 = 9$

2. Babirye had a packet of sweets. She gave me 15 sweets and she remained with 30 sweets. How many sweets had she before?

### Filling in the missing numbers by dividing

#### Example

Fill in the missing numbers

a)  $\square \times 2 = 10$

b)  $\square \times 3 = 18$

$$\square \times 2 \div 2 = 10 \div 2$$

$$\square = 18 \div 3$$

$$\square = \mathbf{5}$$

$$\square = \mathbf{6}$$

c)  $6 \times \square = 24$

$$\square = 24 \div 6$$

$$\square = \mathbf{4}$$

### Exercise

Find the missing numbers

a)  $\square \times 2 = 8$

b)  $\square \times 3 = 15$

c)  $\square \times 4 = 16$

d)  $\square \times 2 = 8$

e)  $\square \times 3 = 15$

f)  $9 \times \square = 36$

**Filling in the missing numbers by multiplying****Examples**

a)  $\square \div 5 = 9$

$\square \div 5 \times 5 = 9 \times 5$

$\square = 45$

b)  $\square \div 4 = 6$

$\square \div 4 \times 4 = 6 \times 4$

$\square = 24$

**Exercise**

Fill in the missing numbers.

a)  $\square \div 2 = 9$

b)  $\square \div 7 = 7$

c)  $\square \div 3 = 8$

d)  $\square \div 4 = 7$

e)  $\square \div 5 = 6$

f)  $\square \div 5 = 2$

g) Aisu had some pencils. He shared them equally among 3 pupils and each got 9 pencils. How many pencils had he before?

**Word problems involving finding missing numbers with division****Example**

1. Auma had some bananas. He shared them among 6 boys. Each boy got 8 bananas. How many bananas had Auma before?

$\square \div 6 = 8$

$\square = 8 \times 6$

$\square = 48$

Auma had 48 bananas before

Activity in MK Bk 3 Pg.198

**Collecting like terms****Example**

Collect like terms

3 cups + 2 books + 4 cups + 3 books

3 cups + 4 cups + 2 books + 3 books

7 cups + 5 books

Activity in MK Bk 4