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:

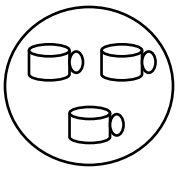
Weak points:

Way forward:

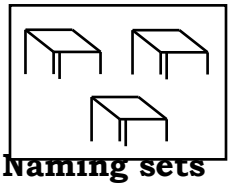
PD: 2

Drawing and naming sets
Example 1

Draw a set of 3 cups.



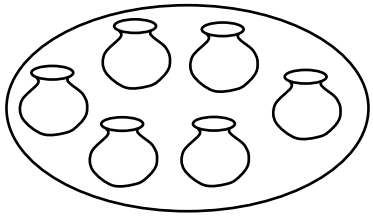
Drawing 2
Draw a set of 3 tables



Naming sets

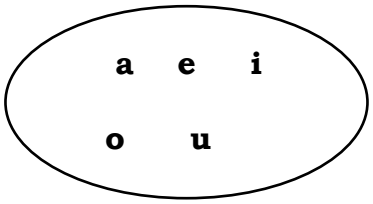
Examples 1

A set of six pots



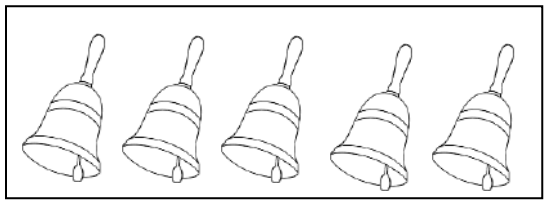
Example 2

A set of vowel letters.

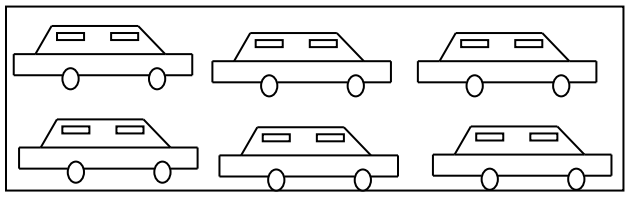


Exercise

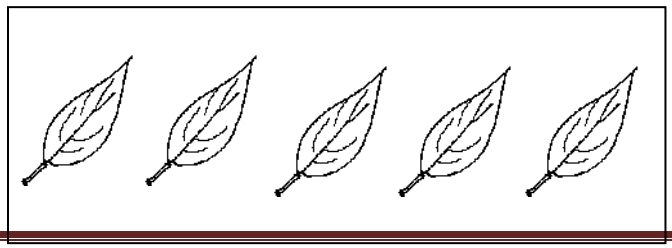
1. Name the sets drawn below.

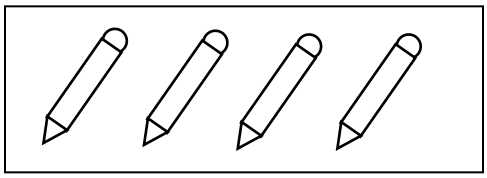
a) 

_____

b) 

_____

c) 

d) 

1. Draw the following sets.
   a) A set of even numbers less than 13.
   b) A set of four names for girls.
   c) 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

∩ _____ Intersection of/with

∪ _____ Union of/with

∅ Or { } _____ Empty set, void, null

⊂ _____Subset of

⊄ _____ Not subset of

∑ _____ Universal set

∈ _____ Element of /member of

∈ _____ Not element of /not member

= _____ Equal to

≠ _____ Not equal to

≡ ↔ ⇔

Or or _____ 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) $\sum$ = _____

Self Evaluation

Strong points:

Weak points:

Way forward:

Period 4

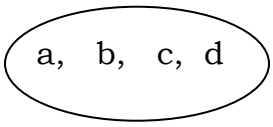
Listing members in a set

Example 1

Martha, Alice Mary, Allen

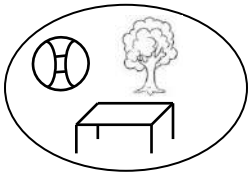
= { Martha, Alice, Mary, Allen}

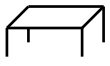
Example 2.



= { a, b, c, d}

Example 3

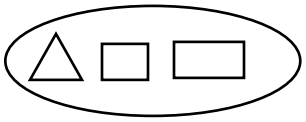


= {  ,  ,  }

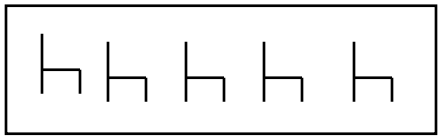
Exercise

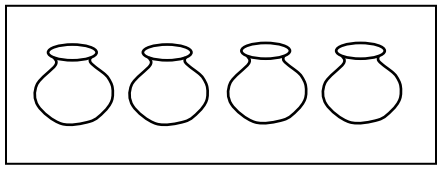
List the members in the following sets.

1. Pigs , goats, sheep, rabbit = _____

2.  = _____

3. Jimmy, Jerry, John = _____

4.  = _____

5.  = _____

Self evaluation

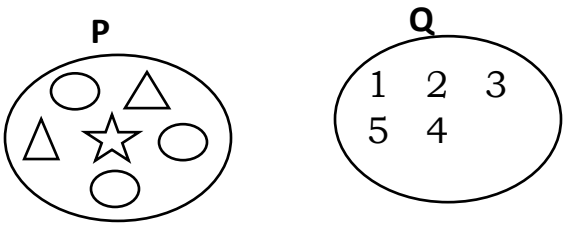
Strong points:

Weak point:

Way forward:

Lesson 5

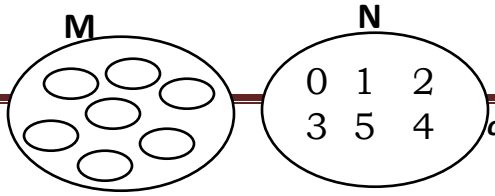
Examples 1



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.

W

a b c d e f

X

3, 4, 5, 6, 7, 8, 9, 10, 11, 13

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: _____

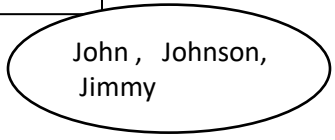
FORMATION OF SMALL SETS FROM BIG SETS

Example 1

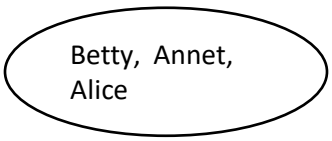
Form small sets from the set below.

John, Johnson, Jimmy Betty, Annet, Alice, 0, 2, 4, 6, 8, 10

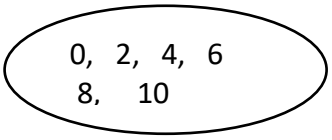
A set of names for boys.



A set of names for girls.

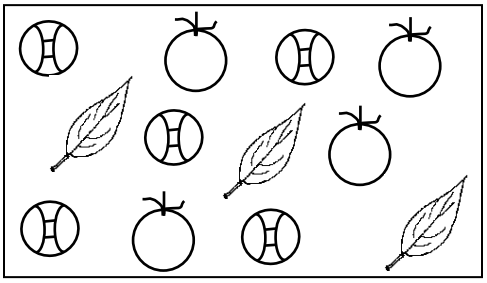


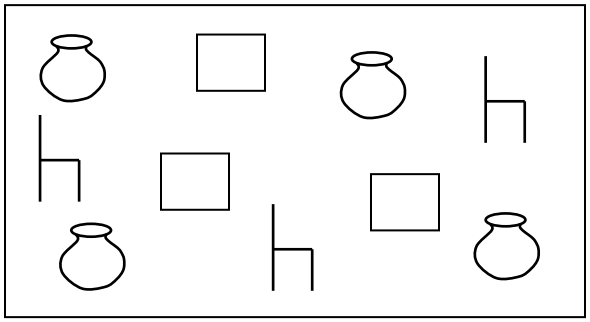
A set of seven number.



Exercise

Form small sets from the big sets below.

1. 

2. 

Self-Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

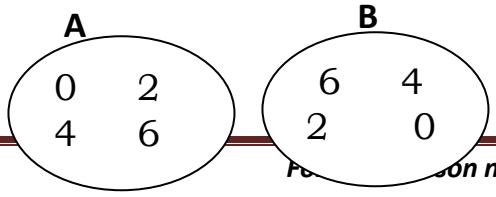
Lesson 7

Types of sets

Equal sets

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

Examples 1

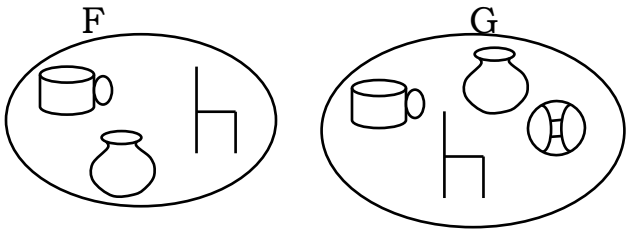


Set A has 4 members.

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

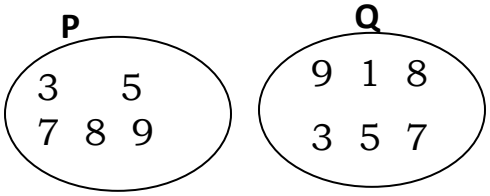


Set **F** and set **G** do not have the same type and number of members. So, set **F** is not equal to set **G**.

Exercise

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

1.

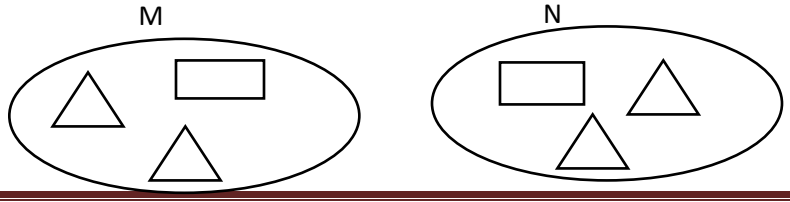


i) Set P is _____ to set Q.

ii) Set P and set Q are _____ sets.

iii) Set P is _____ set Q.

2.



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 ⟷ set Y.

Example 2

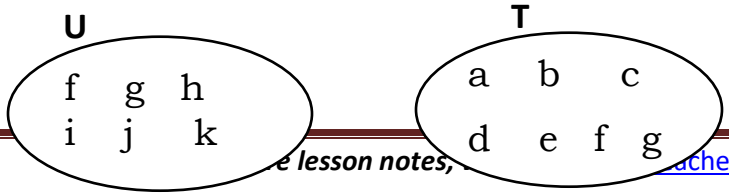
Set C and D are not equivalent sets.

Set C is not equivalent to set D.

Set C ⟷ set D.

Exercise

Use equivalent to, not equivalent , ⟺ , ⟺ to complete the following statements.



1.

a) Set **U** and set **T** are _____ sets.

b) Set **U** is _____ to set **T**.

c) Set **U** is _____ set **T**.

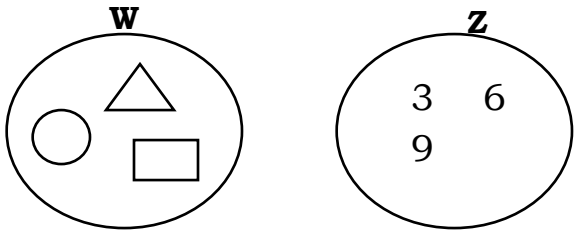
2. **R** = {3, 4, 5, 6, 7, 87} **S** = {1, 2, 3, 4, 5, 6}

i) Set **R** and set **S** are _____ sets.

ii) Set R is _____ to set S.

iii) Set R is _____ set T.

3. Given that.



a) 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

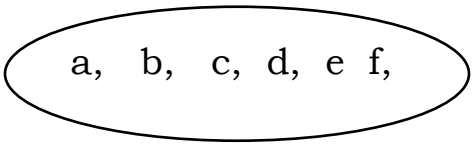
UNION SETS

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.

c d e f g	a b c

Union set = 

Example 2

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

Union set AUB

= {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}

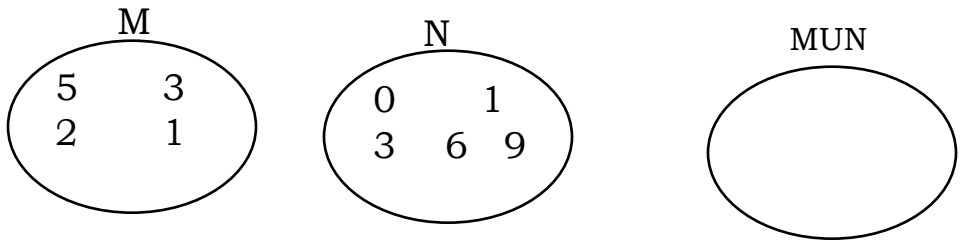
   S = {0, 1, 2, 3, 4, 5, 6, 7}

   Set R Union Set S = { }

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

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

   X U 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∩E)

D∩E = { 0, 2, 4, 6}

Example 2

Given that
A = {e, o, w} B = {c, a, t}
A∩B = { C }

Set D and E are intersecting sets.
Therefore set **D** intersection set E (D∩E)
D∩E = {0, 2, 4, 6}

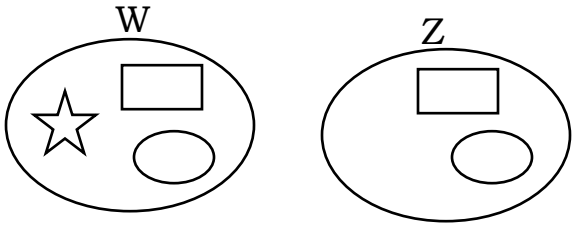
Example 2

Given that
A = {e, o, w} b = {e, a, t}

A∩B = { c }

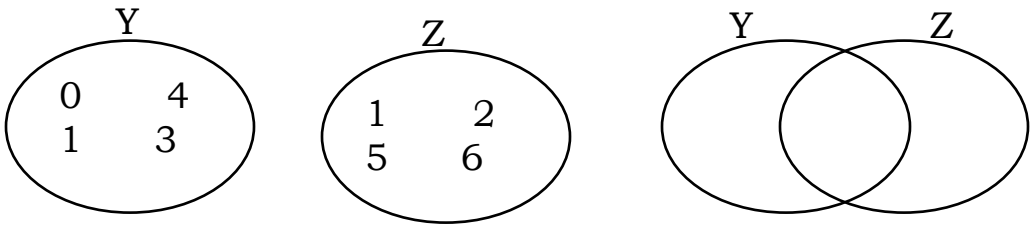
Exercise

1. Workout the following correctly.



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

P∩Q = { }



4. A = { s, u, d, a, n}
B = {u, g, a, n, d, a}
Find A∩B

5. X = {a, b, c, d, e, f}
Y = {a, e, i, o, u}
Fid X∩Y

Self Evaluation

Strong points: _____

Weak points: _____

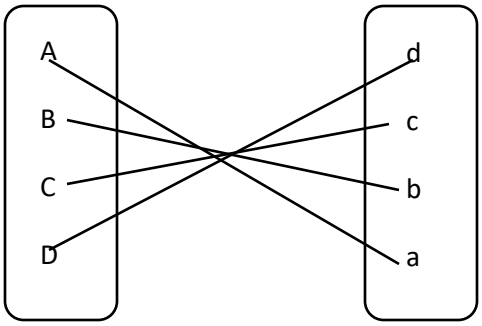
Way forward: _____

LESSON 4

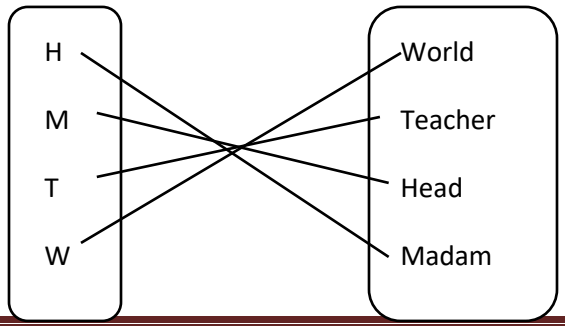
MATCHING AND NON MATCHING SETS

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	Fruit
Mercy	Bird
Dove	Animal
Goat	Boy
Mango	Girl

2.

2 + 1	7
2 + 3	9
2 + 5	5
2 + 7	3

3.

10	Four
6	Eight
4	Seven
8	Six
7	Ten

Self Evaluation

Strong points: _____

Weak points: _____

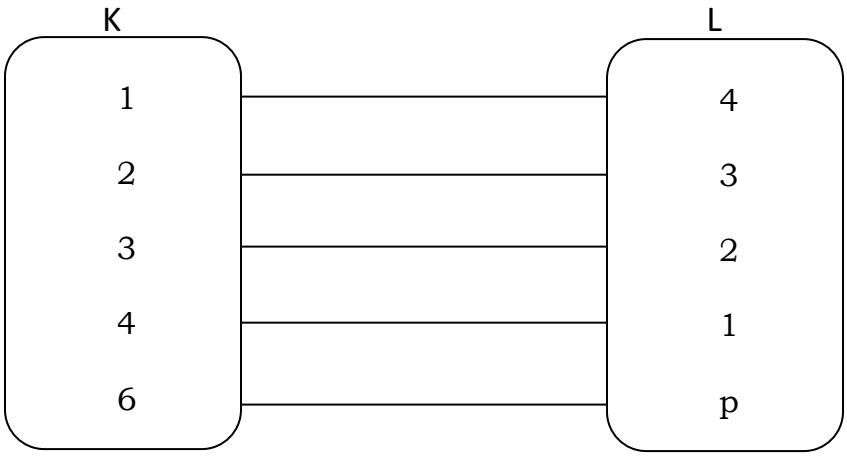
Way forward: _____

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

a) Set W has 3 members.

b) Set X has 3 members.

c) Set W and X are non matching sets

Exercise
Work out the following correctly.

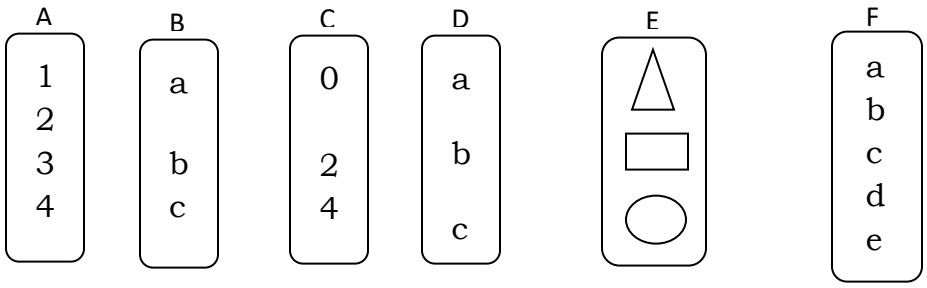
1. Set P = {1, 2, 3, 4, 5, 6}
   Q = {7, 8, 9, 10, 11}

i) Set P has _____ members.

ii) Set Q has _____ members.

iii) Set Q and P are _____ sets.

2. Write matching sets, non matching sets or equal sets



a) Set A and set B are _____

b) Set A and set C are _____

c) Set A and set D are _____

d) Set B and set C are _____

e) Set B and set D are _____

f) Set C and set E are _____

h) Set E and F are _____

Self Evaluation

Strong points: _____

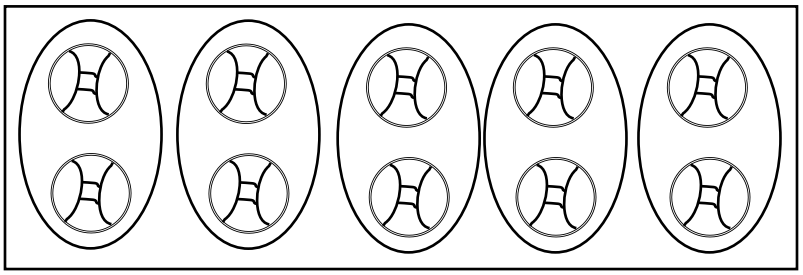
Weak points: _____

Way forward: _____

LESSON 6

GROUPING MEMBERS IN A SET

Example 1
Grouping members in twos and threes



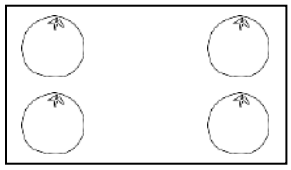
There are 5 groups of 2 balls.

There are 10 balls altogether.

There are 3 groups of 3 bananas on a cluster.

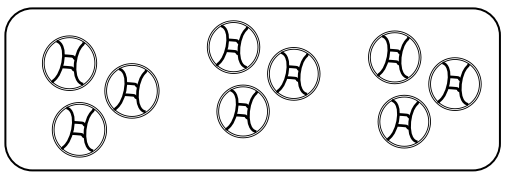
There are 9 bananas altogether.

Exercise



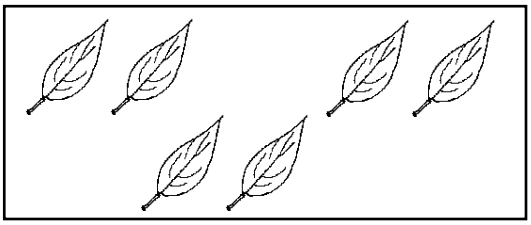
There are _____ groups of 2 oranges.

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: _____

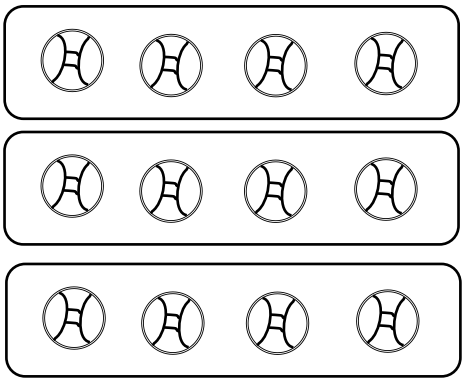
Weak points: _____

Way forward: _____

Lesson 7

GROUPING IN FOUR AND FIVES

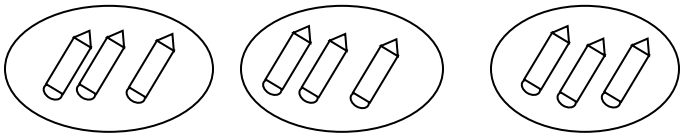
Example 1



There are 3 groups of 4 balls.

There are 12 balls altogether.

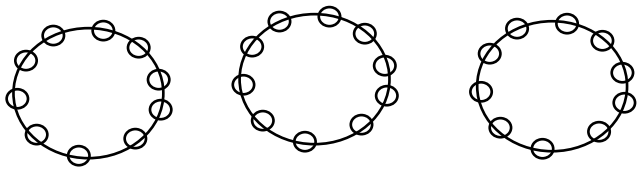
Example 2



There are 3 groups of 3 sticks.

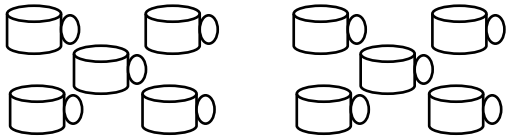
There are 9 sticks altogether.

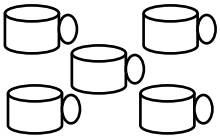
Exercise

1. 

There are _____ groups of 10 beads.

There are _____ beads altogether.

2.  There are _____ groups of 5 cups.



There are ____ cups altogether.

Self evaluation

Strong point: _____

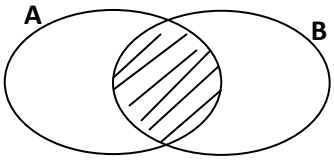
Weak point:_____

Way forward: _____

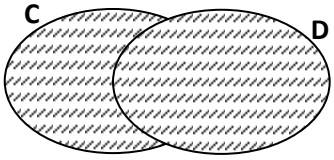
Lesson 8

Shading venn diagrams/Describing venn diagrams

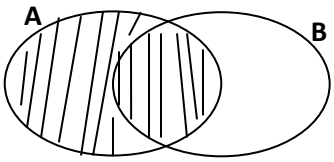
Examples

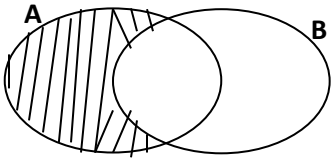
1. 

A∩B

2. 

CUD

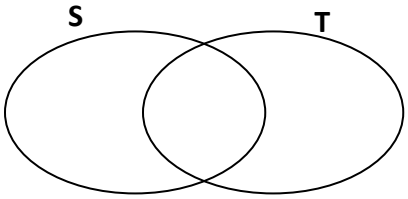
3. 

4. 

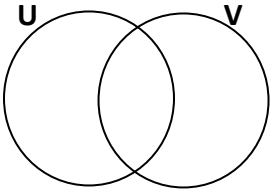
Set G

Set X only

4.



Set T

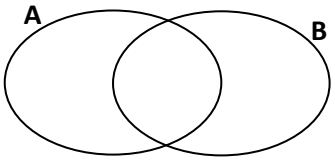


Set V only

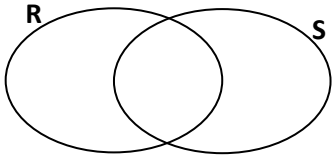
Exercise

1. Shade the following regions

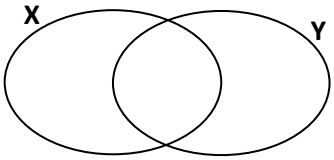
a) AUB



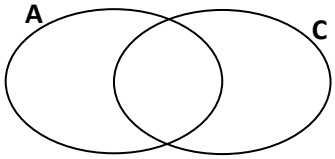
b) RUS



c) XUY

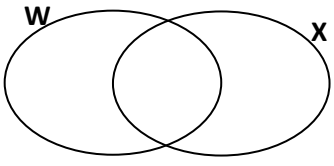


d) AUC



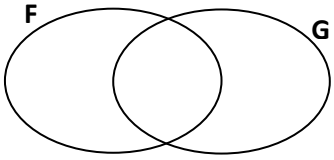
2. Describe the shaded regions.

i)



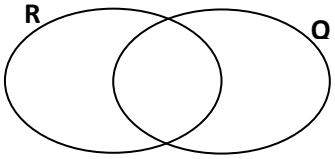
_____

ii)

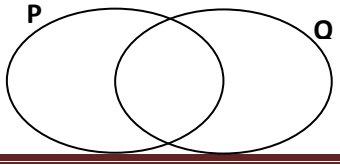


_____

iii)



iv)



_____ _____

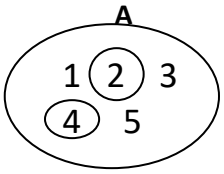
Self Evaluation

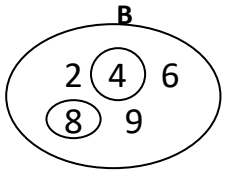
Strong points: _____

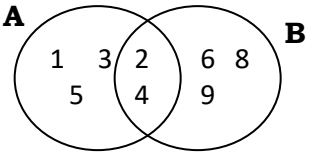
Weak Point: _____

Way forward: _____

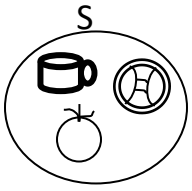
Week 3
Lesson 1:
Representing members on a venn diagram
Examples 1

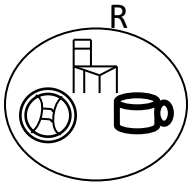


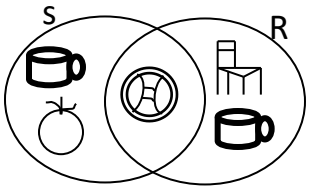




Example 2







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∩Q = {2, 4, 6, 8}

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

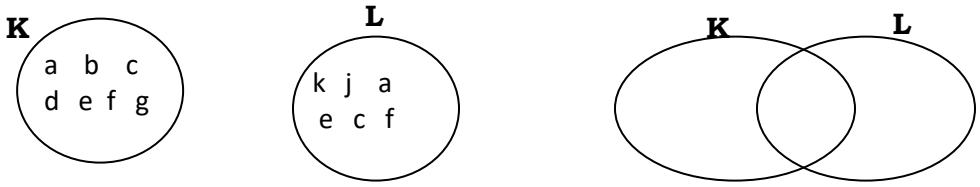
iii) Set P only = {1, 3, 5, 7}

iv) Set Q only = {10, 12}

Exercise

Workout the following correctly.

i)



2. S = {boy, cow, girl, man}

   T = {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

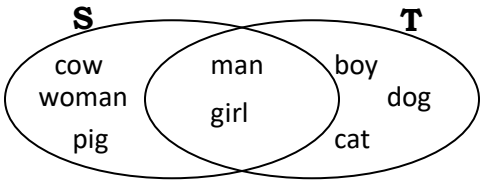
Strong pints: _____

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}

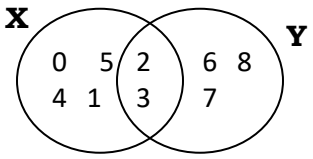
c) S∩T = {girl, man}

d) SUT = {cow, boy, cat, dog, girl, man, woman, pig}

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

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

Example 2

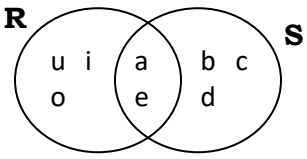


i) Find X∩Y = {2, 3}

ii) XUY = {0, 1, 2, 3, 4, 5, 6, 7, 8}

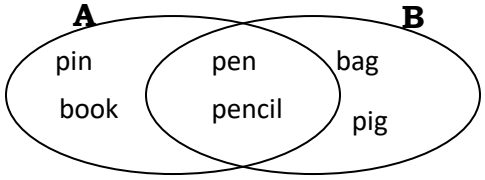
n(X) = {0, 1, 2, 3, 4, 5} = 6 members

Exercise

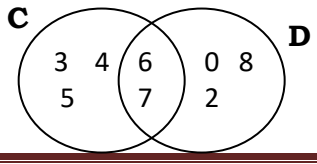
1. 

a) Find:
i) R∩S
ii) RUS

iii) Set S only

2. 

a) Find:
i) A∩B
ii) AUB
iii) Set A
iv) Set B

3. 

a) Find:

i) C∩D
ii) CUD
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 members

ii) Find n(D) only
= {5, 6, 7}
n(D) only = 3 members

iii) n(D∩E)

D∩E = {1, 2}

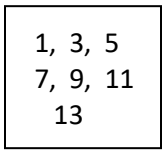
n(D∩E) = 2 members

Exercise

Find the number of members in the sets below.

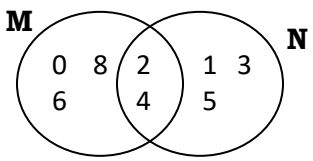
1. B = {3, 6, 9, 12, 15}. How many members are in set B?

2. If R = {  ,  ,  ,  } Find n(R)

3. 

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∩N)= ii) n(MUN= 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.

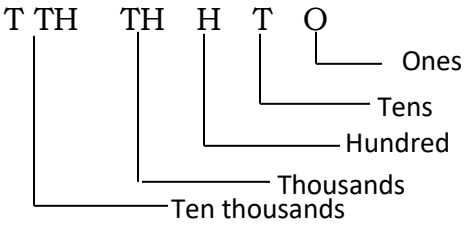
42, 44, 46, 48, ___, 52, 54, 56, ___, ___

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

3	6
T	0

One

Tens

4 5 0 3

TH	H	T	O
4	5	0	3

Ones

Tens

Hundreds

Thousands

Exercise

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

1. 64
2. 795
3. 571
4. 6104
5. 734
6. 7348
7. 2506
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) 2<u>5</u>

2 <u>5</u>

Ones

b) 5<u>6</u>28

5 <u>6</u> 2 8

Hundreds

Examples 2

Fill in the missing numbers

a) 421 = <u>4</u> hundreds <u>2</u> tens <u>1</u> ones

b) 4309 = <u>4</u> thousands <u>3</u> hundred <u>0</u> tens <u>9</u> ones

c) 246 = <u>2</u> hundreds <u>4</u> tens <u>6</u> ones

Exercise

Fill in the missing numbers

1. 24 = _____ tens ____ ones
2. 603 = _____ hundreds ____ tens ____ ones
3. 946 = ____ hundreds ____ tens ___ ones
4. 3965 = _____ thousands ____ hundreds ___ tens ___ ones
5. 246 = ___ thousands ___ hundreds tens ____ ones
6. 437 = ____ hundreds ____ tens ____ ones
7. 868= _____ hundreds ____ tens ___ ones

8. 9634= _____ thousands ____ hundreds ___ tens ___ 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: _____

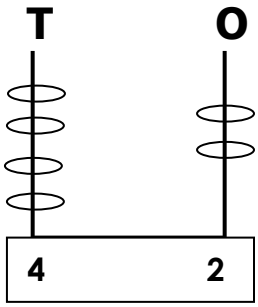
Weak points: _____

Way forward: _____

Lesson 8

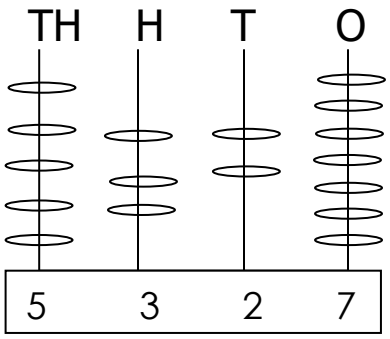
Writing the numbers shown on the abacus

Example 1



= 42

Example 2

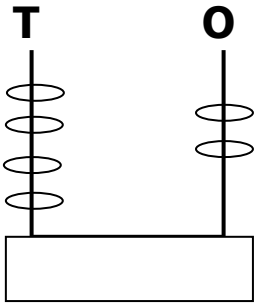


= 5327

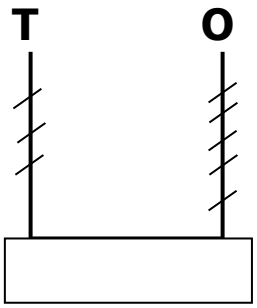
Exercise

Write the numbers shown on the abacus.

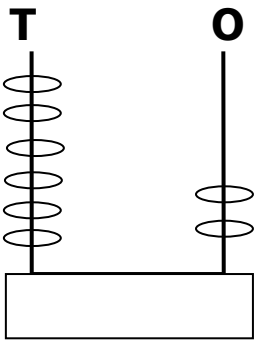
1.



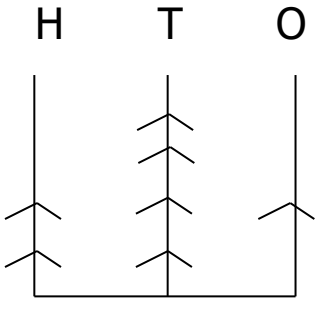
2.



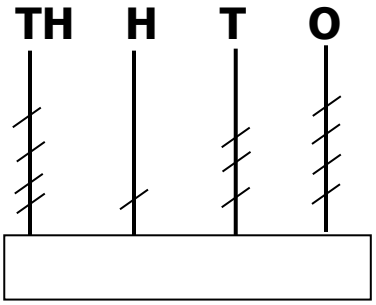
3.

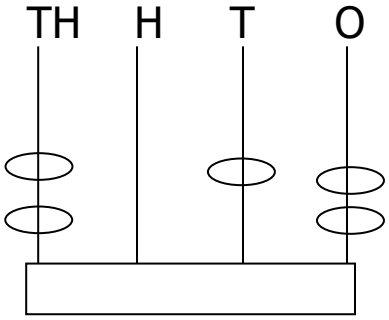


4.



_____

5. 

6. 

Self Evaluation

Strong points: _____

Weak points: _____

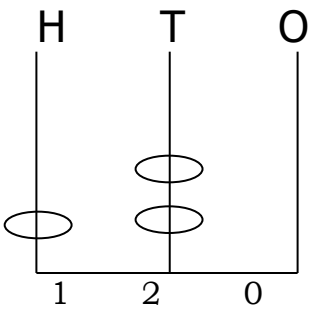
Way forward: _____

Week 4
Lesson 1

Showing numbers on the abacus

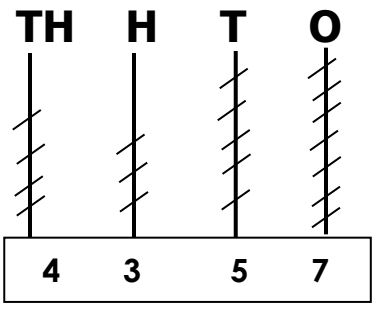
Example 1

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 x 1= 9

2 x 10 = 20

Example 2

3 8 5

H	T	O
3	8	5

5 X 1 = 5

8 X 10 = 80

3 X 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) 3<u>7</u>5

3	7	5
H	T	O

V = D x PV
V = 7 x 10
V = 70

b) 3<u>2</u>69

TH	H	T	O
3	2	6	9

V = D x PV
V = 2 x 100
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

2	5
T	0

(2 x10) + (5 x 1)
20 + 5

b) 4345

TH	H	T	O
4	3	4	5

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

= 4000 + 300 + 40 + 5

Exercise

Write the following numbers in expanded form

1. 53
2. 565
3. 717
5. 9264
6. 6095
11. 3467
7. 345
8. 732
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:

30 + 6

30

\+ 6

36

5000 + 400 + 30 + 6

5000

30

\+ 6

5436

Exercise

Write the following numbers in short.

1. 30 + 4
2. 300 + 10 + 8
3. 900 + 60 + 4
4. 5000 + 200 + 4
5. 6000 + 5
6. 9000 + 400 + 30 + 1
7. 800 + 60 + 40
8. 700 + 70 + 7
9. 1000 + 900 + 6
10. 900 + 70 + 8
11. 3000 + 200 + 4
12. 200 + 40 + 3

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

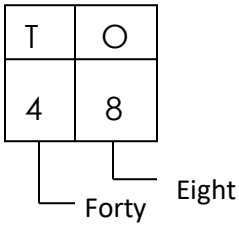
Lesson 6

Writing numbers in words

Example 1

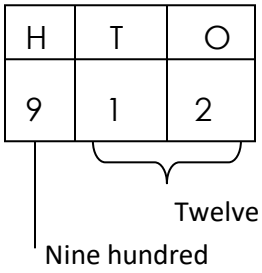
Write these numerals in words.

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 = 2 0 0

Twelve = + 1 2

2 1 2

= 212

Example 2

Write eight thousand, nine hundred eight in figures.

Eight thousand = 8, 0 0 0
Nine hundred = 9 0 0
Eight + 8

8, 9 0 8

= 8,908

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	
30	____	XXX	
40	____	XL	
50	____	L	
60	____	LX	
70	____	LXX	

Example 1

a) 25 = 20 + 5
= xx + vw
= x x v

b) 85 80 + 5
LXXX + V
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

XXVI = XX + VI
= 20 + 6
= 26

Example 2

XLIX = XL + IX
= 40 + 9
= 49

Exercise

Write the following in Hindu - Arabic numerals.

1.	XVI	7.	XCVII
2.	XLV	8.	LXIX
3.	X X X I X	9.	XCIX
4.	C D V	10.	CCIX
5.	L X X IV	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 = <u>XCVIII pens</u>

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.

a) 60 + 24

```
  60
+ 24
----
  84
```

b) 312 + 43

```
  312
+  43
-----
  355
```

Add the following numbers correctly.

1)
```
  1  3
+ 2  4
-------
```

2)
```
  2  0
+ 2  2
-------
```

3)
```
  4  0
+ 4  5
-------
```

4) 4 0
+ 3 8
_____

5) 3 6
+ 2 1
_____

6) 2 7
+ 3 2
_____

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 4

Addition of numbers with carrying

Examples 1

a) 2 4
+ 7 6
1 0 0

b) 8 6
+ 7 8
1 6 4

c) 3 6
+ 4 6
8 2

Exercise

Add the following numbers correctly.

1) 3 8
+ 8 7
_____

2) 4 9
+ 3 8
_____

3) 5 9
+ 8 7
_____

4) 8 9
+ 3 4
_____

5) 9 7
+ 3 6
_____

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 4 2 oranges
She picked + 2 7 oranges
6 9 oranges

Examples 2

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

Before 1 5 8 books
He got + 8 9 books
2 4 7 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

a) 2 4
− 1 3
1 1

b) 5 7
− 2 1
3 6

c) 9 7 5 6
− 4 3 4
9 3 2 2

Exercise

1) 4 6
− 2 4

2) 7 9
− 5 3

3) 6 5
− 3 3

4) 6 4 8
− 4 2

5) 3 4
− 1 2

6) 9 9 9 9
− 8 3 8

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 7
Subtraction with borrowing

Example 1

a) ~~2~~ ~~2~~ 7
− 3 5
1 9 2

b) 4 ~~6~~ ~~3~~
− 1 3 9
3 2 4

Exercise
Workout the following

1) 2 6 3
− 4 9
_____

2) 1 2 3
− 4 4
_____

3) 2 3 8
− 6 6
_____

4) 3 3 8
− 6 5
_____

5) 3 8 2
− 6 8
_____

6) 8 1 2
− 6 3 6
_____

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

Before 3 6 mangoes
Rotten − 2 3 mangoes
1 3
= 13 mangoes

Example 2

Take away 63 from 95
Soln.

9 5
− 6 3
3 2

Example 3

What is the difference between 854 and 285?
Soln.

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

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 x 2 = 2 2 x 4 = 8 9 x 4 = 36 8 x 2 = 16

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

8 0 8 6 6 0 8

Exercise

Workout the following:

1) 3 4 x 3

2) 4 4 x 2

3) 5 7 6 x 3

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 2

Multiplication of numbers by 2 with carrying

Example 1

a) 4 9 x 2 = 9 8

9 x 2 = 18
4 x 2 = 8 +1
= 9

b) 4 5 x 2 = 9 0

5 x 2 = 10
4 x 2 = 8+1
= 9

Exercise

Workout the following:

1) 6 8 x 2

2) 6 9 x 2

3) 8 8 x 2

4) 8 7 x 2

5) 2 4 5 x 2

6) 6 5 6 x 2

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 3

Multiplication of numbers by 3 and 4 with or without carrying

Example 1

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

$4 \times 3 = 12$
$2 \times 3 = 6 + 1$
$= 7$

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

$6 \times 4 = 24$
$2 \times 4 = 8 + 2$
$= 10$

Exercise

Workout the following numbers

1) $\begin{array}{r} 13 \\ \times\ 4 \\ \hline \\ \hline \end{array}$

2) $\begin{array}{r} 49 \\ \times\ 3 \\ \hline \\ \hline \end{array}$

3) $\begin{array}{r} 463 \\ \times\ 3 \\ \hline \\ \hline \end{array}$

4) $\begin{array}{r} 205 \\ \times\ 3 \\ \hline \\ \hline \end{array}$

5) $\begin{array}{r} 253 \\ \times\ 4 \\ \hline \\ \hline \end{array}$

6) $\begin{array}{r} 215 \\ \times\ 4 \\ \hline \\ \hline \end{array}$

7) $\begin{array}{r} 442 \\ \times\ 3 \\ \hline \\ \hline \end{array}$

8) $\begin{array}{r} 274 \\ \times\ 4 \\ \hline \\ \hline \end{array}$

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 4
Word problems involving multiplication by 3 and 4

Example 1

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

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

$8 \times 3 = 24$
$4 \times 3 = 12 \times 2$
$= 14$

$= 144$ pages

Example 2

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

Soln.

1 2 4	4 x 4 = 16
x 4	2 x 4 = 8 + 1
4 9 6 litres	1 x 4 = 4
	= 496 litres

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

1) 1 0 2) 1 9 3) 1 6 4) 4 6

x 5	x 5	x 6	x 6
5 0	9 5	9 6	2 7 6

Exercise

Workout the following

1) 3 4 x 5 _____

2) 3 9 x 5 _____

3) 6 4 x 5 _____

4) 6 4 6 x 5 _____

5) 7 6 x 6 _____

6) 8 9 x 6 _____

7) 6 7 x 6 _____

8) 8 6 x 6 _____

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.

3 8
x 6
2 2 8

6 x 8 = 46
6 x 3 = 18 + 4
= 22
= 228

Example 2

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

Soln.

2 8
x 5
1 4 0

5 x 8 = 40
5 x 2 = 10 + 4
= 14
= 140 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)
```
  3  2
 x  7
-------
 2 2 4
-------
```
7 x 2 = 14
3 x 7 = 21 +1

b)
```
  6  7
 x  8
-------
 5 3 6
-------
```
8 x 7 = 56
8 x 6 = 48+5
= 53

Example 1

```
  1   8
 x   8
-------
1  4  4
-------
```
8 x 8 = 64
8 x 1 = 8 + 6
= 14

Exercise
Multiply the following correctly

1) 41 x 7 _____

2) 32 x 8 _____

3) 15 x 9 _____

4) 745 x 7 _____

5) 65 x 9 _____

6) 63 x 9 _____

7) 78 x 7 _____

8) 54 x 8 _____

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

42	40 + 2	20
x 10	x 10	+ 400
420	400 + 20	420

Example 2

234	200 + 30 + 4	40
x 10	x 10	+ 300
2340	2000 x 300 x 40	2000
		2340

Exercise

Workout the following

1) 2 4
x 1 0
_____

2) 4 3
x 1 0
_____

3) 2 6 4
x 1 0
_____

4) 9 6
x 1 0
_____

5) 4 2 6
x 1 0
_____

6) 7 2 1
x 1 0
_____

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 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
3 x 3 = 9
4 x 4 = 76
5 x 6 = 30
4 x 2 = 8

Exercise

Complete the tables below

1.

X	2	4
1		
3		
5		

2.

X	0	2	4
1			
3			
5			

1 x 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 ÷ 2

Soln.

$$2\overline{)22} = 11$$

2 ÷ 2 = 1

(1X2) - 2
0 2 $2 \div 2 = 1$
(1X2) - 2
0 $22 \div 2 = 11$

Example 2

Divide $36 \div 3$

Soln.

12
3 | 3 6 $3 \div 3 = 1$
(1X3) - 3 ↓
0 6 $6 \div 3 = 2$
(3X2) - 6
-

$36 \div 3 = 12$

Exercise

Workout the following:

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

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

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

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 3

Division of numbers by 2 and 3 with remainders

Example 1

Divide 7 ÷ 2

```
        3 remainder 1
     2 ) 7          7 ÷ 2 = 3
(2x3)  - 6 ↓
         1
```

7÷ 2 = 3 rem. 1

Example 2

Divide 7÷ 3

```
        05
     3 ) 1 7        1 ÷ 3 = 0
(3x0)  - 0 ↓
         1 7        17 ÷ 3 = 5
        -1 5
         2
```

17÷ 3 = 5 rem. 2

Exercise

Workout the following

1) 2) 9 2) 2) 13 3) 2) 15

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

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 4

More about division by 2 and 4

Example 1

Divide 38 ÷ 2

$$2\overline{)38}\quad 19,\ 18,\ -18$$

II Divide 60 ÷ 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.

```
        023
     6 ⟌138
6 x 0  - 0↓
        13
6x2     - 12↓
        18
6x3     - 18
   =     23
```

Example 2

Divide 112 ÷ 7

```
        016
     7 ⟌112        1 ÷ 7 = 0
(0x7)   - 0↓       11 ÷ 7 + 1
        11 |
(7x1)   - 07↓       42 ÷ 7 = 6
        42
 (7x6)  - 42
          - -
```

112 ÷ 7 = 16

Lesson 7
Word statements about division

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

Divide 38 ÷ 2

```
      04
   3 ⟌1 2        1 ÷ 8 + 0
(8x0)  0↓
      -1 7       17 ÷ 8 = 2
(8x2) -16
        16       16 ÷ 8 = 2
```

8x2 16

- - = 22 books

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: _____

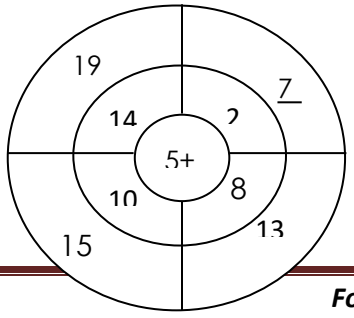
Way forward: _____

Lesson 8

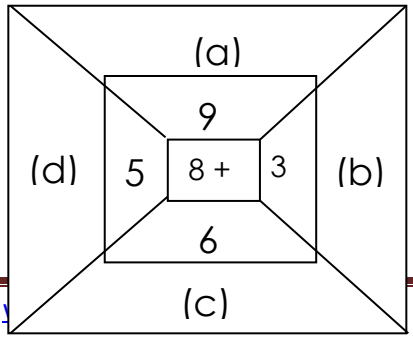
Number patterns and sequences

Filling in the missing numbers by adding

Example 1



Example 2



a = 8 + 9
a = 17

b = 8 + 3
= 11

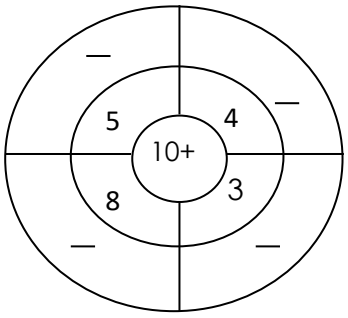
c = 8 + 6
c = 14

d = 8 + 5
d = 13

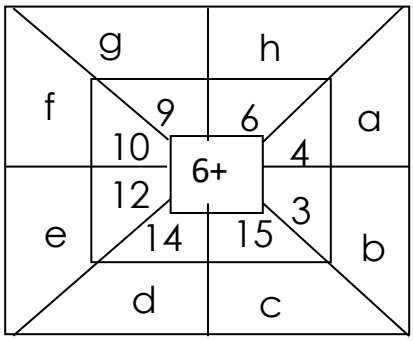
Exercise

Fill in the missing numbers.

1.



2.



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

Self Evaluation

Strong points: _____

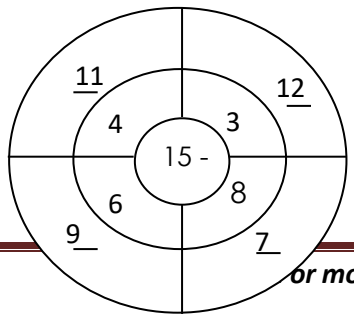
Weak points: _____

Way forward: _____

Week 8
Lesson 1

Finding the missing numbers by subtracting

Example 1



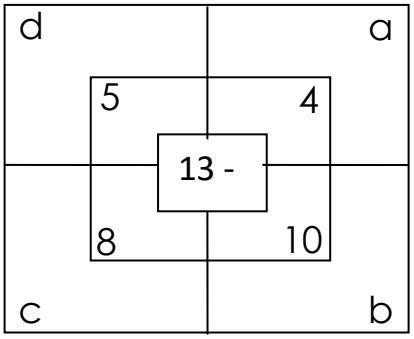
15 – 3 = 12

15 - 8 = 7

15 – 6 = 9

15 – 4 = 11

Examples



a = 15 – 4

a = 1

b = 13 – 10 = 3

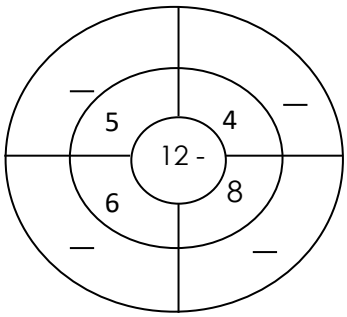
c = 13 – 8 = 5

d) = 13 – 5 = 8

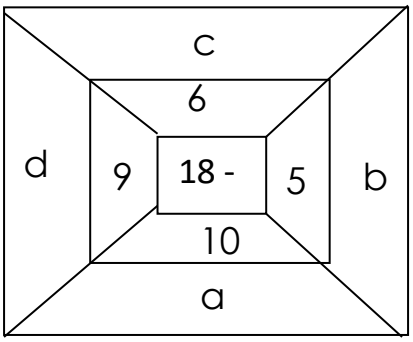
Exercise

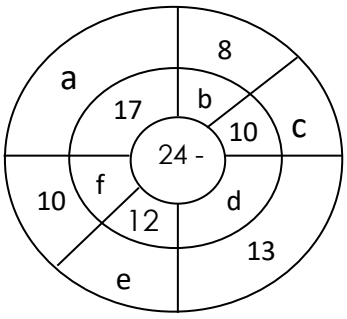
Fill in the missing numbers in the tables below.

1)



a =
b =
c =
d =





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

Self Evaluation

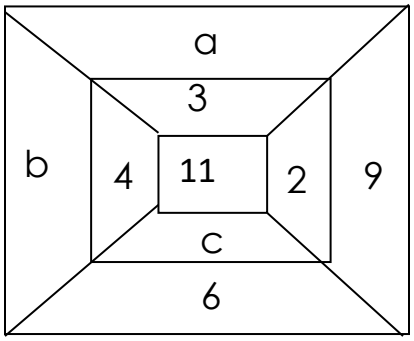
Strong points: _____

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

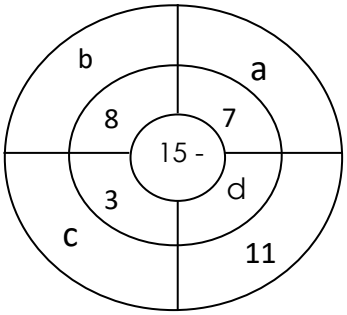
a = 8

b = 11 – 4

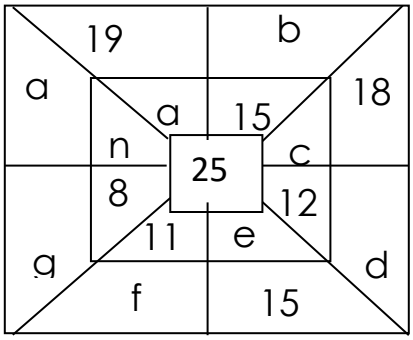
b = 7

c = 11- 6 = 5

Exercise
Fill in the missing numbers below.



a =
b =
c =
d =



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

Self Evaluation

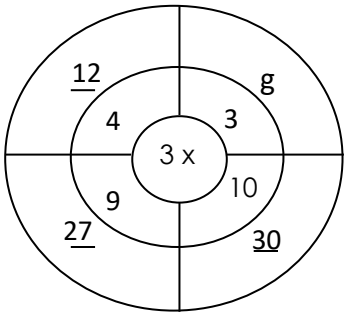
Strong points: _____

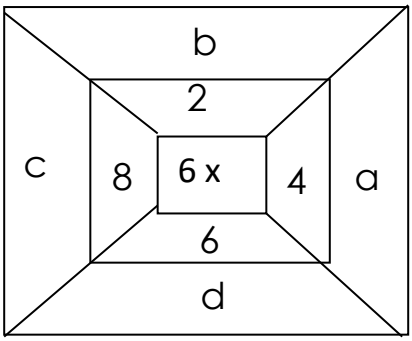
Weak points: _____

Way forward: _____

Lesson 3
Finding the missing numbers by multiplying

Example 1



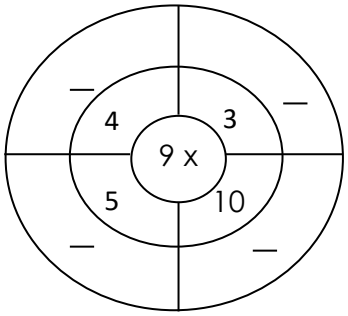


Soln.

a = 6 x 4 = 24
b = 6 x 2 = 12
c = 6 x 8 = 48
d = 6 x 6 = 36

Exercise
Fill in the missing numbers

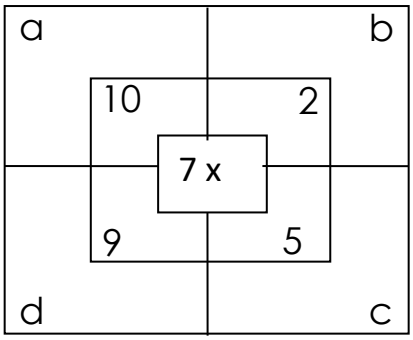
1.



a = c=

b = d =

2.



Self Evaluation

Strong points: _____

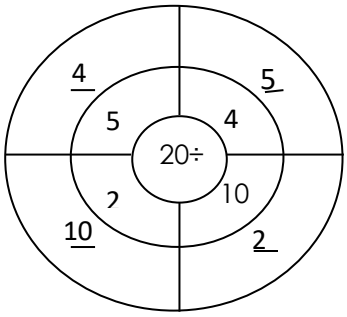
Weak points: _____

Way forward: _____

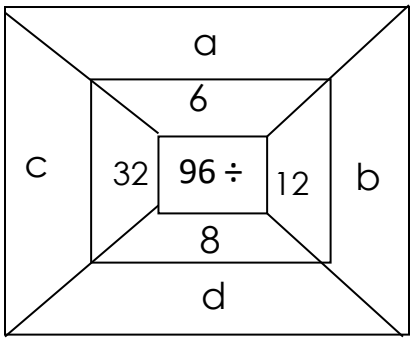
Lesson 4

Finding the missing numbers by dividing

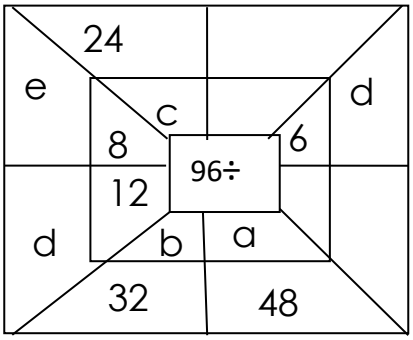
Example 1



Example 2



Activity



a =

b =

c =

d =

e =

Self Evaluation

Strong points: _____

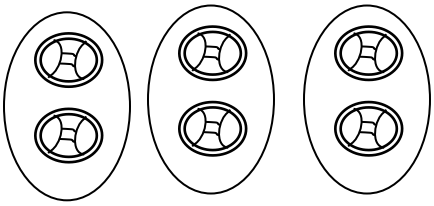
Weak points: _____

Way forward: _____

Lesson 5

Multiplication and division of numbers

Example 1



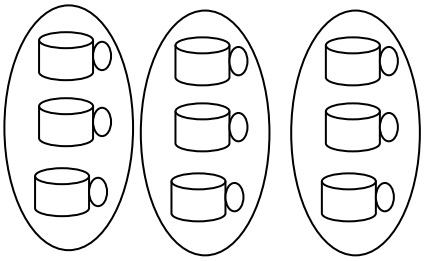
There are 3 groups of 2 balls.

6 balls grouped into twos

3 x 2 = 6 and 6 ÷ 3 = 2

Exercise

1.

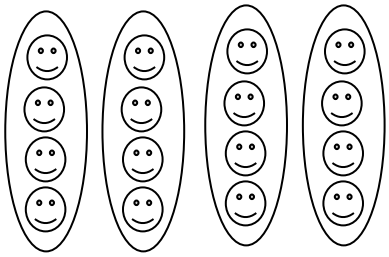


These are 3 groups of 3 cups.

9 cups grouped into 3's.

☐ x ☐ = ☐ or ☐ ÷ ☐ = ☐

2.



These are 4 groups of 4 buttons.
16 buttons grouped into fours.

☐ x ☐ = ☐ or ☐ ÷ ☐ = ☐

Self Evaluation

Strong points: _____

Weak points: _____

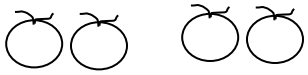
Way forward: _____

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

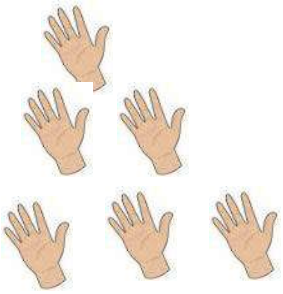
Exercise

groups of 2 = ☐

2 x 2 x 2 x 2 = ☐

☐ groups of 2

2 x 2 x 2 x 2 x 2 = ☐



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 x 2 = 1 two = 2 = 2

2 x 2 = 2 twos = 2 + 2 = 4

3 x 2 = 3 twos = 2 + 2 + 2 = 6

4 x 2 = 4 twos = 2 + 2 + 2 + 2 = 8

Example B

1 x 3 = 1 three = 3 = 3

2 x 3 = 2 threes = 3 + 3 = 6

3 x 3 = 3 threes = 3 + 3 + 3 = 9

4 x 3 = 4 threes = 3 + 3 + 3 + 3 + 3 = 15

Exercise

1.	5 x 2	6.	8 x 3	11.	8 x 4
2.	6 x 3	7.	1 x 4	12.	8 x5
3.	6 x 2	8.	1 x 5	13.	9 x 4
4.	4 x 3	9.	2 x 4	14.	9 x 5
5.	7 x 2	10.	2 x 5	15.	10 x 4

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 8
Counting in twos, threes, fours, fives, etc

Example 1

7 twos = 7 x 2 = 14

5 fives = 5 x 5 = 25

8 tons = 8 x 10 = 80

12 fours = 12 x 4 = 48

Exercise

1. 8 twos =
2. 8 fives =
3. 15 fours =
4. 6 fives =
5. 3 fives =
6. 3 fours =
7. 9 threes =
8. 4 fours =
9. 10 fives =
10. 13 fives =

Self Evaluation

Strong points: _____

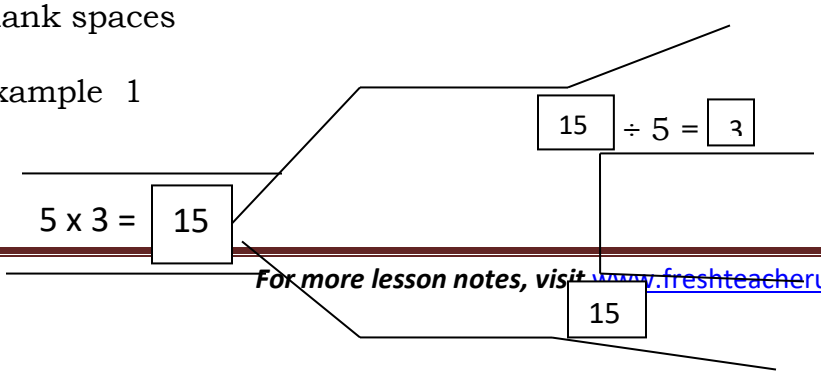
Weak points: _____

Way forward: _____

Week 9
Lesson 1

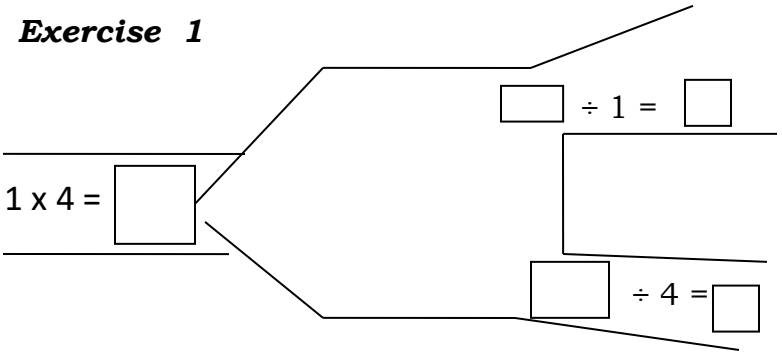
Blank spaces

Example 1

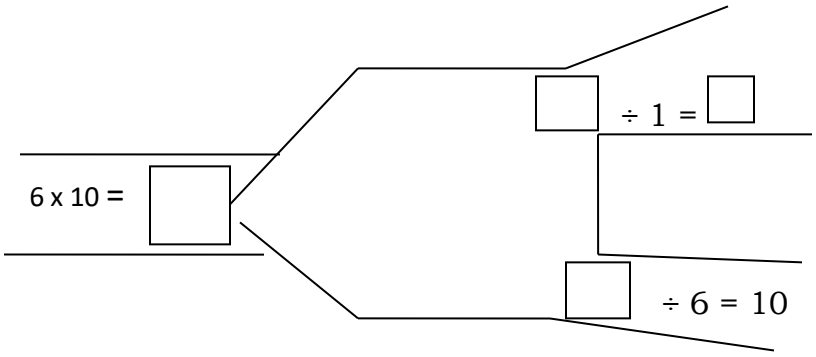


÷ 3 = 5

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		

☐ = 12 – (7 + 2) ☐ = 12 – (5 + 6)

☐ = 12 – 9) ☐ = 12 – 11

☐ = 3 ☐ = 1

☐ = 12 – (7 + 5)

☐ = 12 - 12 ☐ = 0

7 + 0 + 5 = 12

2 + 4 + 6 = 12

3 + 8 + 1 = 12

7 + 4 + 1 = 12

7 + 2 + 3 = 12

0 + 4 + 8 = 12

5 + 6 + 1 = 12

5 + 4 + 3 = 12

Exercise

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

1.

2	9	4
7	__	3
6	__	__

2.

8	1	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.

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	8	3
6	b	2
5	c	7

2.

2	9	a
7	b	3
6	c	d

3.

8	1	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 = 8
8 + 2 = 10
10 +2 = 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

   2m = 100 x 2

   = 200cm

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

Soln: 1m = 100cm

4m = 100 x 4

= 400cm

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

   100cm = 1m

   400cm = 400
   100

   = 4m

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

   100cm = 1m

   1800cm = 1800
   100

   = 18 m

Exercise

1. Change the following into metres.

   a) 500cm b) 700cm c) 600cm d) 1100cm

2. Stella had a piece of cloth of 800cm. What is the length of the cloth she had in metres?
3. The school main hall measures 1200cm long. Find the length of the hall in metres.
4. Change 300cm to metres.

Addition of length without carrying

Examples

1.

	m	cm
	6	45

+	2	30
	8	75

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.

	m	cm
	1	35
+	2	10
	3	45

Exercise

1. Work out the following.

a)

	m	cm
	3	40
+	6	36

b)

	m	cm
	5	05
+	0	70

c)

	m	cm
	20	20
+	19	15

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

1.

	m	cm
	8	35
+	6	90
	15	25

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

	m	cm
	40	87
+	5	46
	46	33

Exercise

1. Add the following.

a)

	m	cm
	4	42
+	3	77

b)

	m	cm
	13	84
+	9	20

c)

	m	cm
	8	35
+	2	68

d)

	m	cm
	4	56
+	7	75

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

a)

	m	cm
	6	40
-	3	10
	3	30

b)

	m	cm
	5	55
-	2	42
	3	13

Exercise

a)

	m	cm
	4	60
-	3	40

b)

	m	cm
	8	15
-	6	15

c)

	m	cm
	3	85
-	1	42

d)

	m	cm
	25	56
-	12	43

Subtraction of length with borrowing

Examples

1.

	m	cm
	45	125
-	20	50

24 75

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

	m	cm
	8	40
-	2	70
	5	70

Exercise

1.

a)

	m	cm
	10	25
-	7	16

b)

	m	cm
	15	75
-	8	29

c)

	m	cm
	12	40
-	8	80

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.

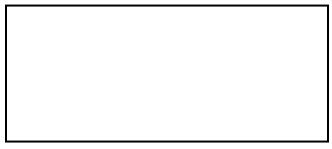
Examples

1. Find the perimeter of figures below.

P = s + s + s + s

P = 10cm + 5cm + 10cm + 5cm

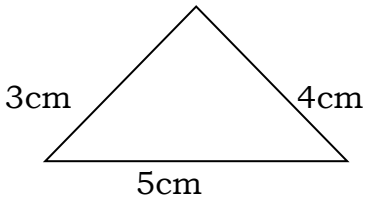
P = 20cm



P = s + s + s + s

P = 8cm + 8cm + 2cm + 2cm

P = 20cm



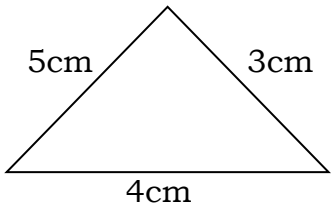
P = s + s + s + s

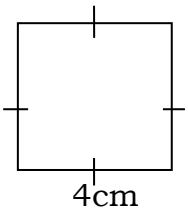
P = 5cm + 4cm + 3cm

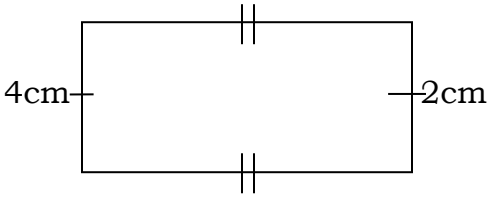
P = 12cm

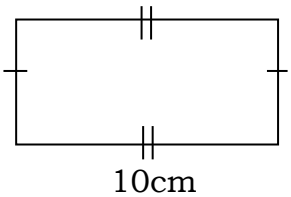
Exercise

Find the total distance around these figures.









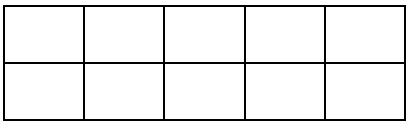
Finding area by counting squares

Area is the amount of space covered by flat objects.

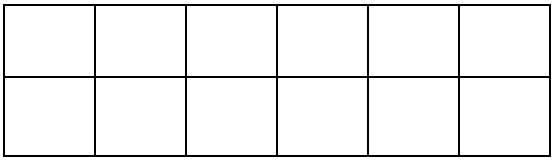
Examples

Finding the area by counting squares.

a)



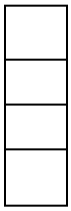
Area = 8 squares

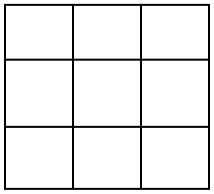


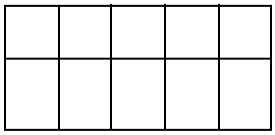
Area = 12 squares

Activity

Count and find the area.

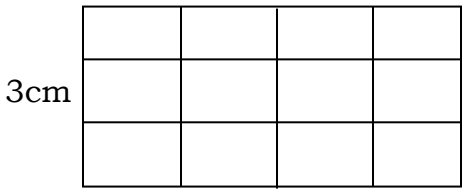
a) 

b) 

c) 

Finding area by multiplying

Area = Length x Width

a) 

Length = 4sq

Width = 3sq

Area = L x W

Area = 4sq x 3sq

Area = 12sq

b) 

A = L x W

A = 7cm x 3cm

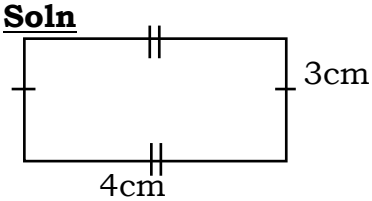
A = 21cm²

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 x W

A = 4cm X 3cm

A = 12cm2 / 12 square centimeters

Perimeter

P = s + s + s + s

P = 4cm + 3cm + 4cm + 3cm

P = 7cm + 7cm

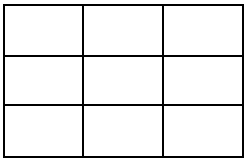
P = 14cm

Activity

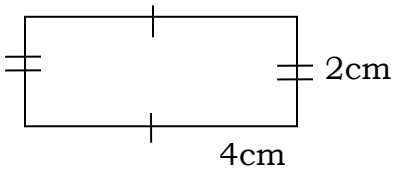
1. Find the area of a square whose one side is 9cm.
2. Mr. Mwanje's cassava garden is 12m long and 4m wide. Find its area.
3. A rectangular sheet of paper is 6cm long and 4cm wide. Find its perimeter.
4. A netball court is 7m long and 3m wide.
   i) Find its area
   ii) Find its perimeter

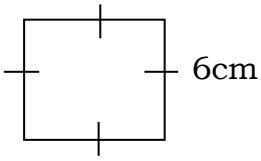
Exercise

1. Find the area of the figures below.



L =
W =
A = L x W
A = _____ x _____
A = _____

2. 

3. 

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
½ litre = 50cl
1 litre = 2 half litres

Examples

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

2. How many ½ litre bottles will fill a 6 litre container?
   1 litres = 2 half litres
   6 litres = 2 x 6
   = 12 half litres

Exercise

1. How many 1 litre cups will fill a 14 litre jerrycan?
2. How many ½ litre cups will fill a 10 litre jerrycan?
3. How many 1 litre bottle will fill a 20 litre jerrycan?
4. How many ½ litre bottles will fill a 15 litre container?

Addition of litres without carrying

Examples

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

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) 150l + 340l

b) 350l + 630l

c) 120l + 150l

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

Addition of litres with carrying

Examples

1. 250 litres + 275 litres = 525 litres

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

125l + 158l = 283 liters

Exercise

1. Work out the following.

a) 350l + 650l

b) 120l + 140l + 450l

c) 247l + 956l

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

1. 4 8 litres - 2 3 litres

2 5 litres

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?

821
- 29
62 l

Exercise

1. Work out the following.

a) 56 litres
- 32 litres

b) 247 litres
- 2 5 litres

c) 670l
- 260l

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

1.

436 liters
- 57 litres
379 litres

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

165 litres
- 97 litres
68 litres

Exercise

1.

a) 73l
- 24l
_____

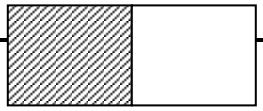
b) 475l
- 46l
_____

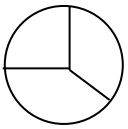
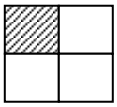
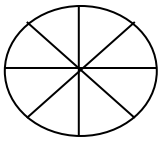
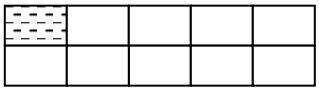
c) 610l
- 264l
_____

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
← Denominator

Lesson 6

<u>Naming the shaded and unshaded parts of a fraction</u>
<u>Example</u>

Shade part:
2 parts out of 5 parts

5 equal parts

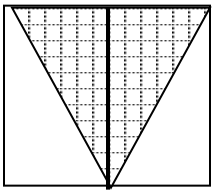
Shade fraction = 2/5 or two fifth

Unshaded part
3 parts out of
5 parts

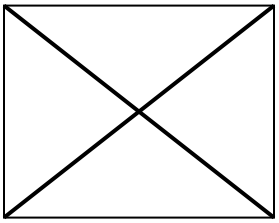
unshaded fraction
= 3/5 or three fifth

Exercise

1. What fraction is shaded and un-shaded?



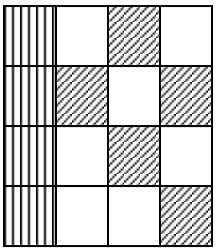
a) Shade fraction =
b) Unshaded fraction =



a) Shaded fraction =
b) Unshaded fraction =

2. 

a) Shade fraction =
b) Unshaded fraction =



a) Shade fraction =
b) Unshaded fraction =

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 7

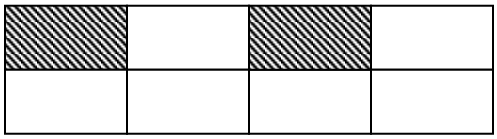
Shading the identified regions

Example 1

Shade $^{2}/_{7}$ of the figure below.

Example 2

Shade ¼ of the figure below



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

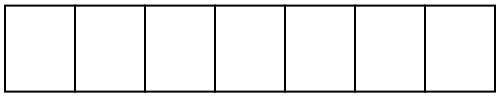
$\frac{1}{4}$ x ~~8~~

~~4~~

= 2 parts

Exercise

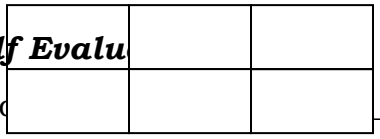
1. Shade 3/7 of the figure below.



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

3. Shade ¼ of the figure.

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



Self Evalu

Str_____

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

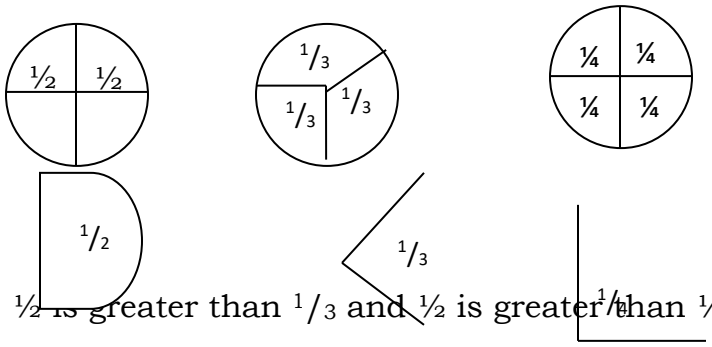
Strong points: _____

Weak points: _____

Way forward: _____

Week 10

Lesson 1
Comparing fractions



½ is greater than $^1/_3$ and ½ is greater than ¼

$^1/_3$ is greater than ¼

Use of greater than or less than

a) ½ greater than 1/3
b) ¼ is less than ½

Exercise
Write less than or greater than

a) ½ is _____ $^1/_3$

b) $^1/_3$ is _____ $^1/_6$
c) $^1/_7$ is _____ $^1/_8$

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

e) $^1/_6$ is _____ ½

f) ½ is _____ ½

g) $^1/_6$ _____ $^1/_7$

Self Evaluation

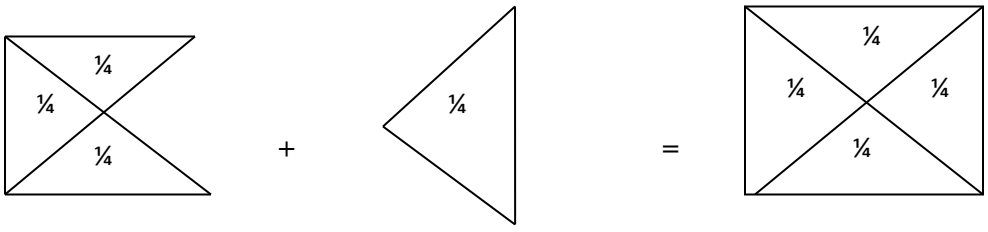
Strong points: _____

Weak points: _____

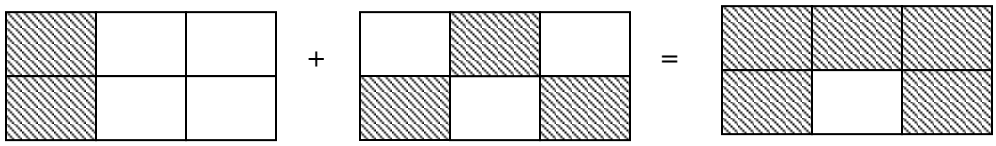
Way forward: _____

Lesson 2
Addition of fractions using diagrams

Example 1



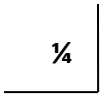
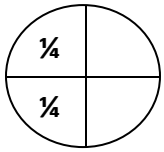
$\frac{3}{4}$ + $\frac{1}{4}$ = $\frac{4}{4}$



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

Exercise

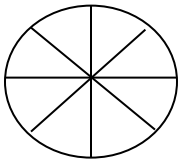
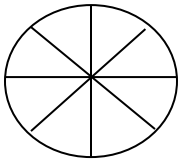
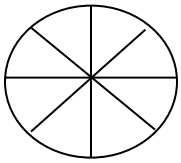
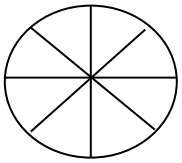
Add these

a)  +  = 

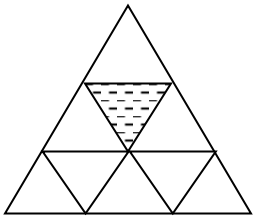
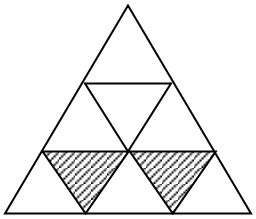
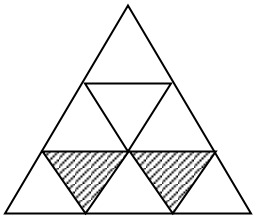
¼ + ¼ = _____

2.  +  = 

$^{2}/_{6}$ + $^{1}/_{6}$ = _____

3.  +  +  = 

$\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ = $\frac{6}{8}$ _____

4.  +  = 

3 + 5 = _____

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. $\frac{1}{4} + \frac{2}{4}$
2. $\frac{1}{3} + \frac{1}{3}$
3. $\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$
4. $\frac{1}{5} + \frac{1}{5}$
5. $\frac{1}{7} + \frac{2}{7}$
6. $\frac{1}{6} + \frac{2}{6}$
7. $\frac{1}{6} + \frac{2}{6} + \frac{2}{6}$
8. $\frac{2}{12} + \frac{3}{12} + \frac{2}{12}$
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 $^1/_9$ of the newspaper on Monday and $^3/_7$ 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 $^4/_9$ of the journey and I run $^3/_9$ of it. What fraction did I cover altogether?

2. Juliet dug $^3/_{11}$ of the garden and Dan dug $^4/_{11}$. What fraction did they dig altogether?

3. Andrew wrote $^3/_8$ of the book in the morning and $^4/_8$ of it in the afternoon. What fraction of the book did he write?

4. Find the sun of $^7/_{17}$ and $^6/_{17}$.

Self Evaluation

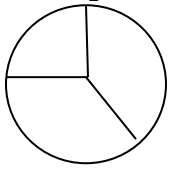
Strong points: _____

Weak points: _____

Way forward: _____

Lesson 5
Subtract of fractions

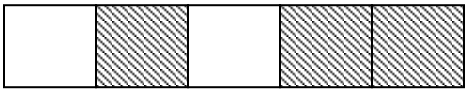
Example 1



$^2/_3 - {}^1/_3 = \frac{2-1}{3}$

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

Example 2



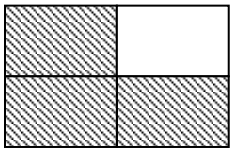
$^3/_5 - {}^1/_5 = \frac{3-1}{5}$

= $^2/_5$

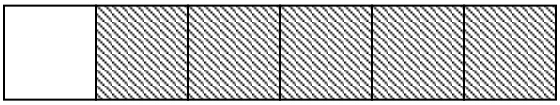
$\frac{3}{3}$

Exercise

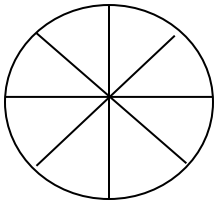
Workout the following:

1. 

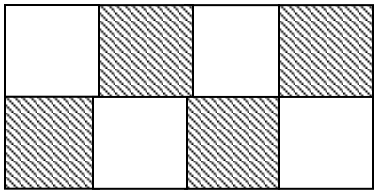
$\frac{3}{4} - \frac{1}{4} =$ _____

2. 

$^{5}/_{6} - {}^{2}/_{6} =$ _____

3. 

$\frac{4}{8} - \frac{2}{8} =$ ____

4. 

$\frac{4}{8} - \frac{2}{8} =$ ___

Self Evaluation

Strong points: _____

Weak points: _____

Way forward: _____

Lesson 6

More about subtraction of fractions

Example 1

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

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

$= \frac{3}{5}$

Example 2

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

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

$= \frac{1}{6}$

Exercise

Workout the following

1. $\frac{2}{3} - \frac{1}{3}$
2. $\frac{3}{4} - \frac{1}{4}$
3. $\frac{9}{21} - \frac{3}{21}$
4. $\frac{5}{7} - \frac{3}{7}$
5. $\frac{11}{20} - \frac{4}{20}$
6. $\frac{18}{23} - \frac{9}{23}$
7. $\frac{5}{9} - \frac{2}{9}$
8. $\frac{7}{10} - \frac{3}{10}$
9. $\frac{8}{11} - \frac{5}{11}$
10. $\frac{3}{8} - \frac{1}{8}$
11. $\frac{13}{15} - \frac{12}{15}$
12. $\frac{3}{13} - \frac{5}{13}$

Self Evaluation

Strong points: _____

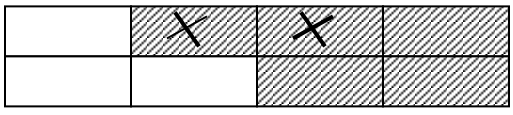
Weak points: _____

Way forward: _____

Lesson 7
Word statements involving subtraction

Example 1
A boy had 5 of a cake. He ate $^2/_8$ 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 ¾ 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 $^5/_6$ and $^2/_6$?

4. A shopkeeper sold $^4/_6$ of sugar on Monday, what fraction of the bag is left?

5. Fancy ate $^4/_5$ of an orange, what fraction remained?

6. A girl used $^3/_{20}$ of the water in the jerrycan for bathing, what fraction remained?

7. Joel painted $^5/_9$ 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) What is ½ of 12 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, $^2/_5$ 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) What is $^1/_5$ x 15

d) Find $^2/_7$ of 21

e) Find $^1/_9$ of 18

f) $^3/_6$ x $^3/_3$

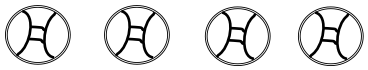
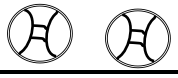
g) What is the product $^1/_5$ of $^2/_3$

h) There are 36 eggs in a bucket. If $^1/_3$ 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

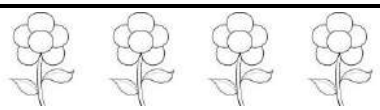
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	

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	

<u>Interpreting information on the picto-graph with a scale</u>

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 x 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.

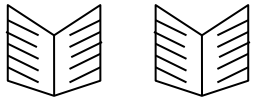
Tom	
Ben	
Timothy	
John	

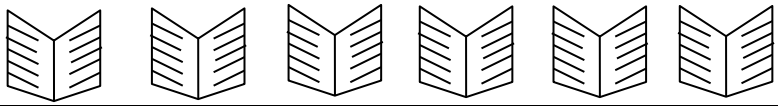
Lesson 8
Pictographs

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

1. How many books did Alex get?

   = 2 x 20
   = <u>40 books</u>

2. How many books did Aziz get?
   <u>Aziz got 20 books</u>

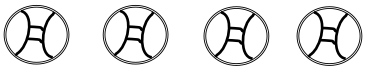
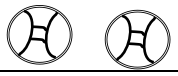
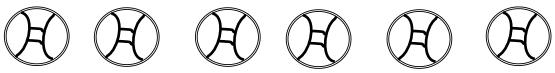
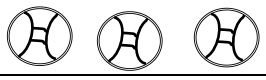
3. How many books did Juma and Haruna get?
   Juma = 6 pictures
   Haruna = 5 pictures
   = 6 + 5 = 11

   1 picture represents 20
   11 = 11 x 20
   = <u>220 books</u>

4. How many more books did Juma get than Joseph?
   Soln:
   Juma = 6
   Joseph = 3 = 6 – 3
   = 3 books

   1 book = 20
   3 = 3 x 20
   = <u>60 books</u>

<u>*Exercise*</u>
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	

1. How many balls were sold on Monday?
2. On which day was the smallest number of balls sold?
3. How many balls were sold on Friday?
4. How many balls were sold on Tuesday?
5. On which day was the largest number of balls sold?
6. On which day did Madhu sell 60 balls?
7. 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 lowers
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.

Days of the week	**No. of cars**
Sunday	5
Monday	12
Tuesday	10
Wednesday	8
Thursday	9
Friday	10
Saturday	7

a) Make a pictograph and show the information on it.

b) On which two days did mike count the same number of cars?

c) When did mike count the least number of cars?

d) On which day did he count the biggest number of cars?

e) Find the number of cars he counted the whole week.

Self Evaluation

Strong points: _____

Weak points: _____

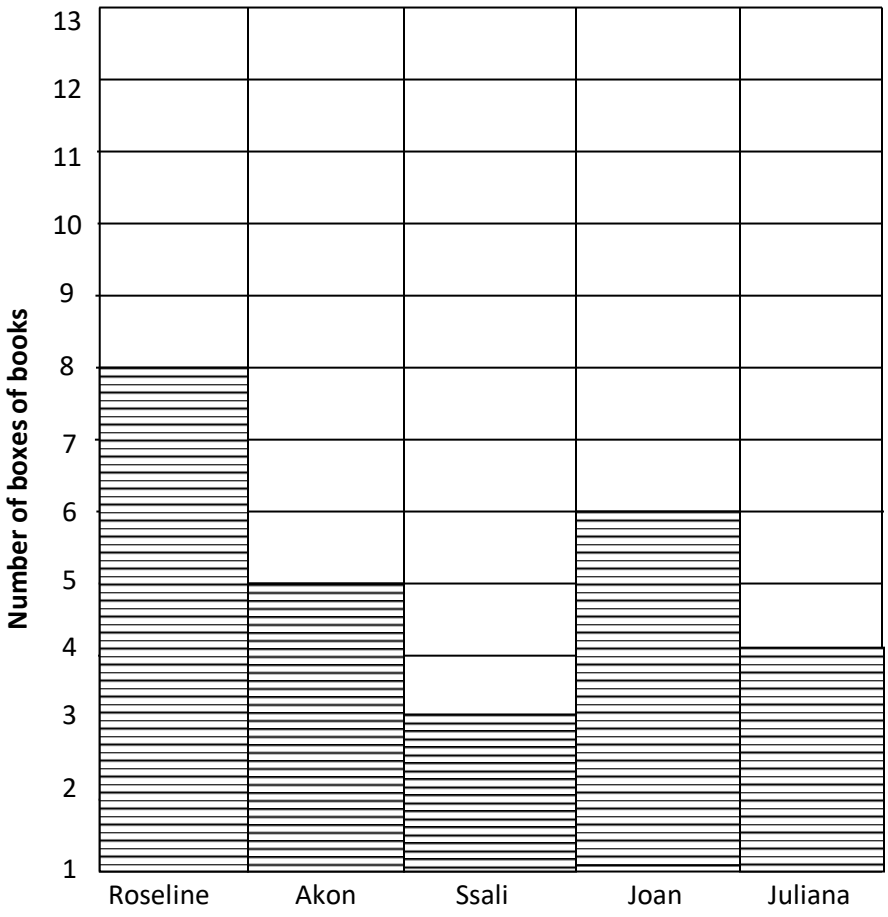
Way forward: _____

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

a) Who carried the least number of boxes of books?
Ssali carried the least number of boxes of books.

b) Who carried the largest number of boxes?
Roseline

c) What was the total number of boxes carried by Akon and Joan?

6 + 5 = 11 boxes

d) What is the difference between the biggest and least number of boxes carried?
= 8 – 3
= 5 boxes

e) If each box had 50 books, how many books did Juliana carry?
Soln.

1 box	=	80 books
4 boxes	=	4 x 80
	=	320 books

Self Evaluation

Strong points: _____

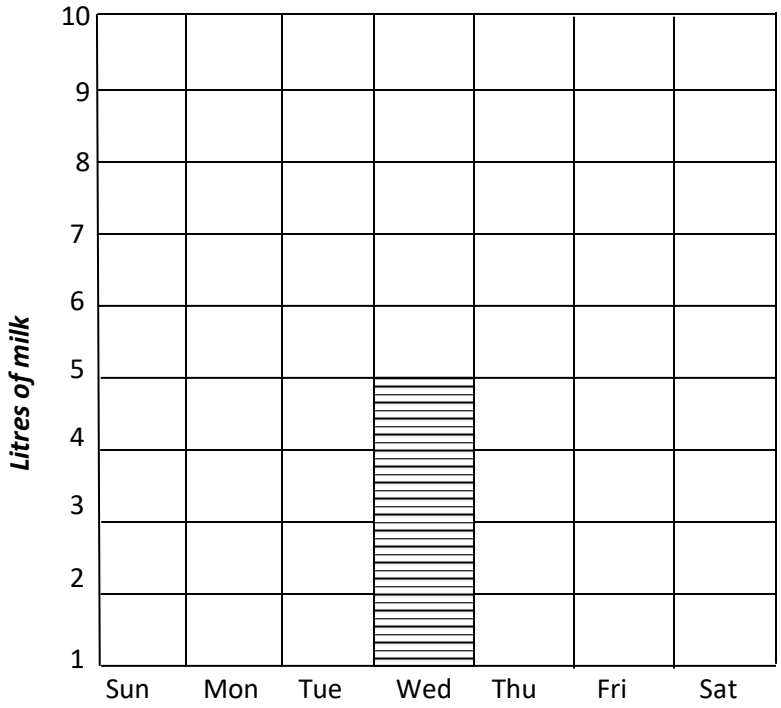
Weak points: _____

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

a) How many litres did Mrs Byaruhanga get on Sunday?

b) On which day did Mrs. Byaruhanga get litres of milk?

c) When did she get the biggest amount of milk?

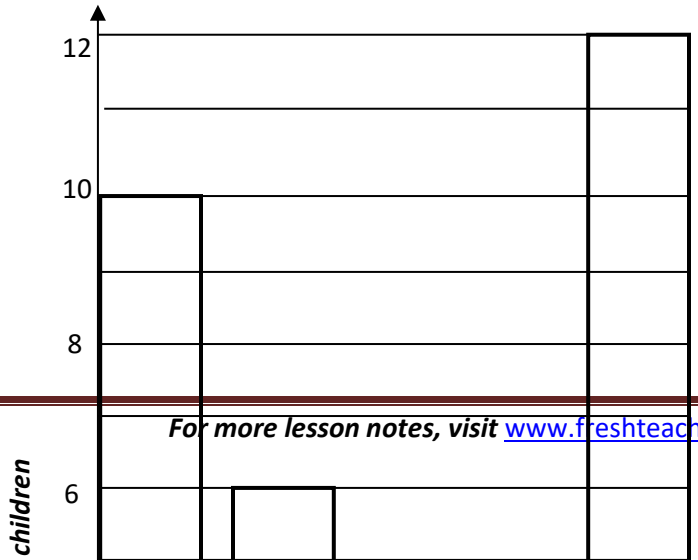
d) How many litres did she get on Monday?

e) On which two days did she get the same amount of milk?

f) When did she get the least amount of milk?

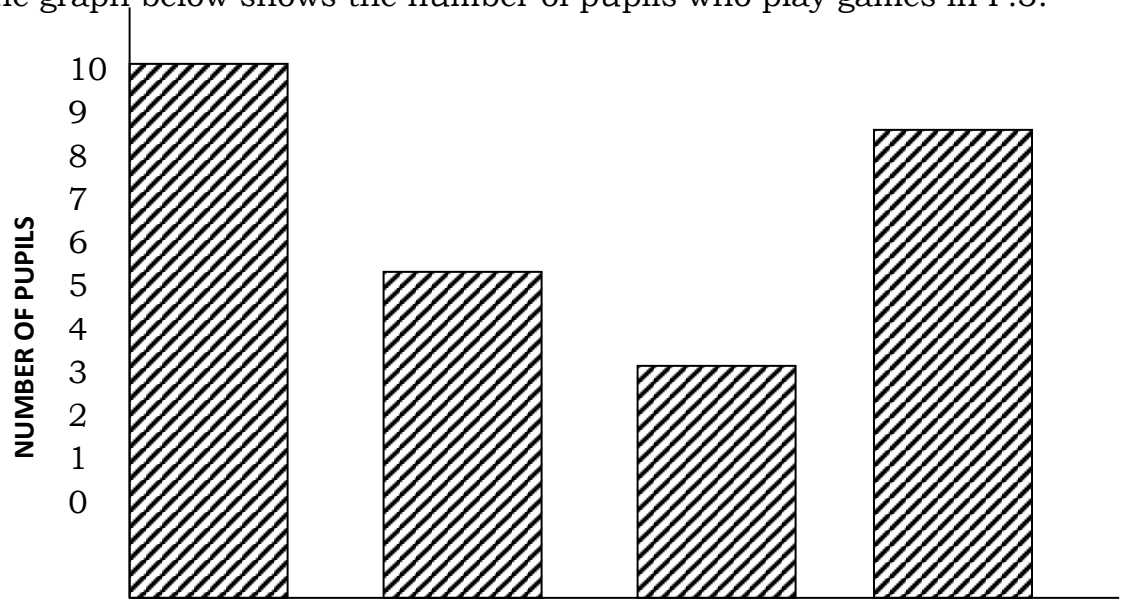
g) How much milk does she get in the whole week?

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.

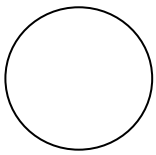


Football Volleyball Netball Tennis

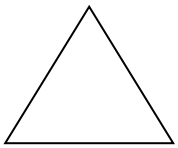
1. How many pupils play football?
2. How many pupils play volleyball?
3. Which game has the least number of players?
4. Which game has the biggest number of players?
5. Find the total number of pupils who play games.
6. How many pupils play football more than volleyball?
7. How many pupils play netball more than volleyball?
8. What is the least liked game?
9. Which is the most liked game?

TOPIC: GEOMETRY

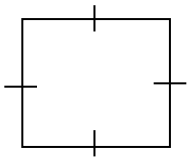
SUB-TOPIC: Drawing shapes and naming shapes.



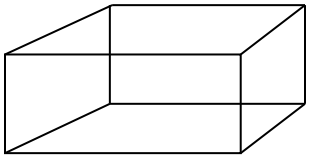
Circle



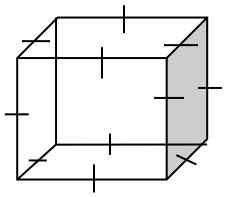
Triangle



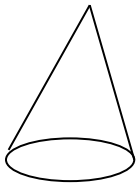
Square



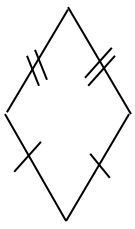
Cuboid

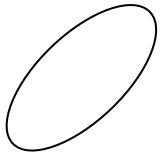


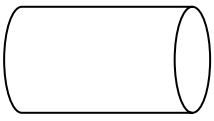
Cube



_____





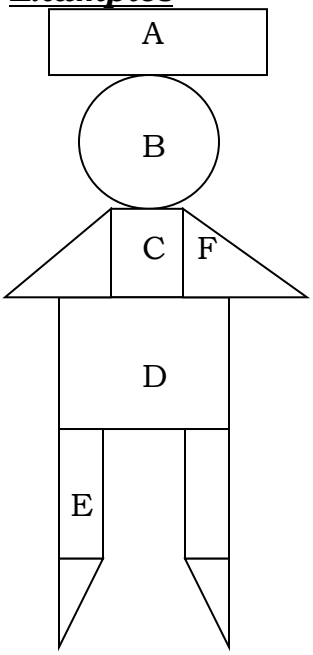


Oval _____

_____

Naming shapes in the given figures.

Examples



A - Rectangle

B - Circle

C - _____

D - _____

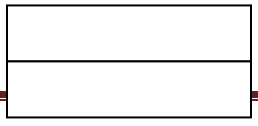
E - _____

F - _____

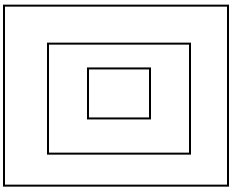
Counting the number of shapes

Examples:

How many rectangles and squares can you see?



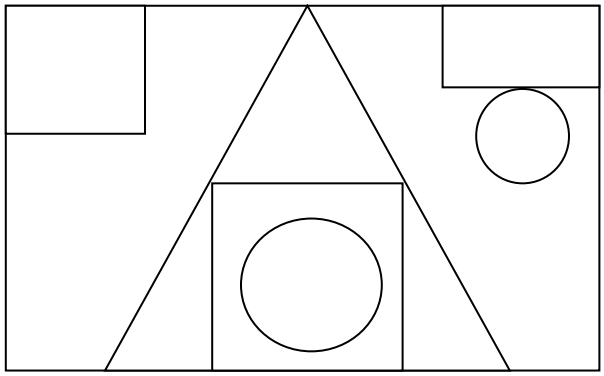
3 rectangles



3 squares

Exercise

1. Let us count the number of triangles, squares, circles and rectangles.



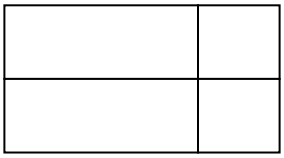
a) Triangles = _____

b) Squares = _____

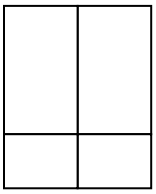
c) Circles = _____

d) Rectangles = _____

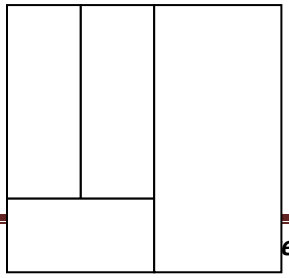
2. Let us count number of rectangles and squares.

a) 

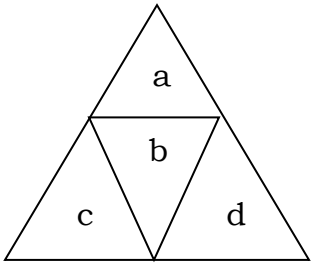
A i) _____ squares
ii) _____ rectangles

b) 

B i) _____ squares
ii) _____ rectangles

c) 

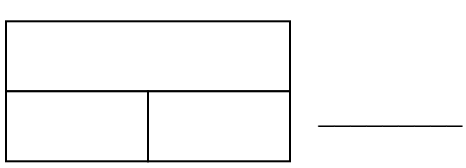
C i) _____ squares
ii) _____ rectangles

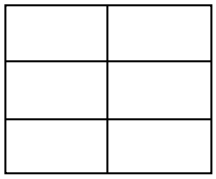


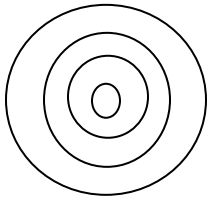
a _____
b _____
c _____
d _____

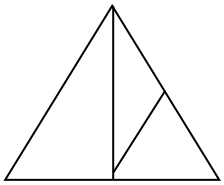
a b c d
5 triangles

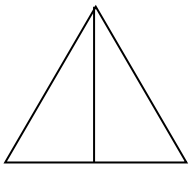
Exercise:
Find the number of shapes in the given figures.

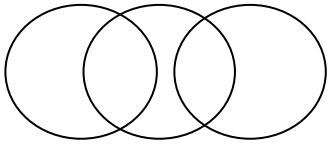
 _____

 _____

 _____

 _____



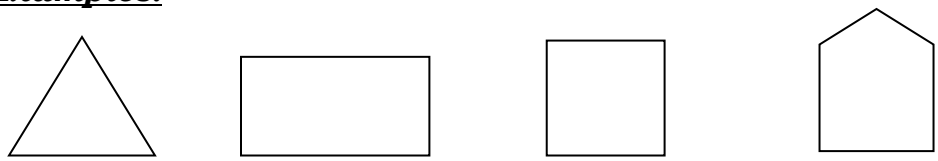


_____ _____

Polygon frames

A polygon is a closed figure with straight edges.

Examples:



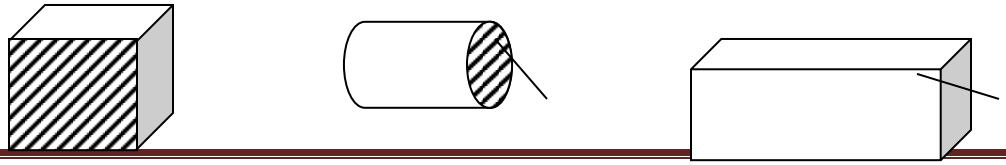
3 sided polygon is called a triangle
4 sided polygon is called a quadrilateral
5 sided polygon is called a pentagon
6 sided polygon is called a hexagon
7 sided polygon is called a heptagon
8 sided polygon is called an octagon
9 sided polygon is called a nonagon
10 sided polygon is called a decagon

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:

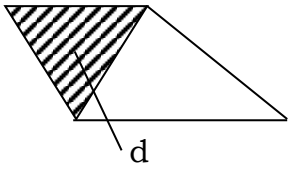
Identify different plane figures on different solid figures.



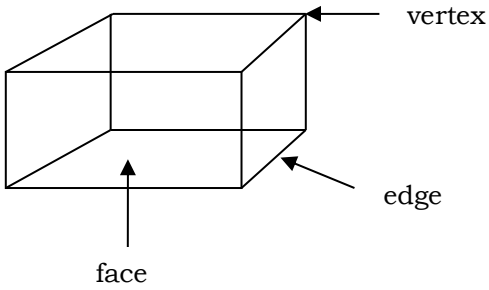
 a

b  c

a _____ b _____ c _____ d _____



Naming parts of solid shapes (cuboid)



It has 6 faces

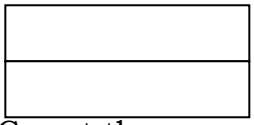
It has 12 edges

It has 8 vertices

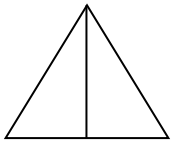
Counting shapes

Example

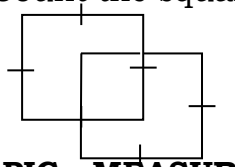
a) Count the rectangles

 = 3 rectangles

b) Count the triangles

 = 3 triangles

c) Count the squares

 = 3 squares

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

a) What is the first day of the week?
b) What is the last day of the week?
c) Which day of the week comes after the first day of the week?
d) 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 = $\frac{21}{7}$

   = 3 weeks

2. Changing 35 days to weeks

   7 days = 1 week

   35 days = 35 ÷ 7

   = 5 days

Completing tables about days and weeks

Examples

Weeks	1	2	3	4	____	____
Days	7	14	**21**	____	35	42

1 x 7 = 7 3 x 7 = 21 4 x 7 = 28 35 ÷ 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 months

An activity from MK Bk 3 Pg.139

Changing months to years

Example

How many years are in 36 months? (Use repeated subtraction)

3 6

\- 1 2 (1 year)

2 4
- 1 2 (1 year)
1 2
- 1 2 (1 year)
0 0

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 x 12 = 24 months 36 ÷ 12 = 3 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	**18**	25	
Tue		5	12	19	26	
Wed		6	13	20	27	
Thur		7	14	21	28	
Fri	**1**	8	15	22	29	
Sat	2	9	16	23	30	

Questions

a) What day of the week was 8th? **Friday**
b) What date was the first Monday of the month? **4th**
c) Which month is shown on the calendar? **May**

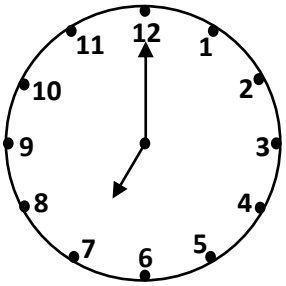
d) How many days has this month?
e) Which month comes before May?
f) How many Sundays are in this month?
g) Name the month which comes after May?

TELLING AND SHOWING TIME

Telling time in hours

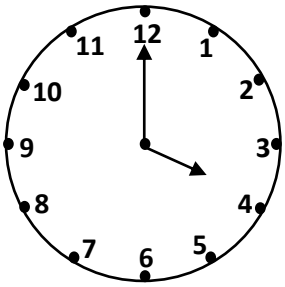
Examples

a)



It is 7 o'clock

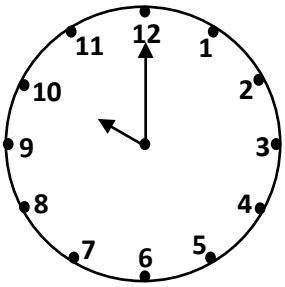
b)



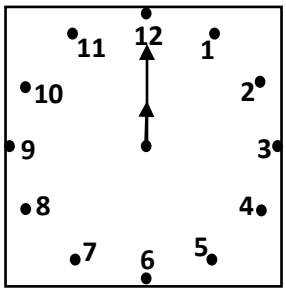
It is 4 o'clock

Showing the time

a) It is 10 o'clock



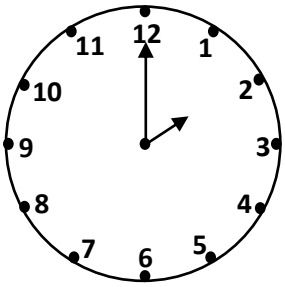
b) It is 12 o'clock



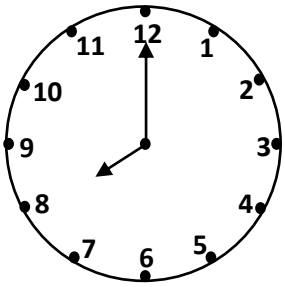
Activity

What is the time?

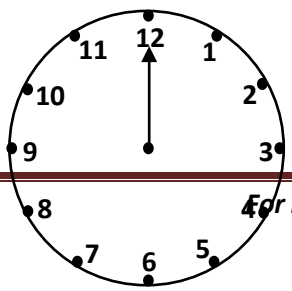
a)



b)

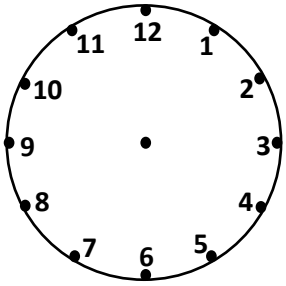


c)

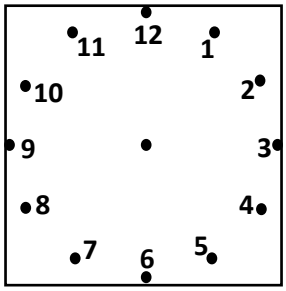


Show the time

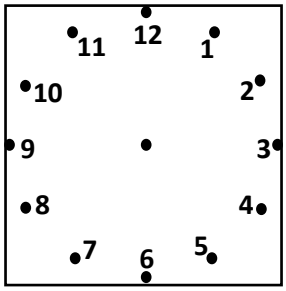
a) It is 4 o'clock



b) It is 3 o'clock



c) It is 1 o'clock

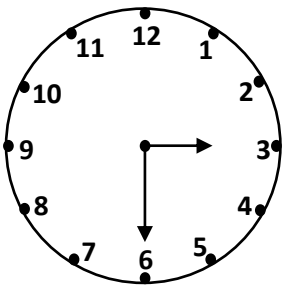


Mk Maths Bk 3 Pg. 127

Telling and showing time at ahalf past

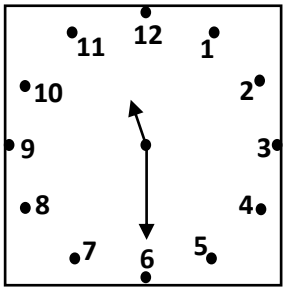
Examples

a)



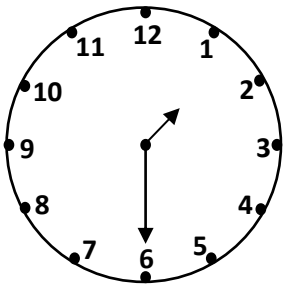
It is ahalf past 3

b)



It is ahalf past 11

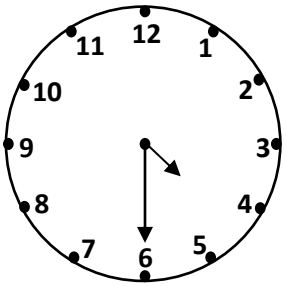
c)



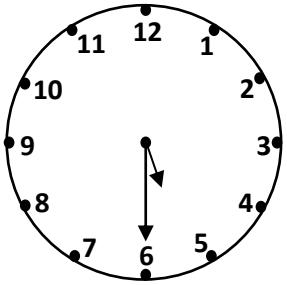
It is ahalf past 1

Show the time

a) It is ahalf past 4



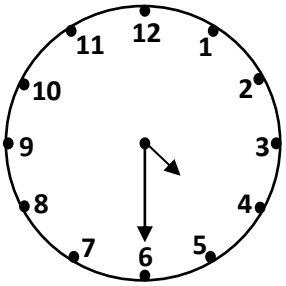
b) It is ahalf past 5



Activity

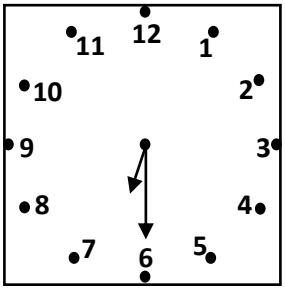
What is the time?

a)



It is _____

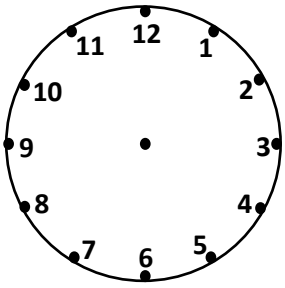
b)



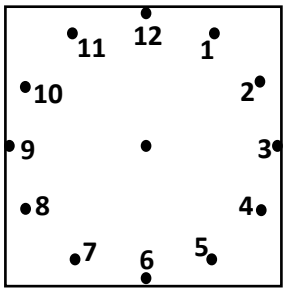
It is _____

Show the time

a) It is ahalf past 2



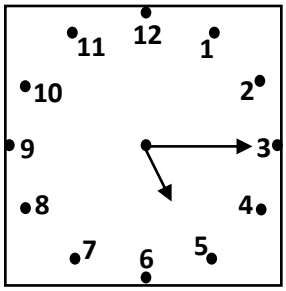
b) It is ahalf past 9



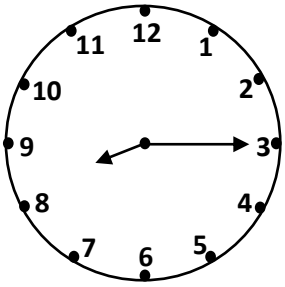
Telling and showing time at aquarter past

Examples

a) It is aquarter past 5

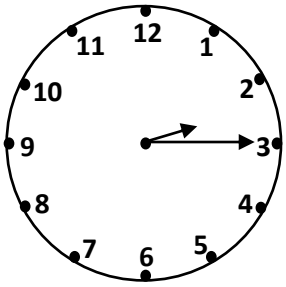


b) It is a quarter past 8

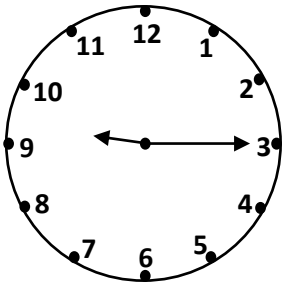


Show the time

a) It is aquarter past 2

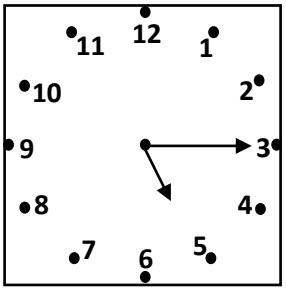


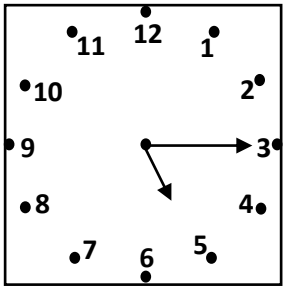
b) It is aquarter past 9

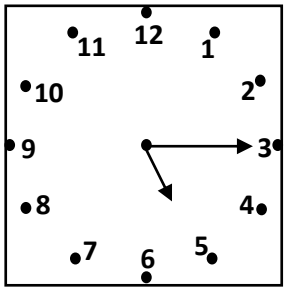


Activity

Tell the time

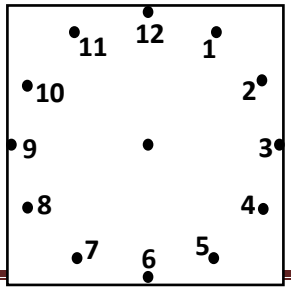






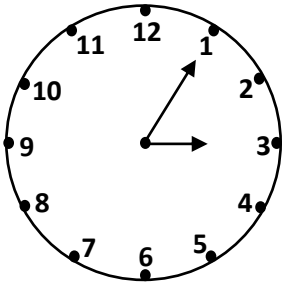
Show the time

It is aquarter past 2

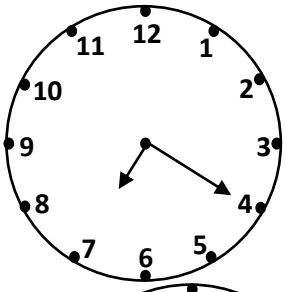


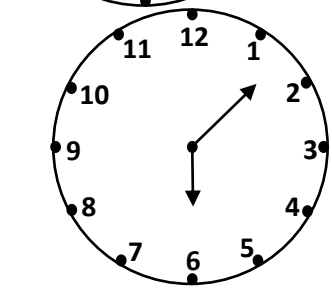
Telling time

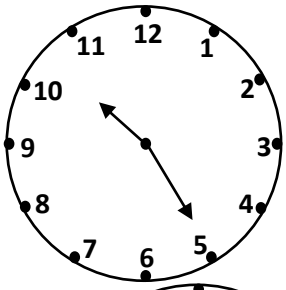
Telling time in minutes past

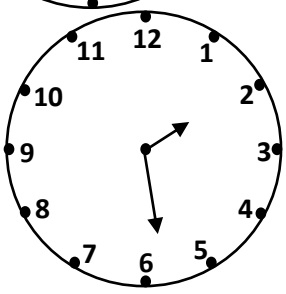


It is 5 minutes past 3



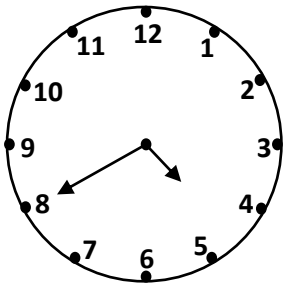


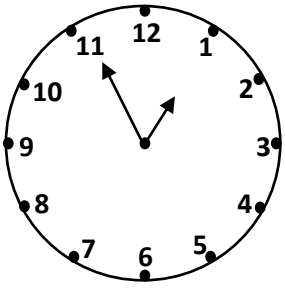




Telling time in minutes to

It is 20 minutes to 5

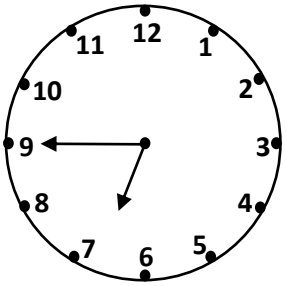


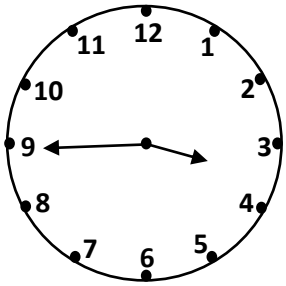


More activity MK Bk3 page 135

Telling and showing time at aquater to

Examples



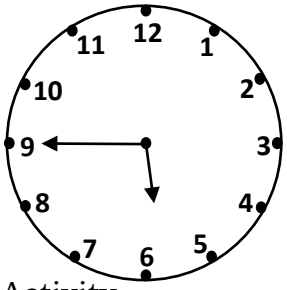


It is aquarter to 7

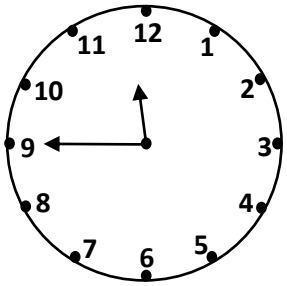
It is aquarter to 4

Show the time

It is aquarter to 6



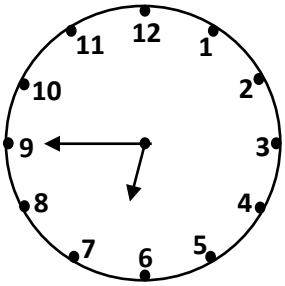
It is aquarter to 12

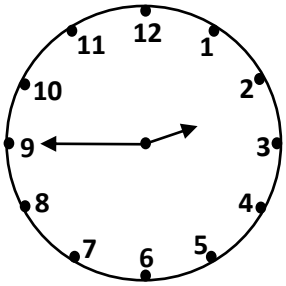


Activity

MK Bk 3 Pg 129

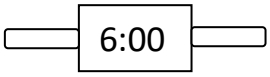
Tell the time



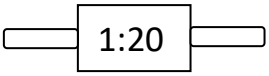


Telling time on digital watches

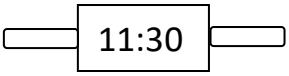
Examples



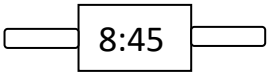
It is 6 o'clock



It is 20 minutes past 1



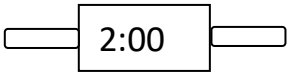
It is half past 11

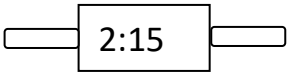


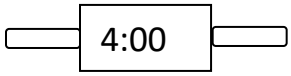
It is quarter to 9

Activity

What is the time?



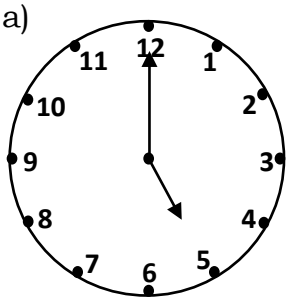


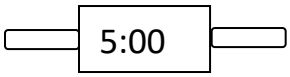


Changing time from clock faces to digital

Examples

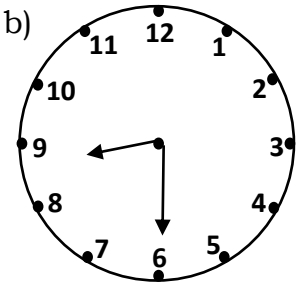
a)

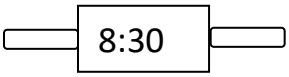




It is 5 o'clock

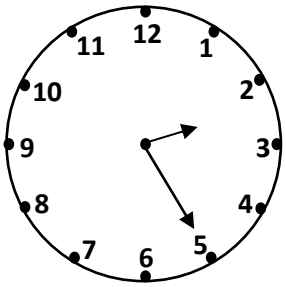
b)



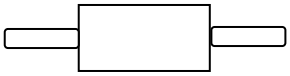


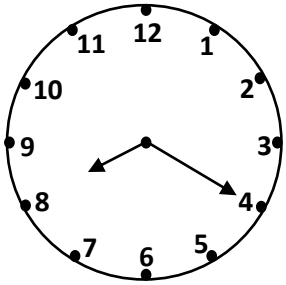
It is ahalf past 8

Activity

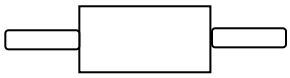


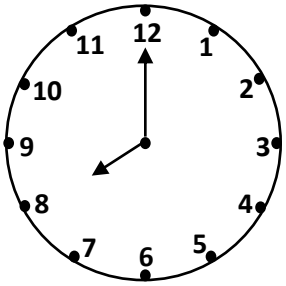
25 minutes past 2





It is 20 minutes past 8 o'clock





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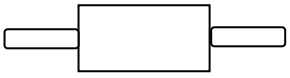


Telling time

Word problem

Example

Change 2 hours to minutes

1 hour	=	60 minutes
2 hours	=	60 x 2
	=	**120 minutes**

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

60 minutes	=	1 hour
120 minutes	=	120 ÷ 60
	=	**2 hours**

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

Hrs	Mins
9	45
- 3	35

4	13	6	10

Exercise

Work out the following correctly.

Hrs	Mins	Hrs	Mins
4	20	12	40
+ 3	15	+ 14	10

Hrs	Mins	Hrs	Mins
4	18	4	55
+ 8	30	+ 2	20

Subtract Hours and minutes correctly.

Hrs	Mins	Hrs	Mins
8	28	14	34
- 3	10	- 8	15

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 years

2. Sarah is 3 years older than Tom who is 6 years old.
   How old is Sarah?
   Sarah = 6 + 3
   = 9 years

3. Bob is 4 years younger than Betty who is 10 years old. How old is Bob?
   Bob = 10 – 4
   = **6 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?

```
  1 9 9 7
- 1 9 8 9
---------
        8 years
---------
```

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

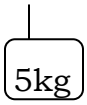
1. 1kg of sugar and 500g of salt. Which is heavier?
   Sugar is heavier

2. 2kg of stones and 2kg of cotton. Which one is heavier?
   They are equal

Activity

1. Use the diagram to answer questions

B 2kg



A

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

Note: 1kg = 1000g

½ kg = 1000 ÷ 500g = 500g

¼ kg = 1000 ÷ 4 = 250g

Changing kilograms to grams

Examples

1. Change 4kg to grams.

   1kg = 1000g

   4kg = (4 x 1000)g

   = 4000g

2. Change 11kg to grams

   1 kg = 1000g

   11kg = (11 x 1000)g

   = 11000g

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

1000g = 1kg
8000g = 8000
1000
= 8kg

2. Change 12000g to kg
1000g = 1kg
12000g = 12000
1000
= 12 kg

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
	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
	37	530

Activity in MK Bk3 Pg.172

Subtraction of kilograms and grams

Example

	Kg	g
	9	650
-	7	200
	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
	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
   Sh. 300

2. Sh. 450
   - Sh. 300

+	Sh. 50	150
	350	

Exercise

Work out the following correctly.

a)	Sh	b)	Sh	c)	Sh
	100		200		400
+	120	+	100	+	300

Multiplication of money (Simple rates)

Examples

1. A book costs sh.900. How much will I pay for 3 books?

   1 book = 900
   3 books = sh.(3 x 900)
   = sh. 2700

2. Find the cost of 5 cups if one cup costs sh. 500.

   1 cup = 500
   5 cups = sh. (5 x 500)
   = sh. 2500

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?

   4 dresses = 8000
   1 dress = 8000 ÷ 4
   = **sh. 2000**

2. Edwin had sh.600. He shared it equally among 2 children. How much money did each child get?

   2 children got sh.600
   1 children = 600 ÷ 2
   = **sh.300**

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. Mandera 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 book = 1000/=
   3 books = 1000 x 3
   = shs. 3000

Exercise (refer to MK Bk3 Pg 181 – 82)

Shopping bill

1. John went and bought the following items.
   2 pens each at 400/=
   1 set at 1500/=
   3 rulers each at 500/=
   2 books each at 500/=

a) How much money did he pay for pens?
   1 pen = 400/=
   2 pens = 400 x 2
   = 800/=

2. Find the cost of a set and the books.
   A set = 1500/=
   Books = 2 x 500 = + 1000
   = 2500/=

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	1200/=
Cup	1	Shs. 800	800/=
Plate	4	Shs. 300	Shs. 1200
Spoon	5	Shs. 100	Shs. 500

Working

Total cost of tins
sh.600 x 2
= sh.1200

Total cost of a cup
sh.800 x 1
= sh.800

Total cost of a plate
sh.1200 ÷ 4
= sh.300

Total cost of spoons
sh.100 x 5
= sh.500

Exercise (Refer to MK Bk3 Pg. 183 – 184)

ALGEBRA

Equations

Finding the missing numbers by subtracting

Examples

1. $\square + 3 = 6$

   $\square + \cancel{3} - \cancel{3} = 6 - 3$

   $\square$

= 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 eggs

Exercise

Workout the following correctly

1. ☐ + 4 = 8
2. ☐ + 8 = 10
3. ☐ + 16 = 20
4. ☐ + 5 = 20
5. ☐ + 4 = 24

Find the missing numbers by adding

Examples

1. Fill in the missing numbers.
   ☐ - 2 = 8
   ☐ - 2 + 2 = 8 + 2
   ☐ = 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 ☐
   ☐ - 5 = 7
   ☐ - 5 + 5 = 7 + 5
   ☐ **= 12 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) $\square \times 2 = 10$

$\square \times 2 \div 2 = 10 \div 2$

$\square = 5$

b) $\square \times 3 = 18$

$\square = 18 \div 3$

$\square = 6$

c) $6 \times \square = 24$

$\square = 24 \div 6$

$\square = 4$

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) ☐ ÷ 2 = 9

b) ☐ ÷ 7 = 7

c) ☐ ÷ 3 = 8

d) ☐ ÷ 4 = 7

e) ☐ ÷ 5 = 6

f) ☐ ÷ 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?

   ☐ ÷ 6 = 8

   ☐ = 8 x 6

   ☐ = 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