KAZO DISTRICT LOCAL GOVERNMENT

TEACHING/ LEARNING LESSON NOTES FOR MATHEMATICS PRIMARY FIVE
TERM TWO 2023

LESSON ONE.

TOPIC: FRACTIONS

SUB-TOPIC: Identifying proper, improper fractions and mixed numbers.

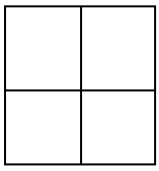
READ AND WRITE: Proper fractions, improper fractions, mixed numbers, numerator, denominator and whole numbers.

LESSON DEVELOPMENT:

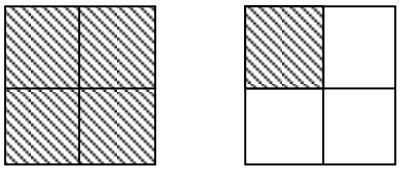
Identifying proper, improper fractions and mixed numbers.

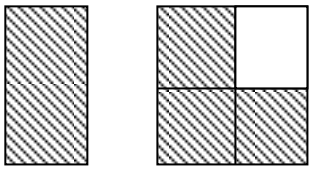
Examples:

1. Name the shaded fractions and write "proper", "improper" or mixed number.



$=\frac{3}{4}$





$\frac{3}{4}$ is a proper fraction

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

$\frac{5}{4}$ is an improper fraction

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

$1\frac{3}{4}$ is mixed number

2. Express the following fractions as numerals, then write "proper" or "improper" fraction.

(a). Two fifths.$=\frac{1}{5}+\frac{1}{5}=\frac{2}{5}$

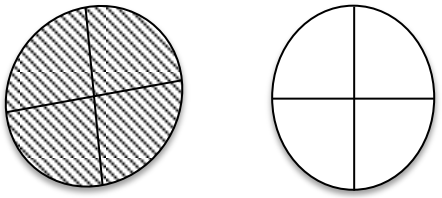
$\frac{2}{5}$ is a proper fraction

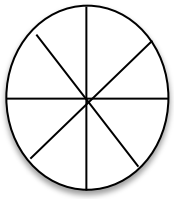
(b). Five haves $\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}=\frac{5}{2}$

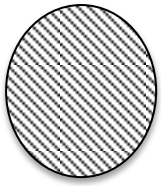
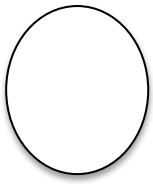
$\frac{5}{2}$ is an improper fraction

Exercise:

(a) Name the shaded fraction and write "proper" or "improper" fraction or "mixed" numbers.

1. 

2. 

  =

B. Express the following fractions as numerals, and then write "proper" or "improper fractions.

1. Four sevenths
2. Seven halves
3. Five eights
4. Three fifths
5. Five sixths
6. Three tenths

LESSON TWO:

TOPIC : **FRACTIONS**

SUB-TOPIC : **CHANGING IMPROPER FRATCIONS TO MIXED FRACTIONS.**

READ AND WRITE : Numerators Mixed fraction

Denominators Improper fractions

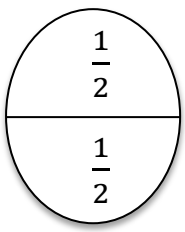
LESSON DEVELOPMENT

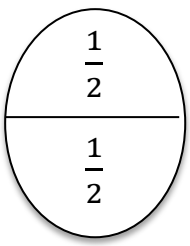
Changing improper fractions to mixed fractions.

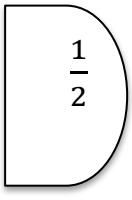
Example 1:

Change $\frac{5}{2}$ to a mixed number

$\frac{5}{2}$ Means five halves







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

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

Or: $\frac{5}{2}$ = 5 divided by 2

OR $\frac{5}{2} = \begin{array}{r} 2 \\ 2\overline{)\,5} \end{array}$ $= 2\frac{1}{2}$

$2X2 = \frac{4}{1}$

Example II

Express $\frac{7}{4}$ as a mixed number.

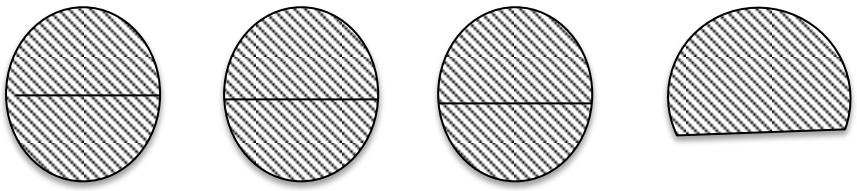
$\frac{7}{4}$ = 7 divided by 4

$\frac{7}{4} = \begin{array}{r} 1 \\ 4\overline{)\,7} \end{array}$ $= 1\frac{3}{4}$

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

Exercise:

A. Write a mixed number for each of the following.



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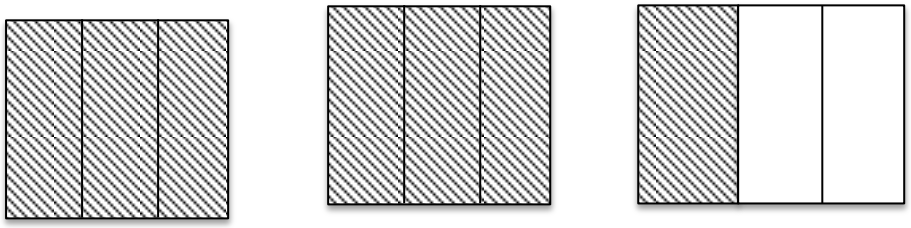
2.



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B. Change the following to mixed number.

$\frac{7}{3}$ $\frac{9}{2}$ $\frac{18}{4}$ $\frac{25}{3}$ $\frac{3}{6}$

LESSON : 3

TOPIC : FRACTIONS

SUB-TOPIC : CHANGING MIXED NUMBERS TO IMPROPER FRACTIONS.

READ AND WRITE: - Improper fractions, Mixed numbers, Numerators Denominator, Whole number

LESSON DEVELOPMENT: Changing mixed numbers to improper fractions.

Examples:

Change $3\frac{1}{4}$ to an improper fraction:

$$3\frac{1}{4} \quad \frac{(4 \times 3)+1}{4}$$

$$= \frac{12}{4} + 1 = \frac{13}{4}$$

Exercise:

1. Change the following to improper fractions

$2\frac{1}{3}$ $9\frac{1}{5}$ $6\frac{1}{2}$ $5\frac{4}{5}$ $8\frac{7}{3}$ $7\frac{2}{9}$ $9\frac{3}{4}$ $6\frac{2}{8}$

LESSON : 4

TOPIC : FRACTIONS

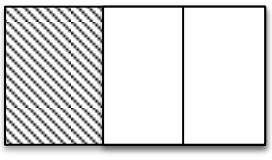
SUB-TOPIC : EQUIVALENT FRACTIONS

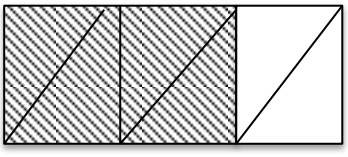
READ AND WRITE: - Fractions - Equivalent - Denominator -Numerator

LESSON DEVELOPMENT: Drawing and writing equivalent fractions.

Examples:

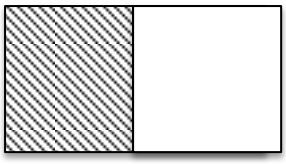
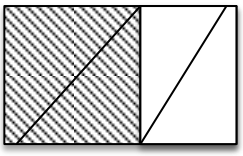
1. Name two fractions that are equivalent to $\frac{2}{3}$

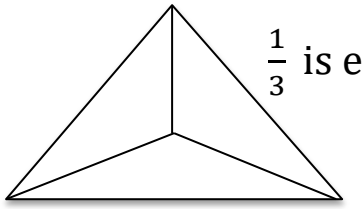
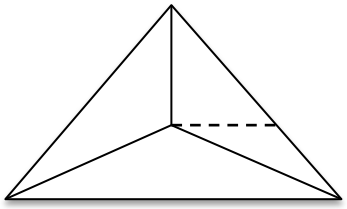


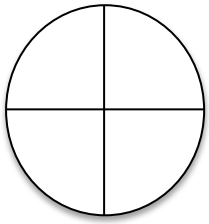
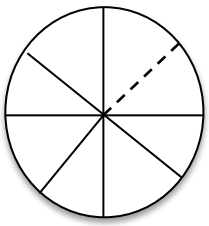


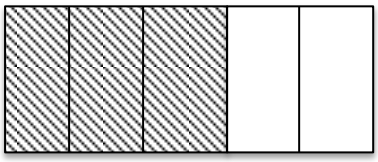
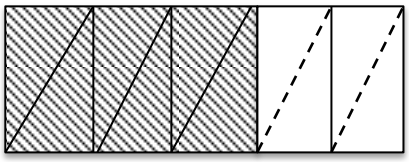
$\frac{2}{3}$ is equivalent to $\frac{4}{6}$ and is equivalent to $\frac{8}{12}$

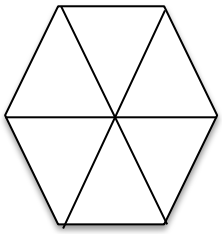
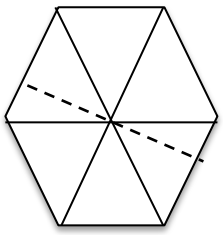
Exercise:

1.  $\frac{1}{2}$ is equivalent to 

2.  $\frac{1}{3}$ is equivalent to 

3.  $\frac{3}{4}$ is equivalent to 

4.  $\frac{3}{5}$ is equivalent to 

5.  $\frac{5}{6}$ is equivalent to 

LESSON : 5

TOPIC : FRACTIONS

SUB-TOPIC : EQUIVALENT FRACTIONS

READ AND WRITE: - Equal, equivalent, Numerator and denominator

LESSON DEVELOPMENT: Forming equivalent fractions

Examples:

1. Find 3 equivalent fractions for $\frac{1}{2}$

$\frac{1}{2} = \frac{1}{2} \times \frac{2}{2} = \frac{2}{4}$

$\frac{1}{2} = \frac{1}{2} \text{x} \frac{3}{3} = \frac{3}{6}$

$\frac{1}{2} = \frac{1}{2} \text{x} \frac{4}{4} = \frac{4}{8}$

$\therefore \frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$

Exercise

Find the next two equivalent fractions:

1. $\frac{1}{2} = \frac{2}{4}$, ___, ___
2. $\frac{2}{3} = \frac{4}{6}$, ___, ____
3. $\frac{1}{4} = \frac{6}{8}$, ___, ____
4. $\frac{2}{11}, \frac{4}{22}$, __, ____
5. $\frac{6}{10}, \frac{12}{20}$, ___, ____
6. $\frac{1}{6} = \frac{2}{12}$, ___, ____

LESSON : 6

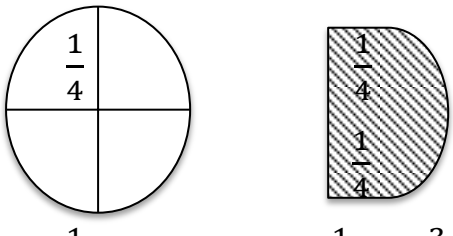
TOPIC : FRACTIONS

SUB-TOPIC : ADDITION OF FRACTIONS

LESSON DEVELOPMENT: Adding fractions of the same denominators.

Examples:

Add: $\frac{1}{4} + \frac{1}{4}$



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

2. Kagwa read $\frac{1}{7}$ of a book on Monday and $\frac{3}{7}$ of it on Tuesday. What fraction of the book did he read altogether?

Solution

Monday $\frac{1}{7}$

Tuesday $\frac{3}{7}$

altogether

$\frac{1}{7} + \frac{3}{9} = \frac{1+3}{7} = \frac{4}{7}$

Exercise:

A. Work out the following.

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

2. $\frac{6}{9} + \frac{2}{9}$

3. $\frac{3}{8} + \frac{4}{8}$

4. $\frac{7}{15} + \frac{8}{15}$

B. Read and work out:

John dug $\frac{1}{6}$ of a garden and Mary dug $\frac{4}{6}$ of the same garden.

What part of the garden as dug?

2. Flavia sold $\frac{5}{8}$ of her land to Henry and $\frac{2}{8}$of it to Jane, what fraction of her land did she sell?

3. Halima walked $\frac{3}{9}$of a journey and ran $\frac{2}{9}$ of the journey. What fraction of the journey did she cover?

LESSON : 7

TOPIC : FRACTIONS

SUB-TOPIC : SUBTRACTION OF FRACTIONS

READ AND WRITE: - Fractions, Numerators, denominators

LESSON CONTENT: Subtracting fractions with the same denominators.

Examples: Method 1

Subtract: $\frac{4}{4} - \frac{1}{4}$

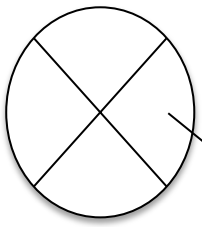
Solution

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

$= \frac{3}{4}$

method 2

$\frac{4}{4}$



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

2. A boy had $\frac{5}{6}$ of a cake. He ate $\frac{2}{6}$ of it. What fraction remained?

Solution

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

Exercise.

Try these

1. $\frac{4}{5} - \frac{2}{5}$
2. $\frac{11}{13} - \frac{5}{13}$
3. $\frac{7}{4} - \frac{3}{4}$
4. $\frac{6}{10} - \frac{5}{10}$

Read and work out:

Andrew had $\frac{7}{9}$ of an orange. He ate $\frac{5}{9}$ of it. What fraction remained?

A water tank was $\frac{7}{8}$ full. We used $\frac{4}{8}$ of the water. What fraction was left?

Our mother gave $\frac{3}{10}$ of a pawpaw to John, $\frac{5}{10}$ to Musa and the remaining part to Mary.

How much more did Musa get than Mary?

How much more did Musa get than John?

LESSON : 8

TOPIC : FRACTIONS

SUB-TOPIC : ADDITION AND SUBTRACTION OF FRACTIONS WITH DIFFERENT DENOMINATORS.

READ AND WRITE: - Denominators –Numerators-Fractions -Different

LESSON DEVELOPMENT: Addition of fractions with different denominators.

Examples:

Work out $\frac{1}{3} + \frac{2}{5}$

First find the lowest common denominator. (LCD)

$\frac{1}{3} + \frac{2}{5}$ (The LCD of $\frac{1}{3}$ and $\frac{2}{5}$ is 15).

Find equivalent fractions for $\frac{1}{3}$ and $\frac{2}{5}$.

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

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

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

$$\therefore \frac{1}{3} + \frac{2}{5} = \frac{5}{15} + \frac{6}{15}$$

$$= \frac{5 + 6}{15} = \frac{11}{15}$$

Example II:

Opio ate $\frac{2}{5}$ of a cake. His Sister ate $\frac{1}{2}$ of the cake.

What fraction of the cake did they eat?

Add: $\frac{2}{5}+\frac{1}{2}$

The LCD of $\frac{2}{5}$ and $\frac{1}{2}$ is 10.

$\frac{2}{2}$ x$\frac{2}{2}+\frac{1}{2}$ x$\frac{5}{5}$

$\frac{4}{10}+\frac{5}{10}=\frac{9}{10}$

∴ They ate $\frac{9}{10}$ at the cake

Exercise:

Work out.

1. $\frac{1}{3}+\frac{1}{2}$ 2. $\frac{1}{5}+\frac{1}{4}$ 3. $\frac{2}{3}+\frac{3}{4}$
4. $\frac{3}{8}+\frac{3}{4}+\frac{1}{2}$ 5. $\frac{3}{5}+\frac{2}{3}+\frac{1}{10}=$
6. Odoki got $\frac{3}{8}$ of sugarcane. Amina got $\frac{2}{5}$ of the same sugar cane. What is the sum of the two fractions?
7. Aleke read $\frac{1}{3}$ of a book. The next date she read $\frac{5}{12}$ of it. What fraction of the book did she read altogether?

LESSON : 9

TOPIC : FRACTIONS

SUB-TOPIC : ADDITION AND SUBTRACTION OF FRACTIONS WITH DIFFERENT DENOMINATORS.

BREAD AND WRITE: - Addition (Plus), Numerator, Denominator

Addition of mixed fractions:

Examples:

1. $1\frac{3}{4}+2\frac{1}{3}=\frac{(4x1)+3}{4}+\frac{(3x2)+1}{3}$

$=\frac{4+3}{4}+\frac{6+1}{3}$

$=\frac{7}{4}+\frac{7}{3}$

$$= \frac{(7 \times 3) + (4 \times 2)}{4 \times 3}$$

$$= \frac{21 + 28}{12}$$

$$= \frac{49}{12}$$

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

$$\begin{array}{r|l} & 4 \\ 12 & 49 \\ 4x12 = & 48 \end{array}$$

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

Or LCD method

Exercise:

Workout:

1. $2\frac{1}{3} + 2\frac{1}{2}$
2. $2\frac{1}{2} + 1\frac{1}{6} + 3\frac{2}{9}$
3. $3\frac{1}{2} + 1\frac{1}{4}$
4. $4\frac{1}{4} + 1\frac{1}{8} + 3\frac{1}{2}$
5. $3\frac{1}{6} + 2\frac{1}{5}$
6. $2\frac{1}{5} + 1\frac{1}{3}$
7. A worker painted $3\frac{1}{9}$ of the wall on Monday and $\frac{4}{9}$ on Tuesday. What fraction was painted in the two days?
8. A mother gave sugarcane to her children. The daughter got $1\frac{1}{2}$ and the son got $2\frac{1}{4}$. How many sugarcanes did they get?

LESSON : 10

TOPIC : FRACTIONS

SUB-TOPIC : ADDITION AND SUBTRATION OF FRACTIONS WITH DIFFERENT DENOMINATORS.

READ AND WRITE: - Fractions, Numerators, Denominators

LESSON DEVELOPMENT: Subtraction of fractions with different denominators.

Examples:

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

The LCD of $\frac{2}{3}$ and $\frac{1}{2}$ is 6

Rename as equivalent fractions.

$\frac{2}{3} = \frac{2 \times 2}{3 \times 2}$ so $\frac{2}{3} = \frac{4}{6}$

$\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{1 \times 3}{2 \times 3}$ so $\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$

Therefore, $\frac{2}{3} - \frac{1}{2} = \frac{4}{6} - \frac{3}{6}$

$= \frac{4 - 3}{6}$

$= \frac{1}{6}$

2. Workout $\frac{4}{5} - \frac{1}{2}$

The LCD of $\frac{4}{5}$ and $\frac{1}{2}$ is 10

Rename as equivalent fractions.

$\frac{4}{5} = \frac{4 \times 2}{5 \times 2}$ so $\frac{4}{5} = \frac{8}{10}$

$\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{1 \times 3}{2 \times 3} = \frac{1 \times 4}{2 \times 4} = \frac{1 \times 4}{2 \times 4} = \frac{1 \times 5}{2 \times 5}$

So $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10}$

$\therefore \frac{4}{5} - \frac{1}{2} = \frac{8}{10} - \frac{5}{10}$

$= \frac{8 - 5}{10}$

$= \frac{3}{10}$

Exercise

1. $\frac{2}{3} - \frac{1}{5}$
2. $\frac{3}{4} - \frac{2}{3}$
3. $\frac{5}{6} - \frac{1}{4}$
4. $\frac{7}{8} - \frac{2}{3}$
5. $\frac{11}{15} - \frac{2}{3}$
6. $\frac{8}{9} - \frac{2}{5}$
7. $\frac{11}{15} - \frac{1}{6}$
8. $\frac{9}{10} - \frac{2}{5}$

LESSON : 11:

TOPIC : FRACTIONS

SUB-TOPIC : ADDITION AND SUBTRACTION OF FRACTIONS WITH DIFFERENT DENOMINATORS.

READ AND WRITE: - Subtraction / Difference/ Numerator/ Denominator

LESSON DEVELOPMENT

Subtraction of mixed fractions with different denominators:

Examples:

1. Workout: $3\frac{4}{5} - 2\frac{1}{2}$

$3\frac{4}{5} - 2\frac{1}{2} = \frac{(5x3)}{5} + 4 - \frac{(2x2)+1}{2}$

$= \frac{15 + 4}{5} - \frac{4 + 1}{2}$

$= \frac{19}{5} - \frac{5}{2}$

$$= \frac{(19\text{-}2) - (5 \times 5)}{5 \times 2}$$

$$= \frac{38 - 25}{10}$$

$$= \frac{13}{10}$$

$$= 1\frac{3}{10}$$

$$10 \overline{)\,13}\quad 1$$

$$1 \times 10 - 10$$

$$3$$

$$= 1\frac{3}{10}$$

Exercise

Work out the following:

1. $5\frac{7}{8} - 3\frac{1}{4}$
2. $6\frac{3}{4} - 2\frac{1}{2}$
3. $8\frac{3}{4} - 3\frac{7}{10}$
4. $7\frac{9}{10} - 3\frac{1}{6}$
5. A girl had a glass full of water and used $\frac{1}{3}$ of it to take medicine. What fraction of water was left?

LESSON : 12

TOPIC : FRACTIONS

SUB-TOPIC : MULTIPLICATION OF FRACTIONS

READ AND WRITE: - Fractions –Numerators- Denominators

LESSON DEVELOPMENT: Multiplying proper fractions by proper fractions.

Examples: I

Workout: $\frac{2}{5} \times \frac{1}{3}$

$$= \frac{2 \times 1}{5 \times 3}$$

$$= \frac{2}{15}$$

Example: II

Workout $\frac{3}{4} \times \frac{2}{3}$

$= \frac{3}{4} \times \frac{2}{3}$

$= \frac{3 \times 2}{4 \times 3}$

$= \frac{6}{12}$

$= \frac{1}{2}$

Exercise

1. $\frac{3}{2} \times \frac{1}{2}$
2. $\frac{3}{4} \times \frac{2}{5}$
3. $\frac{1}{8} \times \frac{3}{5}$
4. $\frac{1}{3} x \frac{2}{7}$
5. $\frac{5}{6} \times \frac{3}{4}$
6. $\frac{3}{4} \times \frac{2}{3} \times \frac{4}{9}$
7. $\frac{1}{2} \times \frac{3}{4} \times \frac{7}{12}$
8. $\frac{5}{7} \times \frac{7}{12} \times \frac{3}{7}$

LESSON : 13

TOPIC : FRACTIONS

SUB-TOPIC : MULTIPLICATION OF FRACTIONS

READ AND WRITE: - Fractions –Numerator-Denominator-Whole number

Examples:

1. Workout: $5 \times \frac{1}{9}$

   Solution

   $5 \times \frac{1}{9}$ means

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

   $= \frac{5}{1} \times \frac{1}{9}$

   $= \frac{5 \times 1}{1 \times 9}$

   $= \frac{5}{9}$

2. Workout $4\ x\frac{5}{12}$

Solution

$4\ x\frac{5}{12}$

$= \frac{5}{12}+\frac{5}{12}+\frac{5}{12}+\frac{5}{12}$

$= 4\ x\frac{5}{12}$

$= \frac{4}{1}\ x\ \frac{5}{12}$

$= \frac{20}{12}$

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

Exercise.

Workout

1. $2\ x\frac{3}{5}$
2. $7x\frac{2}{11}$
3. $5\ x\frac{1}{4}$
4. $16\ x\frac{3}{4}$
5. $6\ x\frac{1}{3}$
6. $4\ x\frac{1}{5}$
7. $10\ x\frac{4}{7}$

LESSON : 14

TOPIC : FRACTIONS

SUB-TOPIC : MULTIPLICATION OF FRACTIONS

READ AND WRITE: - Fractions –Numerators-Denominator-Whole number

LESSON DEVELOPMENT: Multiplying a fraction by a whole number.

Calculate: $\frac{2}{5}x\ 5$

Solution

$\frac{2}{5}x\ 5 = \frac{2}{5}\ x\frac{5}{1}$

$= \frac{2}{5}\ x\ \frac{5}{1}$

$= \frac{10}{5}$

$= 2$

Kalule harvested 92 sacks of beans and sold $\frac{3}{4}$ of the beans to a nearby school.

How many sacks did he sell?

Solution

Kalule sold $\frac{3}{4}$ of 92 sacks

$= \frac{3}{4}\ x\ 92\ \ sacks$

$= 3$ x 23 sacks

$= 69$ sacks

Exercise
Workout

1. $\frac{1}{4}$ x 8
2. $\frac{1}{3}$ x 12
3. $\frac{3}{4}$ x 15
4. $\frac{3}{4}$ x 20
5. Angume uses $\frac{3}{10}$ of milk he gets from his cows to feed the calves. If he gets 30litres, how many litres does he feed the calves?
6. Out of 520 pupils in the school, $\frac{2}{13}$ of them are boys. How many boys are in the school?

LESSON : 15

TOPIC : FRACTIONS

SUB-TOPIC : DIVISION OF FRACTIONS

READ AND WRITE: - Fractions –Reciprocal-Numerator-Denominator

LESSON DEVELOPMENT: Finding reciprocal of fractions.

Examples:

What is the reciprocal of $\frac{3}{5}$?

Solution

Let the reciprocal of Q

$Q \text{ x} \frac{3}{5}\ x \frac{3}{5}\ \ = 1\ x \frac{5}{3}$

$Q \qquad = \frac{5}{3}$

The reciprocal of $\frac{3}{5}\ is\ \frac{5}{3}$

Find the reciprocal of $2\frac{3}{7}$

Solution

Let the reciprocal be P

P x $2\frac{3}{7} = 1$

P x $\frac{17}{7} x \frac{7}{17} = 1 \, x \frac{7}{17}$

P $= \frac{7}{17}$

The reciprocal of $2\frac{3}{7}$ is $\frac{7}{17}$

Exercise:

A. Find the missing number in the box

1. $\frac{1}{7} \, x$ ☐ $= 1$

2. $\frac{21}{8} x$ ☐ $= 1$

3. $\frac{3}{11} \, x$ ☐ $= 1$

B. Write the reciprocal of the following:-

1. $\frac{4}{3}$ 2. $\frac{9}{15}$ 3. $\frac{7}{11}$

4. 12 5. $\frac{3}{8}$ 6. 100

SAY TRUE OR FALSE

The reciprocal of 0 is 2

A whole number lias it's reciprocal a whole number.

A fractional number has its reciprocal a fractional number

Whole numbers are reciprocals of fractions.

LESSON : 16

TOPIC : FRACTIONS

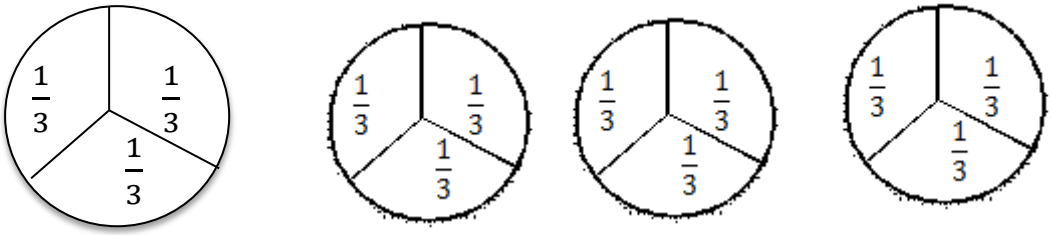
SUB-TOPIC : DIVISION OF FRACTIONS

READ AND WRITE: - Reciprocal, Numerator, Division, Denominator

LESSON DEVELOPMENT: Dividing whole number by fractions.

Examples

1. **Workout** : $4 \div \frac{1}{3}$

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

12 thirds

$4 \div \frac{1}{3} =$ v= $(4x\frac{3}{1})$

$= 12$

2. Ajuwa poured 20 litres of honey into $\frac{1}{4}$ litre bottles. How many bottles did he fill?

Solution

$20 \div \frac{1}{4} = 20\ x \frac{4}{1}$

$= 80$

He filled 80 bottles

Exercise:

Divide the following:

1. $8 \div \frac{1}{2}$
2. $24 \div \frac{3}{5}$
3. $10 \div \frac{1}{2}$
4. $24 \div \frac{3}{5}$
5. $15 \div \frac{5}{7}$
6. $35 \div \frac{7}{10}$

7. A tailor uses $\frac{1}{2}$ metre piece of cloth to make skirt. How many such skirts can he make from 15 metres of cloth?

8. Kantinti packed the 52 kilogrammes of simsim, she roasted into $\frac{1}{4}$ kilogramme packs. How many packs did she use?

LESSON 17 : 17

TOPIC : FRACTIONS

SUB-TOPIC : DIVISON OF FRACTIONS

READ AND WRITE: - Reciprocal- division- Numerator- denominator

LESSON DEVELOPMENT: Dividing a fraction by a whole number.

1. Work out: $\frac{1}{4} \div 6$

   Solution

   $\frac{1}{4} \div 6 = \frac{1}{4} \div \frac{6}{1}$

   $= \frac{1}{4} \text{x} \frac{1}{6}$

   $= \frac{1}{4} \text{ x} \frac{1}{6}$

   $= \frac{1}{24}$

2. Mbabazi divided a cake equally to 6 children. What fraction did each child get?

   Solution

   $1 \div 6 = \frac{1}{6}$ or: $1 \div \frac{6}{1} = 1\text{x}\frac{1}{6} = \frac{1}{6}$

Each child got $\frac{1}{6}$ of the cake

SUGGESTED ACTIVITY

Workout:

1. $\frac{1}{2} \div 6$
2. $\frac{3}{4} \div 9$
3. $\frac{2}{3} \div 8$
4. $\frac{5}{6} \div 20$

5. Wayengera cut a $\frac{3}{4}$metre piece of cloth into 8 equal pieces. What is the fraction of the pieces he got?

Namutebi shared $\frac{2}{3}$ of a sugarcane with her 3 friends. What fraction did each get?

Akide served $\frac{5}{6}$ of the water melon to her visitors and each got an equal share. If there were 8 visitors, what fraction was each piece?

LESSON : 18

TOPIC : FRACTIONS

SUB-TOPIC : DIVISION OF FRACTIONS

READ AND WRITE: - Reciprocal, division, Numerator, denominator

LESSON DEVELOPMENT: Dividing a fraction by a fraction.

Examples:

1. Workout: $\frac{4}{5} \div \frac{2}{3}$

Solution

$\frac{4}{5} \div \frac{2}{3} = \frac{4}{5} \times \frac{2}{3}$

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

$= \frac{6}{5}$

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

$$\begin{array}{r|l} & 1 \\ 5 & 6 \\ 1 \times 5 = & -\ 5 \\ \hline & 1 \end{array}$$

$1\frac{1}{5}$

2. How many $\frac{3}{5}$ litres of one in $\frac{2}{3}$ litres of milk ?

Solution

$\frac{2}{3} \div \frac{3}{5} = \frac{2}{3} \times \frac{5}{3}$

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

$= \frac{10}{6}$

$= 1\frac{4}{6}$

$$\begin{array}{r|l} & 1 \\ 6 & 10 \\ 1 \times 6 = & -\ 6 \\ \hline & 4 \end{array}$$

$1\frac{4}{6}$

SUGGESTED ACTIVITY

Workout the following

1. $\frac{1}{5} \div \frac{2}{3}$ 2. $\frac{2}{5} \div \frac{2}{3}$ 3. $\frac{5}{9} \div \frac{5}{12}$

4. A man packed $\frac{1}{2}$ kilogramme of tea leaves in similar packets of $\frac{1}{6}$ kiloramme each. How many smaller packets did he obtain?

5. Divide $\frac{3}{5}$ by $\frac{2}{3}$

LESSON :19:

TOPIC : FRACTIONS

SUB-TOPIC : PLACE VALUES OF DECIMALS UP TO HUNDRETH

READ AND WRITE: - Place values, decimals, Tenth, hundredths.

LESSON DEVELOPMENT: Place values of decimals up to hundredths.

1. What is the place value of 5 in 0.53?

   Solution

Ones	.	Tenths	Hundredths
0	.	5	3

Hundredths

Ones Tenths

   The place value of 5 is tenths

2. What is the place value of 4 in the number 6.14?

   Solution

Ones	.	Tenths	Hundredths
6	.	1	4

Hundredths

Ones Tenths

   The place value of 4 is tenths

SUGGESTED ACTIVITY:

Workout the following:

A. What is the place value of each digit in the following numbers?

1. 0.6
3. 0.07
5. 0.06
2. 0.32
4. 0.69
6. 0.38

B. What is the place value of 2 in each of the following numbers?

1. 0.12
3. 2.14
2. 0.24
4. 0.42

C. What is the place value of 5 in each of the following numbers?

1. 6.50
3. 3. 4.35
2. 85.74
4. 79.52

LESSON : 20

TOPIC : FRACTIONS

SUB-TOPIC : PLACE VALUES OF DECIMALS UP TO HUNDRETH

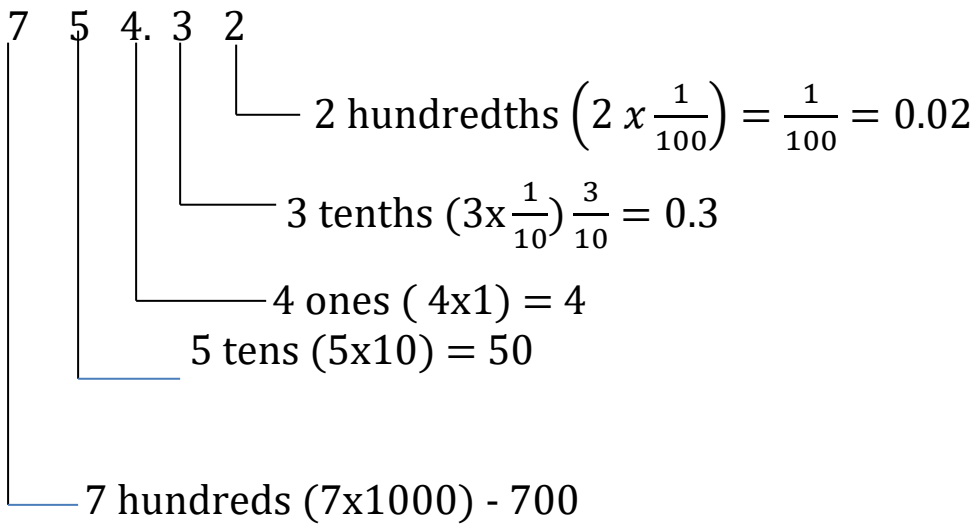
READ AND WRITE: - Values, decimals, Tenth, hundredths.

LESSON DEVELOPMENT: Values of decimals up to hundredths.

Examples:

Find the value of each digit in the number 754.32

Solution



The value of 2 is 0.02.
The value of 3 is 0.3.
The value of 4 is 4.
The value of 5 is 50.
The value of 7 is 700.

SUGGESTED ACTIVITY

A. Find the value of each digit in the numbers below:

1. 8.3
2. 7.2
3. 32.7
4. 4.36
5. 342.09
6. 1349.76

B. Find the value of the underlined digits in the following.

1. 0.34
2. 3.468
3. 5.72

LESSON : 21

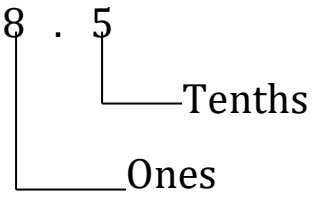
TOPIC : FRACTIONS

SUB-TOPIC : PLACE VALUES OF DECIMALS UP TO HUNDRETH

READ AND WRITE: - Decimals, hundredths, Tenths, tens, ones.

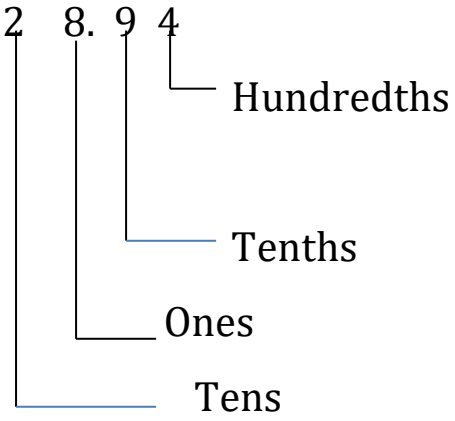
LESSON DEVELOPMENT: Writing decimals in words.

1. Write 8.5 in words.



8.5 eight and five tenth

2. Write 28.94 in words



28.94 = twenty eight and ninety four hundredths

3. Write 0.76 in words.

0. 7 6

Hundredths

Tenths

0.76 = seventy six hundredths

EXERCISE:

Write each of the following in words.

1.	0.4	2.	0.6	3.	0.8	4.	0.04
5.	52.14	6.	125.09	7.	2.04	8.	15.13

LESSON : 22

TOPIC : FRACTIONS

SUB-TOPIC : PLACE VALUES OF DECIMALS UP TO HUNDRETH

READ AND WRITE : - Hundredths, Tenths

LESSON DEVELOPMENT: Writing decimals in figures.

Examples:

1. Write in figures: six tenths

Six tenth

0	.	T th
0	.	6

= 0.6

2. Write in figures: twenty one and seventy five hundredths.

Tens	Ones	.	Tenths	Hundredths
2	1	.	7	5

Twenty one and seventy five hundredths = 21. 75

Exercise:

Write the following in figures.

1. Six tenths
2. Seven and nine tenths
3. Forty six and eleven hundredths
4. One hundred six and four tenths
5. Twelve hundredths
6. Nine hundred nine and nine hundredths
7. Four and twenty four hundredths

LESSON 23:

TOPIC: FRACTIONS

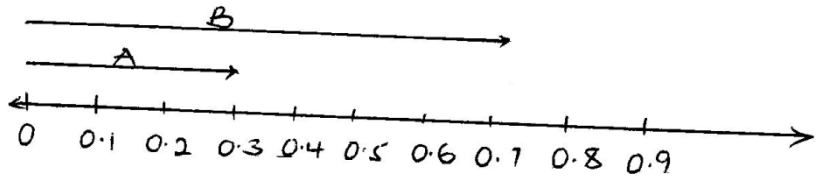
SUB-TOPIC: DECIMALS ON A NUMBER LINE

READ AND WRITE: - Decimals, number line, Greater than, less than

LESSON DEVELOPMENT

Comparing decimals using a number line.

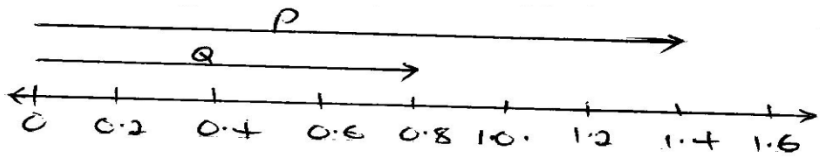
1. Use symbols >, < or = to compare A and B



Arrow A=0.3, arrow B=0.7

Therefore $0.3 < 0.7$

2. Use symbols >, < or = to compare P and Q.



Arrow P = 1.4, arrow Q = 0.8

Therefore, $1.4 > 0.8$.

3. Use symbols >, < of = to compare 38.42 and 38.5.

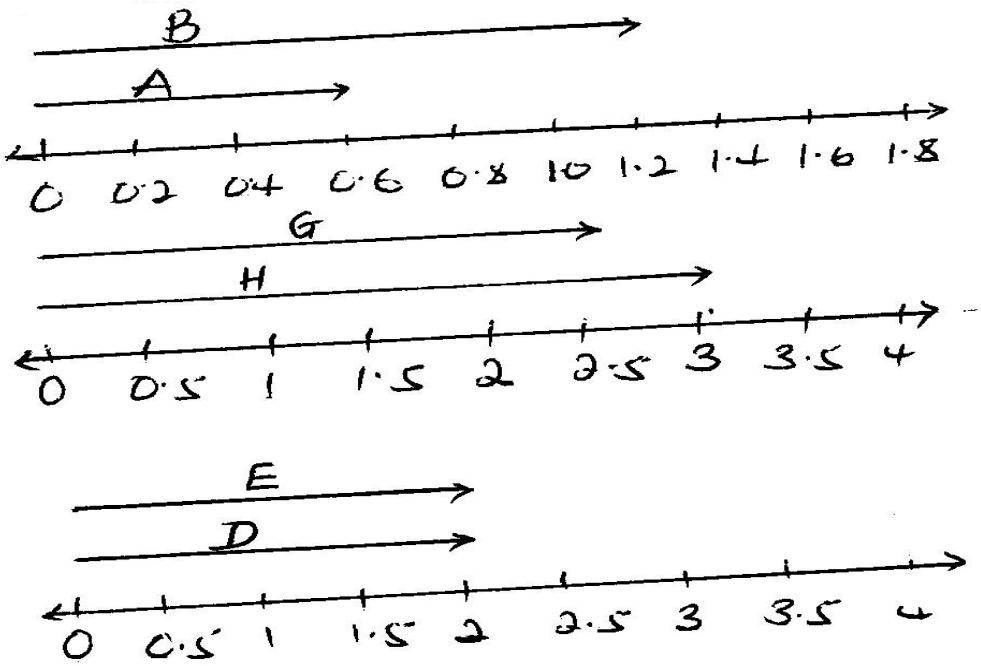
Solution

Tens	Ones		Tenths	Hundredths
3	8	.	4	2
3	8	.	5	

5 is greater than 4 in the tenths place value.

SUGGESTED ACTIVITY:

A. Use symbols >, < or = to compare the following.



B. Compare these decimals using the signs >, < or =.

1 0.86 _____0.4

2 89.14_____16.25

3 0.06_____ 0.006

4 66.7_____66.70

5. 4.5_____0.45

LESSON : 24

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS ON A NUMBER LINE

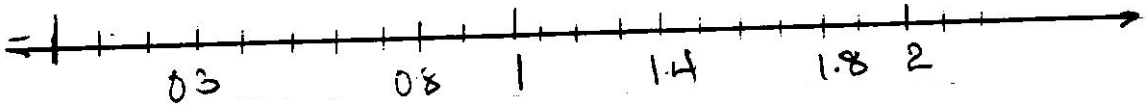
READ AND WRITE: - Decimals, number line, Ascending, Descending, Order.

LESSON DEVELOPMENT:

Ordering decimals in ascending and descending order.

Example I

Arrange from the lowest to highest 0.8, 1.4, 1.8, and 0.3



The order from lowest to highest is 0.3, 0.8, 1, 1.4, and 1.8,2.

Example II

Arrange 2.4, 0.6, 3.2, and 1.7 from highest to the lowest.

The order from highest to lowest is:

3.2, 2.4, 1.7, 0.6.

Exercise:

A Arrange the following from lowest to highest.

1. 0.3, 0.4, 0.44.
2. 0.7, 7.77, 0.77
3. 0.4, 0.08, .025
4. 0.6, 6.06, 0.66
5. 4.5, 0.45, 4.05

B. Arrange the following in descending order.

6. 1.1, 0.01, 0.001
7. 2.2, 0.02, 0.22, 0.002

8. 0.8, 3.8, 0.28, 0.08

9. 63.02, 630.2, 6.302, 0.632

10. 1.11, 0.111, 11.1, 1.011.

LESSON : 25

TOPIC : FRACTIONS

SUB-TOPIC : CONVERSION OF DECIMALS TO FRACTIONS AND VICE VERSA.

READ AND WRITE: Ones, Zero, Tenths , hundredths

LESSON DEVELOPMENT: Changing decimals to fractions

Example I.

Change 0.5 to a fraction.

$0.5 = 0.5$

Tenths

$0.5 = \frac{5}{10}$

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

$= 10 \div 5$

Example II:

Express 4.08 as a fraction.

$4.08 = 4.08$

hundredths

Tenths

Ones

$= 4 + \frac{8}{100}$

$= \frac{8}{100} \div \frac{4}{4}$

$= 4 + \frac{2}{25}$

$= 4\frac{2}{25}$

Exercise:

Change the following decimals to fractions.

1. 0.7
2. 0.02
3. 0.48
4. 0.72
5. 0.75
6. 15.5
7. 20.23

LESSON :26

TOPIC : FRACTIONS

SUB-TOPIC :CONVERSION OF DECIMALS TO FRACTIONS AND VICE VERSA.

READ AND WRITE : Decimal, decimal place, denominator

LESSON DEVELOPMENT: Changing fractions to decimals

Examples : Change $\frac{3}{10}$ *to a decimal*

$\frac{3}{10} = 0.3$

$$
\begin{array}{rl}
 & 0.3 \\
10 & \overline{)\,3} \\
0\times 3 & 0 \\
\hline
 & 30 \\
3\times 10 & 30 \\
\hline
 & \text{- -}
\end{array}
$$

$= 0.3$

The number of zero in the denominator must be equal to the number of decimal places.

$\frac{3}{10}$ - 1 decimal place

10 - 1 zero denominator

0.3

2. Change $\frac{1}{20}$ to a decimal

Solution

$$
\begin{array}{rl}
\frac{1}{20} = & 0.05 \\
20 & \overline{)\,1} \\
0\times 20 & 0 \\
\hline
 & 1\,0 \\
0\times 20 & 0 \\
\hline
 & 100 \\
5\times 10 & 100 \\
\hline
\end{array}
$$

$\therefore \frac{1}{20} = 0.05$

SUGGESTED ACTIVITY

Change the following fractions to decimals.

1. $\frac{9}{10}$ 2. $\frac{1}{4}$ 3. $\frac{4}{5}$ 4. $\frac{99}{100}$

5. $\frac{7}{100}$ 6 $\frac{1}{2}$ 7. $\frac{49}{100}$ 8. $\frac{3}{4}$

LESSON : 27

TOPIC : FRACTIONS

SUB-TOPIC : ADDITION AND SUBTRACTION OF DECIMALS.

READ AND WRITE: - Wholes, Tenths, Hundreds

LESSON DEVELOPMENT: Addition of decimals

Examples

Work out: 32.4 + 5.36.

$$\begin{array}{r} 32.40 \\ +\ 5.36 \\ \hline 37.67 \end{array}$$

Workout 58.86 + 0.9 + 5.35

$$\begin{array}{r} 58.86 \\ 0.90 \\ +\ 5.35 \\ \hline \\ \hline \end{array}$$

Exercise:

Workout the following:

1. 6 + 0.14
2. 14 + 3.43
3. 25 + 9.24
4. 36 + 4.86
5. 1.89 + 0.73 + 13.25

6. Opio got 6.72 litres of milk from his cow in the morning and 8.6 litres in the evening. How many milk did he get that day?
7. Agnes was carrying 2 pineapples. One pineapple had a mass of 2.75 kilogrammes and another of 2.4 kilogrammes. Find the total mass she was carrying.
8. Twine bought 8.36 litres of petrol for his car and 52.9 litres of diesel for his truck. How much fuel did be buy?

LESSON :28

TOPIC : FRACTIONS

SUB-TOPIC: ADDITION AND SUBTRACTION OF DECIMALS.

READ AND WRITE: - Decimals, decimal places, Subtraction.

LESSON DEVELOPMENT:

Subtraction of decimals

Examples:

1. Subtraction

$$\begin{array}{r} 0.6 \\ -\ 0.4 \\ \hline 0.2 \end{array}$$

2. Subtraction

$$\begin{array}{r} 4.37 \\ -\ 0.88 \\ \hline 3.49 \end{array}$$

A dairy farm produces 32.76 litres of milk of these, 27.94 litres are sold. How much milk is unsold?

Solution

$$\begin{array}{r} 32.76 \text{ litres} \\ -\ 27.94 \text{ litres} \\ \hline 4.82 \text{ litres} \end{array}$$

The number of litres un sold = 4. 82 litres

SUGGESTED ACTIVITY:

A. Workout

1. 0.6 – 0.3
2. 0.9 – 0.2
3. 0.62 – 12
4. 46.16 – 8.16
5. 401.37 – 198.7
6. 500.7 – 200.16

B. Read and workout

1. The distance from Kalema's home to school is 7.356km. Kalema walks and covers a distance of 1.93km before he boards a taxi. What distance does he cover by taxi?
2. Rose's car uses 5.36 litres of fuel every day and Joseph's car uses 3.93 litres.

(a) Whose car uses more fuel?

(b) How much more does it use?

3. Akullo's baby weighs 8.7kg and Naigaga's baby weighs 7.93kg.

(a) Whose baby is heavier?

(b) By how much?

LESSON : 29

TOPIC : FRACTIONS

SUB-TOPIC : ADDITION AND SUBTRACTION OF DECIMALS.

READ AND WRITE: Add, Subtraction, Decimals

LESSON DEVELOPMENT: Addition and subtraction of decimals

Example I:

Workout: 18.8 - 4.67 + 5.33

First add then subtract

$$\begin{array}{r} 18\ .\ 80 \\ +\ 5\ .\ 33 \\ \hline 24\ .\ 13 \\ \hline \end{array}$$

Then subtract

$$\begin{array}{r} 24\ .13 \\ -4\ .\ 67 \\ \hline 19\ .\ 46 \end{array}$$

Example II

Awori harvested 18.5kg of coffee in the morning; she sold 12.25kg and harvested 9.37 more in the evening. How much coffee does she have now?

First add then subtract.

$$\begin{array}{r} 18\ .\ 50\ \text{kg} \\ +\ 9\ .37\ \text{kg} \\ \hline 27.\ 87\ \text{kg} \end{array}$$

Then subtract

$$\begin{array}{r} 27\ .\ 87\ \text{kg} \\ -12\ .\ 25\ \text{kg} \\ \hline 12.62\ \text{kg} \end{array}$$

Exercise:

1. 6.35 + 4.6 -3.272
2. 19.85 + 7.4 – 10.67
3. 11- 16.25 + 8.3
4. 89.8 – 53 – 0.86
5. A trader had 150 kilogrammes of rice. He sold 115.25kg and later bought 36.65 kilogrammes. How much rice does he have now?
6. Jessica prepared 15.75 litres of juice in the morning. She served 14.9 litres of juice to her visitors and made 3.3 more litres. How much juice is there now?
7. The tailor had 9.65 metres of cloth. He used 7.8 metres to make skirts and later bought 6.132 metres. Find the length of the cloth she has now.

LESSON : 30

TOPIC : 2 DIMENSIONAL GEOMETRY

SUB-TOPIC: 2 AND 3 DIMENSIONAL FIGURES

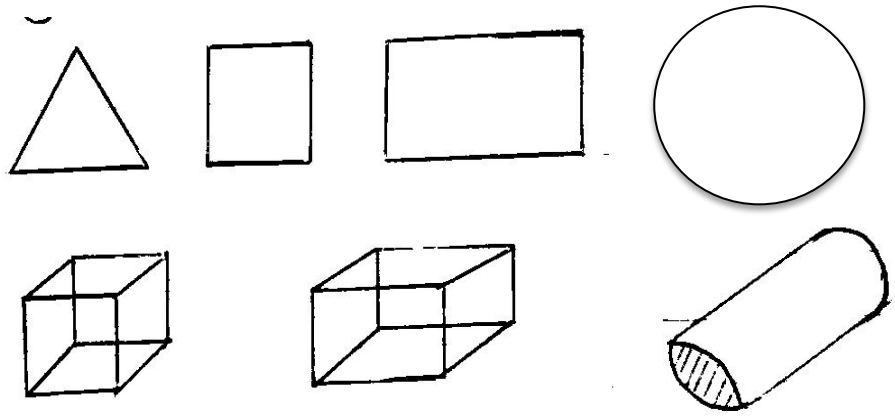
READ AND WRITE: - Square, Rectangle, Triangle, Cube, Cuboid, Cone, Cylinder

LESSON DEVELOPMENT:

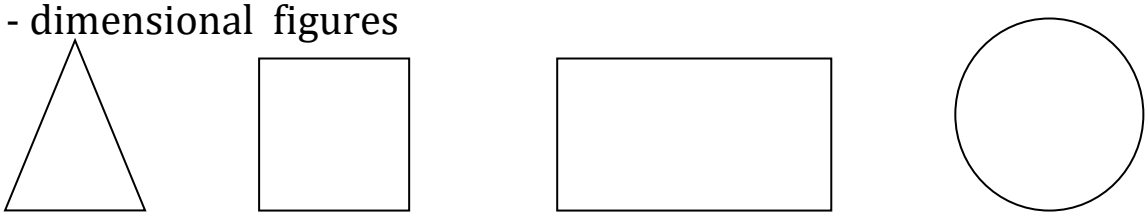
Identifying and naming 2 and 3 dimensional figures.

Activity

Pick out and name 2 and 3 dimensional figures from the figures below.

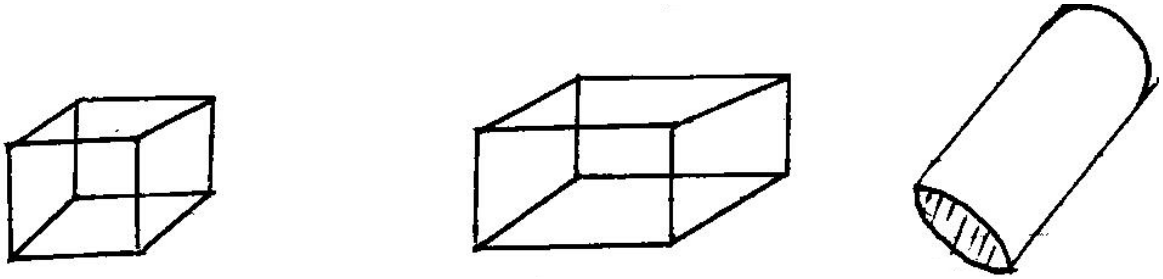


2 - dimensional figures



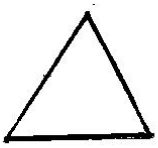
Triangle Square Rectangle Circle

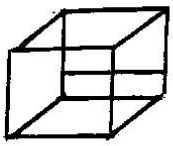
3 - dimensional figures.

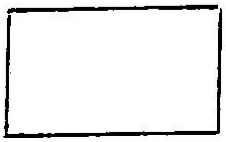


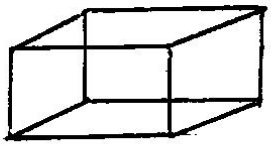
SUGGESTED ACTIVITY

Writ “2 dimensional” or “3 dimensional” shape.

1.  This triangle is a _____

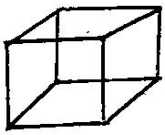
2.  This box is a _____

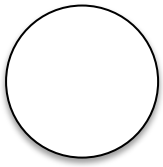
3  This rectangle is a _____

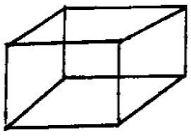
4.  This is _____

5. This is _____

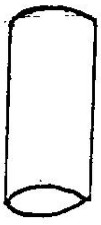
B. Name the 2 and 3 dimensional figures below.

1.  _____

2.  _____

3.  _____

4. _____

5.  _____

LESSON : 31

TOPIC : 2 DIMENSIONAL GEOMETRY

SUB-TOPIC : 2 AND 3 DIMENSIONAL FIGURES

READ AND WRITE: - Square, Rectangle, Triangle, Cube, Cuboid, Cone, Cylinder

LESSON DEVELOPMENT: Drawing 2 and 3 dimensional figures.

Activity:

Draw the following 2 and 3 dimensional figures below.

1.	Rectangle	2.	Square	3.	Triangle
4.	Cone	5.	Cylinder	6.	Cube
7.	Cuboid	8.	kite		

LESSON : 32

TOPIC : 2 DIMENSIONAL GEOMETRY

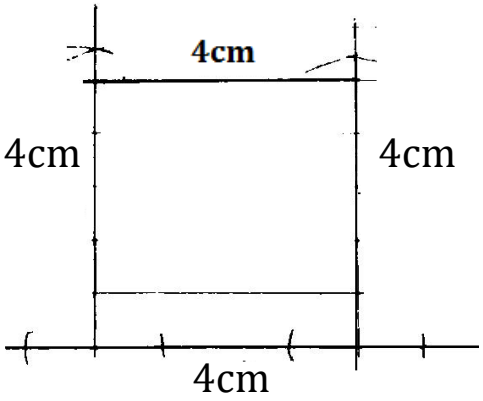
SUB-TOPIC : Constructing 2 dimensional figures

READ AND WRITE : Square, construct, Rectangle, Triangle.

LESSON DEVELOPMENT: Drawing and constructing 2 dimensional figures.

Example I.

Construct a square of sides 4cm using a ruler and a pair of compasses.



Exercise:

A. Construct squares of the sides given below.

1. 3 cm
2. 6 cm
3. 5 cm

B. Construct a rectangle ABCD in which AB= 6cm, BC=4cm

(c) Using a pair of compasses, a ruler and a pencil, draw equivalent triangles with the following dimensions.

(a) 2cm (c) 5cm. (b) 3cm

LESSON : 33

TOPIC : 2 DIMENSIONAL GEOMETRY

SUB-TOPIC : Constructing 2 dimensional figures

READ AND WRITE : - Straight line, Right angle.

LESSON DEVELOPMENT: Draw a right angle

Activity

A

KEY POINTS.

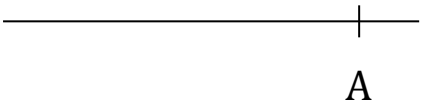
Get a ruler and draw a straight line, mark point anywhere.

Put the right angle part of the set square at a point and draw a line.

SUGGESTED ACTIVITY

Copy and draw a right angle at the given point.

1.

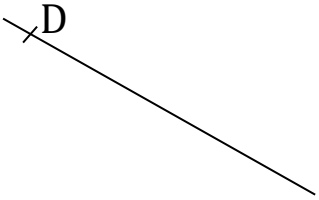


A

2.

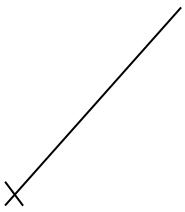
B

3.

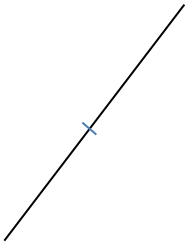


D

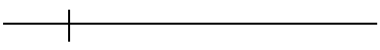
4.



5.



6.



LESSON : 34

TOPIC : 2 DIMENSIONAL GEOMETRY

SUB-TOPIC : Perimeter of figures

READ AND WRITE : - Strides, footsteps, perimeter

LESSON DEVELOPMENT

Finding perimeter of rectangles using footsteps and strides.

Activity.

What is the distance around your playground?

Walk around the playground as you count the steps. Do not have gaps between your feet.

The distance around the playground is its perimeter.

SUGGESTED ACTIVITY

1. Measure the distance around as instructed.
2. The distance around the office building. (Using footsteps).
3. The distance around a football field. (Using strides)
4. The distance around your class block (Using footsteps)
5. The distance around a netball field. (Using strides)
6. The distance around the school garden (Using strides)
7. The distance around your classroom floor. (Using footstep).

LESSON : 35:

TOPIC : 2 DIMENSIONAL GEOMETRY

SUB-TOPIC : Perimeter of figure

READ AND WRITE: - Perimeter, strides, footsteps

LESSON DEVELOPMENT

Finding perimeter of squares using strides and footsteps.

Group activity

How many strides can you make around a square block?

There are 4 strides on one side

The total number of strides

4 strides + 4 strides + 4 strides + 4 strides.

= 16 strides

SUGGESTED EXERCISE:

Measure the distance around as instructed. (Write your answer in strides).

1. The perimeter of a square room.
2. Half of the football field
3. The distance around a square garden
4. John made 14 strides on one side of a square, what was the perimeter of that shape?
5. The length of one side of a square garden is 20 strides. What is the perimeter of that shape?
6. The length of one side of a square garden is 20 strides. What is the perimeter of the garden?

LESSON : 36

TOPIC : 2 DIMENSIONAL GEOMETRY

SUB-TOPIC : Perimeter of figure

READ AND WRITE: - Perimeter, triangle

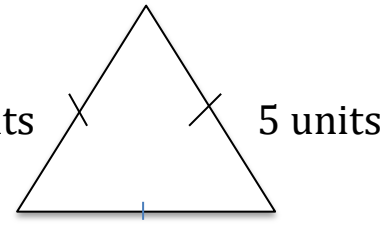
LESSON DEVELOPMENT

Finding perimeter of a triangle using nonstandard units.

Examples:

What is the distance around the triangle.

(a)

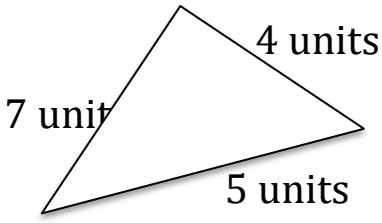


The triangle has three equal sides, the distance around it is;

Side + side + side

5 units + 5 units +5 units

= 15 units



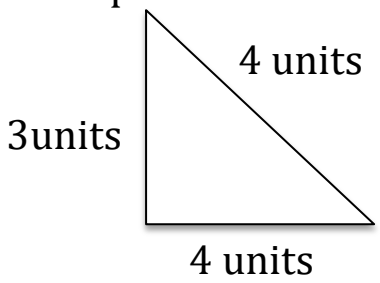
Side + Side + Side

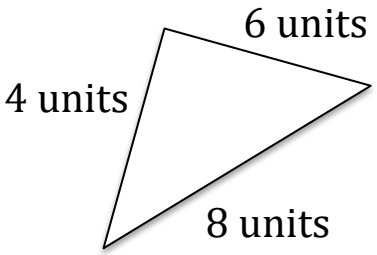
7 units + 5 units + 4 units

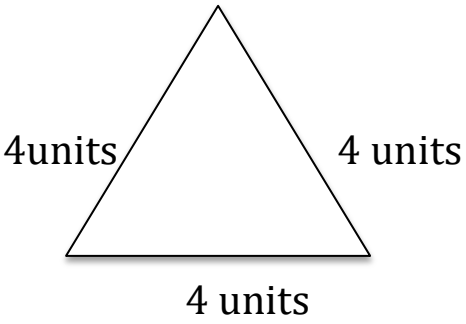
= 16 units

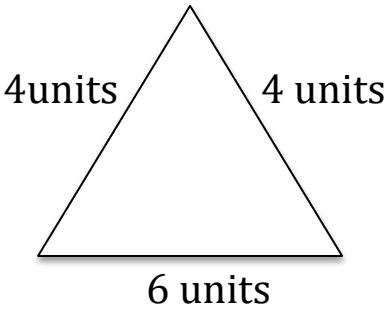
SUGGESTED ACTIVITY

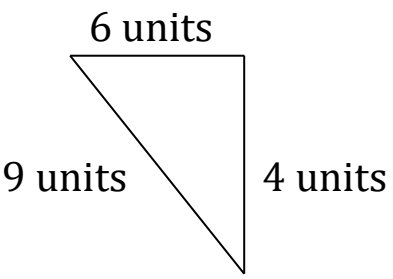
Find the perimeter of each of the triangle below.

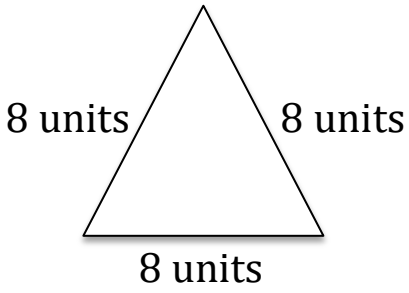












LESSON : **37**

TOPIC : **2 DIMENSIONAL GEOMETRY**

SUB-TOPIC : **Area of figures**

READ AND WRITE : Area, square.

LESSON DEVELOPMENT: Finding areas of a square.

Examples

1. How many small squares will fill the big square?

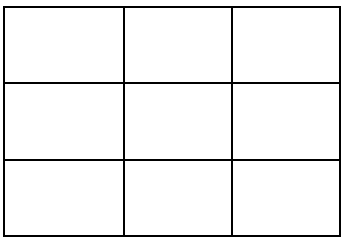
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

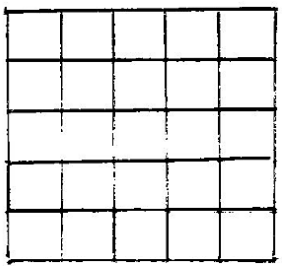
16 small squares will fill the big square.

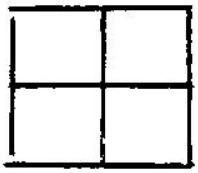
The area of the big square is 16 square units

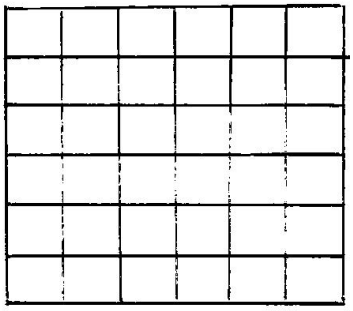
SUGGESTED ACTIVITY

Count the small squares to find the area of the squares below.









LESSON : 38

TOPIC : 2 DIMENSIONAL GEOMETRY

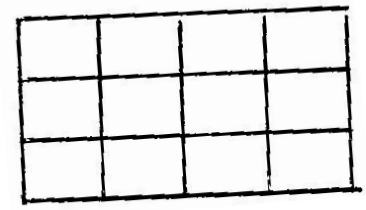
SUB-TOPIC : Constructing 2 dimensional figures

READ AND WRITE : Rectangle, Area.

LESSON DEVELOPMENT: Finding area of a rectangle

Examples:

Find the areas of the rectangle



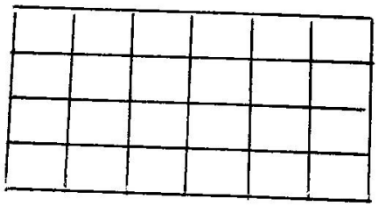
Count all the squares.

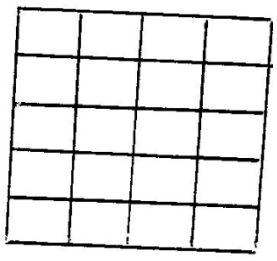
12 small squares fill the rectangle

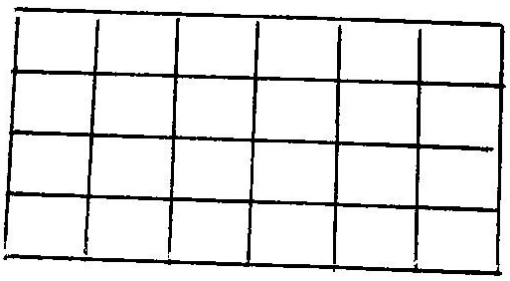
Therefore, the areas of the rectangle is 12 square units.

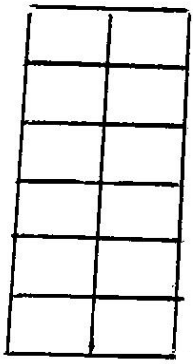
SUGGESTED ACTIVITY:

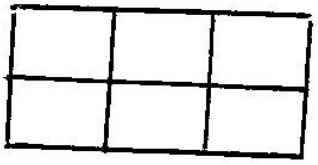
Count the squares to find the area of the rectangles below.











LESSON : 39

TOPIC : LINES, ANGLES AND GEOMETRIC FIGURES

SUB-TOPIC : PARALLEL AND PERPENDICULAR LINES

READ AND WRITE: - Line, Angles, Parallel, Perpendicular

LESSON DEVELOPMENT: Identifying and drawing parallel lines.

Example I:

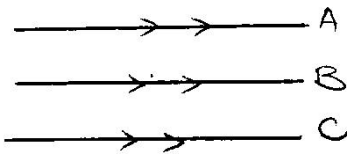
Give four objects with parallel lines.

Tables, desks, windows and boxes in our classroom have parallel lines.

Example II:

How do you tell that some lines are parallel?

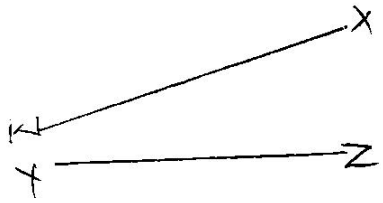
To show that the given lines are parallel, we use signs as shown.



Here, lIne A is parallel to Line B ($\overline{A}$ //$\overline{B}$)

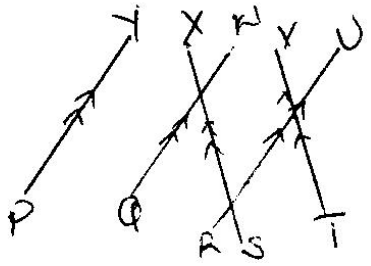
Line B is parallel to line line C ($\overline{B}$ //$\overline{C}$)

Line A is parallel to line C ($\overline{A}$ //$\overline{C}$)



$\overline{WX}$ and $\overline{YZ}$ are not parallel

EXERCISE

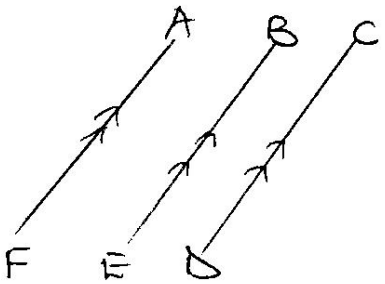


(a) Line RU is parallel to line TV

(b) Line SX is parallel to line TV

(c) QW is parallel to $\overline{RU}$

(d) Line PY is parallel to line SX



(a) Line AF is parallel to line BE

(b) Line AF is parallel to line CD

(c) Line BE is parallel to line CD

3. Draw parallel lines using a ruler

4. Draw parallel lines using a ruler and a set square

5. Draw a slanting line AB and line XY parallel

6. Draw parallel lines MN and PQ 2cm apart.

LESSON : 40

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

SUB-TOPIC : PARALLEL AND PERPENDICULAR LINES.

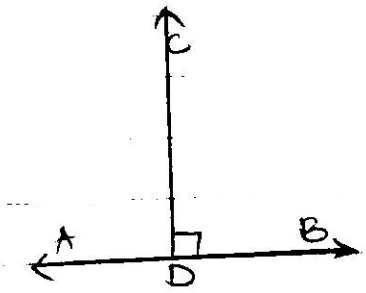
READ AND WRITE: - Lines, Parallel, Perpendicular

LESSON DEVELOPMENT

Example

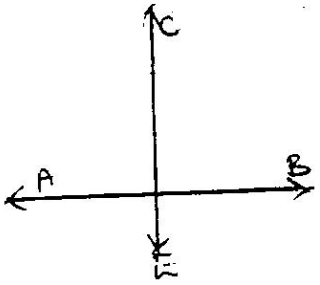
Name the straight lines in the diagrams below.

Perpendicular straight line



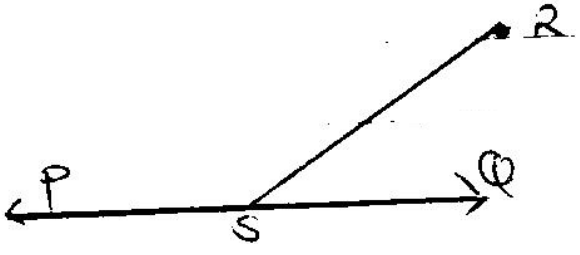
$\overline{CD}$ is perpendicular to line AB

b. cutting a perpendicular



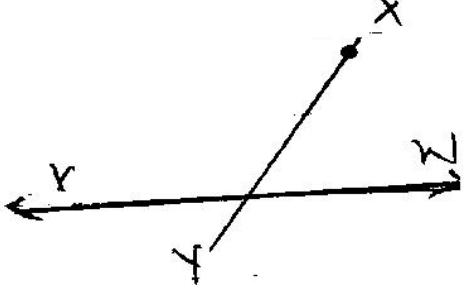
CE is perpendicular to line AB

(c). Not Perpendicular



$\overline{RS}$ is not perpendicular to $\overline{PQ}$

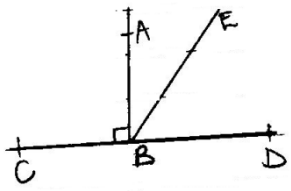
(d). Not perpendicular cutting



$\overline{XY}$ is not perpendicular to $\overline{VW}$

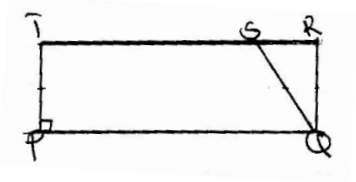
EXERCISE:

1. What are perpendicular lines?
2. Which angle is formed by perpendicular lines?
3. How many perpendicular lines does a rectangle have?
4. Study the figure below and write TRUE OR FALSE



$\overline{AB}$ is perpendicular to $\overline{CD}$

$\overline{BE}$ is perpendicular to $\overline{CD}$



$\overline{PT}$ is perpendicular to $\overline{PQ}$

$\overline{Qr}$ is perpendicular to $\overline{PQ}$

$\overline{SR}$ is perpendicular to $\overline{PQ}$

LESSON : 41

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

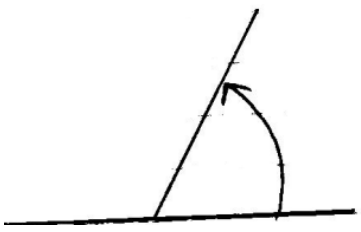
SUB-TOPIC : ANGLES

READ AND WRITE : - Angles, Line, Protractor

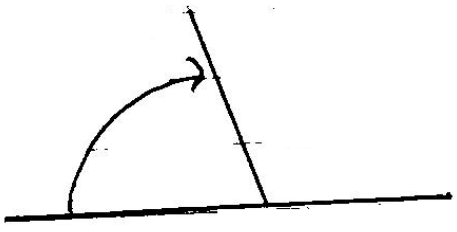
LESSON DEVELOPMENT: Measuring angles using a protractor

Examples:

Using a protractor, measure the angles below.



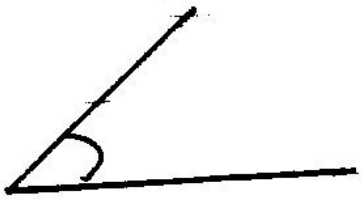
Use inner scale

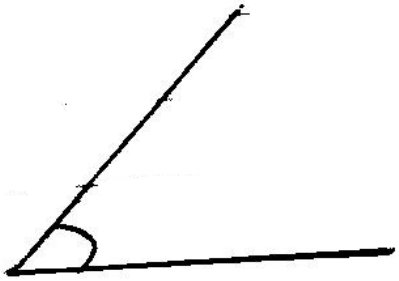


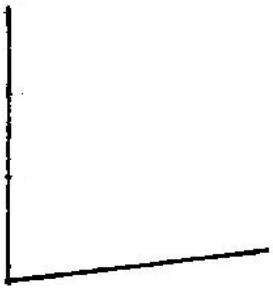
Use inner scale

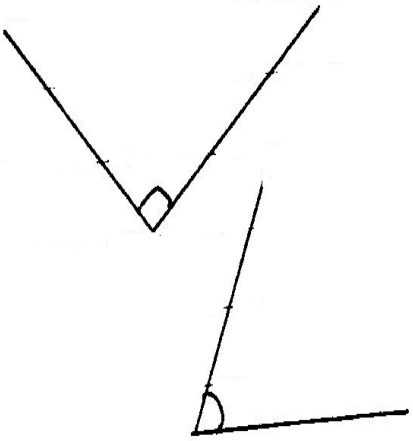
Exercise

Measure the angles using a protractor.

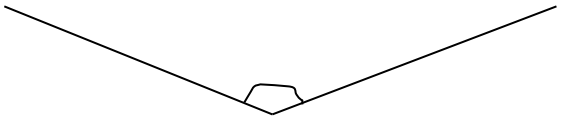
1. 

2. 

3. 

4. 

4

6. 

LESSON 42:

TOPIC: LINES, ANGLES AND GEMETRIC FIGURES

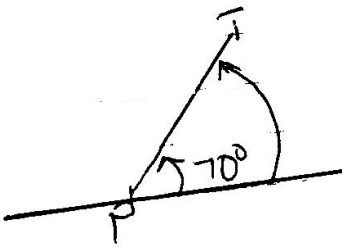
SUB-TOPIC: ANGLES

READ AND WRITE: - Angles, lines, Protractor

LESSON DEVELOPMENT: Drawing angles using a protractor

Steps:

1. Draw a straight line and mark point to be used as the vertex, that is P.
2. Place the protractor on the line such that its centre exactly covers point P.
3. Starting from zero, on the side you want your angle to be, read up to the line where your angle passes and mark it point T.
4. Remove the protractor and join the marked point T to the vertex P.



Exercise:

Use a protractor to draw the following angles.

1. 20^0 2. 70^0 3. 120^0 4. 1450^0 5. 100^0

LESSON : 43

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

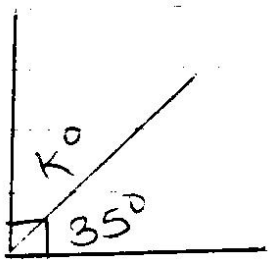
SUB-TOPIC : ANGLES

READ AND WRITE: - Angles, lines, Complementary

LESSON DEVELOPMENT: Finding complement angles

Example I

Find the size of $<k$



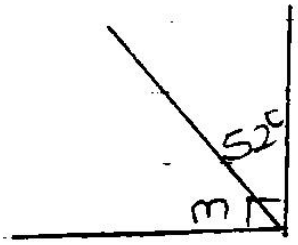
$K + 35^0 = 90^0$

$K + 35^0 - 35^0 = 90^0 - 35^0$

$K = 55^0$

Example II

Find the size of $\angle m$



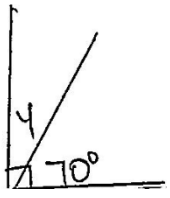
$m + 52^0 = 90^0$

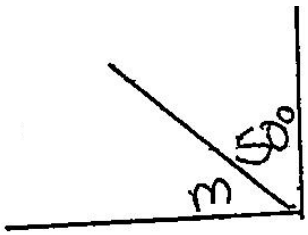
$m + 52^0 - 52^0 = 90^0 - 52^0$

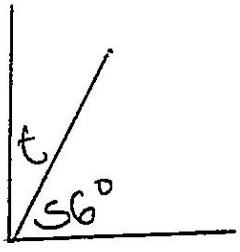
$m = 38^0$

Exercise:

Find size of the marked angles.

(a) 

(b) 

(c) 

2. Find complement of 49^0
3. Two angles add up to 90^0, one is 35^0. What is the size of the other angle.
4. One of the complementary angles is 60^0. What is the size of the second angle.
5. Find the complement of 63^0

LESSON : 44

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

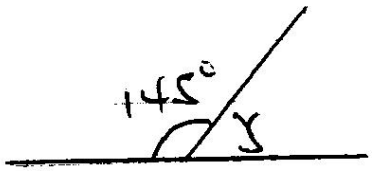
SUB-TOPIC : ANGLES

READ AND WRITE : Supplementary, Angles

LESSON DEVELOPMENT : Supplementary angles

Examples:

1. Find the size of ∠y.

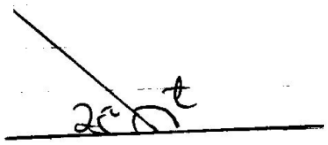


$y + 145^0 = 180^0$

$y + 145^0 - 145^0 = 180^0 - 145^0$

$y = 35^0$

2. Find the size of ∠t.



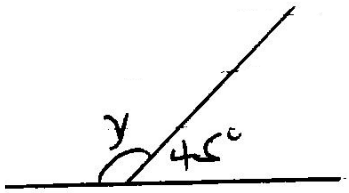
$t + 145^0 = 180^0$

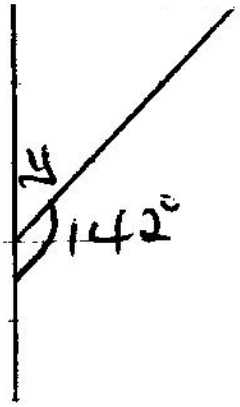
$t + 25^0 - 25^0 = 180^0 - 25^0$

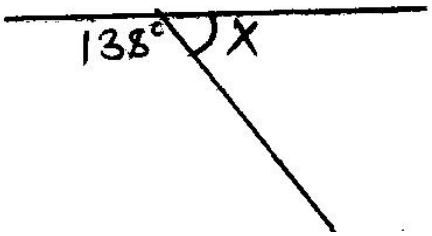
$t = 155^0$

SUGGESTED ACTIVITY

Find the size of the angles marked with letter.

1. 

2. 

3. 

4. Find the supplement of 115^0.

5. Find the second supplement of 77^0

6. Work out the supplement of 11^0.

7. Given that angle Y $= 107^0$. Find its supplement.

LESSON : 45:

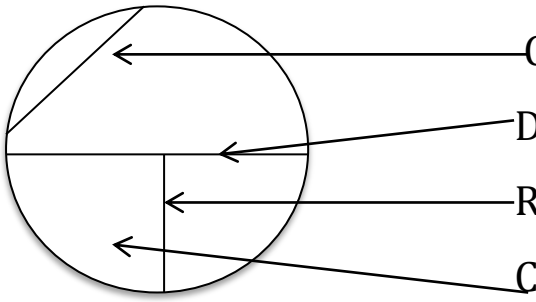
TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

SUB-TOPIC : CIRCLES

READ AND WRITE: Circles, Lines, Chard, Diameter, Radius

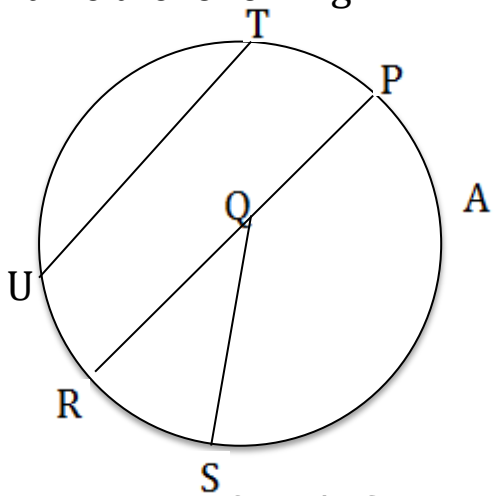
LESSON DEVELOPMENT:

Naming parts of a circle.



Exercise:

1. Name the following



A, $\overline{SQ}$

B, $\overline{TU}$

C, $\overline{PR}$

D, $\overline{PQ}$

E .$\overline{QR}$

F .ASRUTRA

2. Write TRUE OR FALSE

(a) A diameter is a chard of a circle

(b) A radius is twice the diameter

(c) A diameter is the line that passes through the centre of a circle.s

LESSON : 46

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

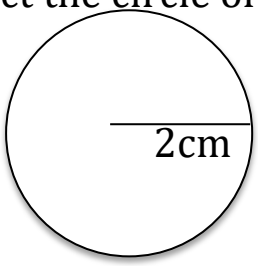
SUB-TOPIC : CIRCLE

READ AND WRITE: Circle, lines, angles

LESSON DEVELOPMENT : Constructing circles using a pair of compasses.

Example I

1. Construct the circle of radius 2cm.

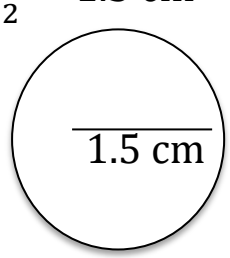


2. Construct the circle of diameter 3cm.

   First angle diameter to radius.

   Radius $= \frac{\text{Diameter}}{2}$

   R$= \frac{3}{2} = 1.5$ cm



Exercise:

1. Use a pair of compasses and a ruler to construct a circle of radius.

(a) 3cm

(b) 4cm

(c) 2.5cm

(d) 3.5cm

2. Use a pair of compasses and a ruler to construct a circle of diameter.

(a) 4cm

(b) 6cm

(c) 8cm

(d) 7cm

LESSON : 47:

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

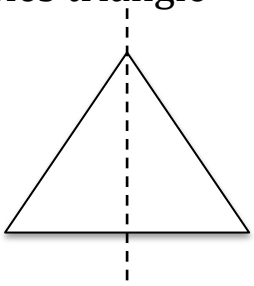
SUB-TOPIC : SIMPLE LINES OF FOLDING SYMMETRY

READ AND WRITE : Kite, Rectangle, Isosceles triangle, lines.

LESSON DEVELOPMENT

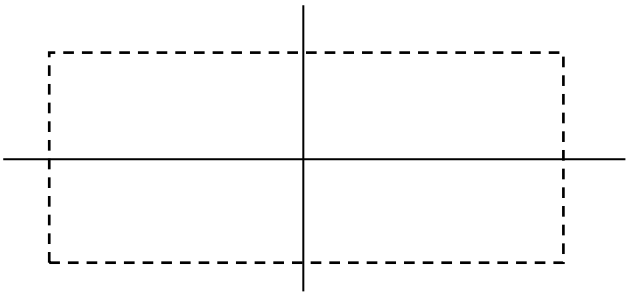
Draw and count the lines of symmetry for each of these.

Isosceles triangle



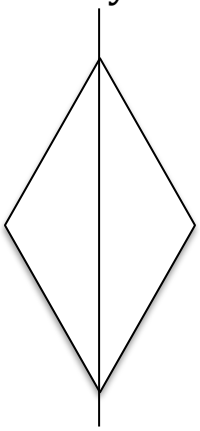
1 line of symmetry

Rectangle



2 lines of symmetry

1 line of symmetry

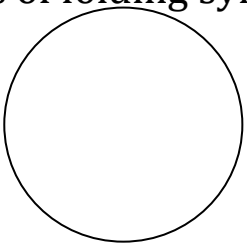


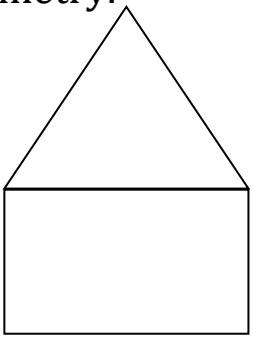
EXERCISE:

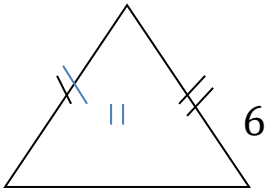
Copy, draw and write the number of lines of folding symmetry.

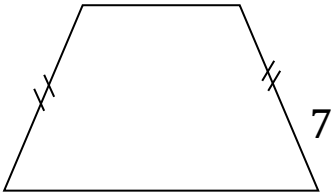
1.

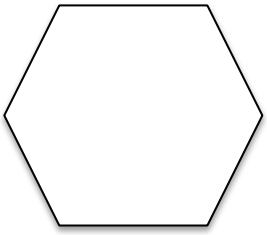
2.

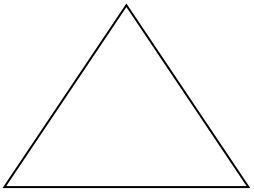
3 

4 

5 

6 

7 

8 

LESSON : 48:

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

SUB-TOPIC : ROTATION AND REVOLUTION

READ AND WRITE : Rotation, Revolution, Turn.

LESSON DEVELOPMENT :Find fractions and angles of rotation.

Example 1.

How many degrees are there in a quarter of a turn?

1 complete turn $= 360^0$

$\frac{1}{4}$ of a turn $= 90^0$

90^0	90^0
90^0	90^0

$\frac{1}{4}$ of turn $= \frac{1}{4}$ x 360

$= 90$ degrees

Example 2:

What turn is made in an angle of 120^0?

360^0 $= 1$ complete turn

$120^0 = \frac{1}{360} \text{x } 120$

$= \frac{1}{3}\ of\ a\ turn$

Exercise:

Work out:

1. How many degrees are there in

(a) $\frac{1}{4}$ turn? (b) $\frac{2}{3}$ turn? (c) $\frac{1}{3}$ turn?

(d) $\frac{3}{4}$turn? (e) $\frac{2}{9}$ turn?

2. Write the fraction representing the following degrees.

(a) 90^0 (b) 180^0

(c) 270^0 (d) 360^0.

LESSON 49:

TOPIC: LINES, ANGLES AND GEMETRIC FIGURES

SUB-TOPIC: ROTATION AND REVOLUTION

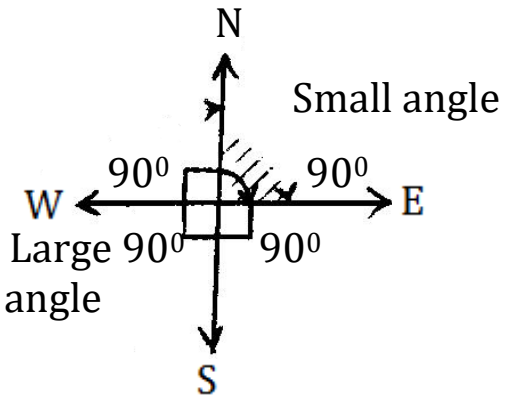
READ AND WRITE: - Smaller, Larger, South, North, East, West.

LESSON DEVELOPMENT.

Angles on a compass

Examples:

Study the compass direction below.



What is the smaller angle between North and East?

The smaller angle is 90^0.

What is the larger angle between North and East?

The larger angle is $90^0 + 90^0 + 90^0$

3×90^0

270^0.

SUGGESTED ACTIVITY

Compare the following:

1. What is the smaller angle between?

(a) North and West?

(b) S.W and S.E

© N.W and S.E?

(d) S.W and West?

2. What is the larger angle between?

(a). East and N.W?

(b) S.W and North?

(c) South and East?

LESSON : 50

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

SUB-TOPIC : ROTATION AND REVOLUTION

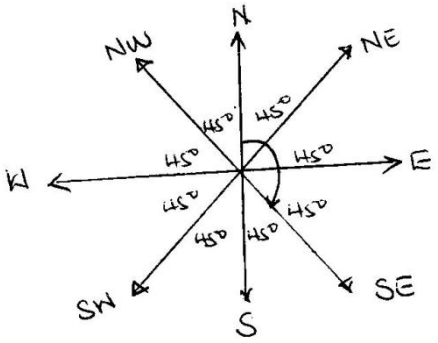
READ AND WRITE : West, North, South, East

LESSON DEVELOPMENT.

The clockwise and anticlockwise turn.

Example 1.

Obbo was facing North. He turned clockwise to face SE. what angle did he make?



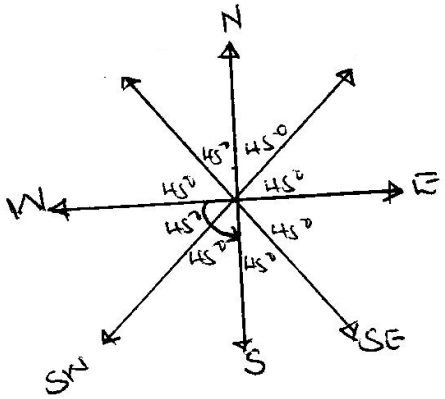
North to SE

$= 3 \times 45^0$

$= \underline{135^0}$

Example: II

Nalule was facing west. She turned anticlockwise through 90^0. In which direction did she face?



Anti-clockwise

West through 90^0 = South

Exercise:

1. Through which angle do I turn anticlockwise from South to North?
2. Kapongoso was facing in the West. He then turned anticlockwise to face North east. What angle did he turn through?

3. What angle is made by a clockwise turn from south to west?
4. I turned clockwise from east to west. What angle did I turn through?
5. John took a clockwise turn from west through and angle of 27^0. Where is he facing now?
6. In which direction will I be facing if I turn 225^0 from North anticlockwise.

LESSON : 51

TOPIC : LINES, ANGLES AND GEMETRIC FIGURES

SUB-TOPIC : REGULAR HEXAGONS.

READ AND WRITE: Hexagon, radius, equidistant points, adjust, circumference

LESSON DEVELOPMENT: Constructing a regular hexagon.

Activity

Construct a hexagon of radius 2cm.

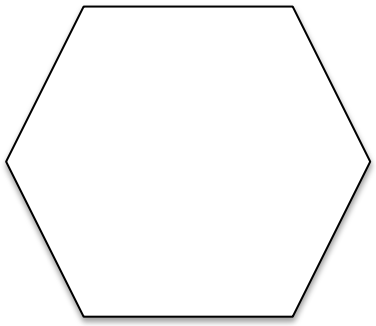
Steps:

Adjust the pair of compasses to a radius of 2cm

Construct a circle of radius 2cm

Use the same radius to mark 6 equidistant points around the circumference.

Join the 6 points with straight lines to form a hexagon.



SUGGESTED ACTIVITY

Construct regular hexagons of the radii below.

1. 2.5cm 2. 3cm 3. 3.5cm 4. 5cm

LESSON : 52:

TOPIC : INTEGERS

SUB-TOPIC : POSITIVE AND NEGATIVE INTEGERS.

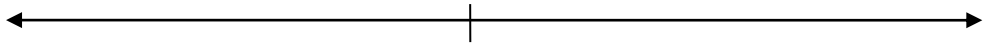
READ AND WRITE: Positive, Negative integers.

LESSON DEVELOPMENT.

Describing and naming positive and negative integers using a number line.

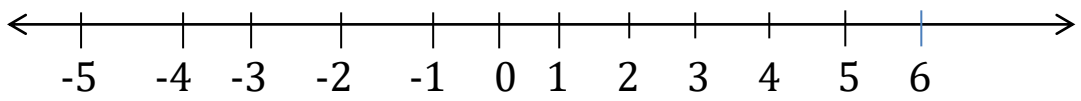
Activity:

Draw two lines on the ground. Mark a point O on one of them and write the words right and left as shown.



Left O Right

Move to the right as you number the steps from O with a (+) sign on each number. Then to the left of O with a (-) sign on each number equidistantly.



Left right

(Negative integers) (Positive integers)

- Numbers to the right of O one positive integer. Numbers to the left of O are negative integers.

SUGGESTED ACTIVITY

1. Name the integers to the left of zero
2. Name integers to the right of O
3. Which integer is neither negative nor positive
4. Write a set of positive integers
5. Name the inters which are marked with (+ve) signs
6. Which name is given to

   $^{-}1, \{^{-}2, \ ^{-}3, \ ^{-}4, \ ^{-}5, \ ^{-}6, \ ^{-}7, \ldots\ldots\ldots\}$
7. How many integers are there from $^{-}3$ to $^{-}8$?

LESSON : 53:

TOPIC : INTEGERS

SUB-TOPIC : ORDERING INTEGERS

READ AND WRITE: Negative, positive, ascending, descending

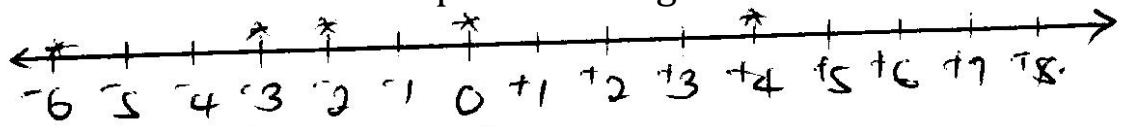
LESSON DEVELOPMENT:

Ordering negative and positive integers on a number line.

Examples:

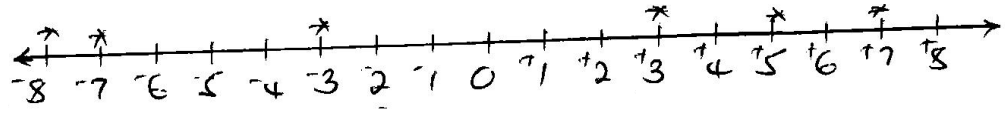
Arrange $^{-}3, ^{+}4, 0, ^{-}6, ^{-}2$ in descending order.

Draw a number line and plot the integers on it.



List the integers from right to left $^{+}4$, 0, $^{-}2$, $^{-}3$, $^{-}6$

Arrange $^{+}3$, $^{-}3$, $^{+}7$, $^{-}7$, +5, - 8 in ascending order.



List the integers from left to right $^{-}$ 8, $^{-}7$, $^{-}3$, $^{+}3$, $^{+}5$, $^{+}7$.

SUGGESTED ACTIVITY

1. Arrange these integers in ascending order.

a. $^{-}$ 6, $^{+}6$, 0 b. $^{-}4$, +3, +10, $^{-}5$

c. $^{-}9$, $^{-}4$, 0, +4 d. $^{+}1$, $^{-}1$, 0, $^{+}4$, $^{-}4$

2. Arrange these integers in descending order.

a $^{-}$ 1, $^{+}1$, $^{-}3$, $^{+}5$ c. $^{-}4$, $^{-}8$, $^{+}10$, $^{+}6$, $^{-}5$, $^{+}1$

b $^{+}3$, $^{-}9$, $^{-}1$, $^{-}5$ d. $^{+}10$, $^{+}12$, $^{-}11$, $^{+}5$, $^{-}7$

3. Which integer is less than the other?

a. $^{+}3$ or $^{+}7$ b. $^{-}8$ or $^{-}3$ c. $^{-}18$ or +4

4. Which integer is greater than the other?

a. $^{+}6$ or +13 b. 0 or $^{-}7$ c. $^{-}5$ or $^{-}9$.

LESSON :54

TOPIC : INTEGERS

SUB-TOPIC : ORDERING INTEGERS

READ AND WRITE: Greater than, Less than or Equal to.

LESSON DEVELOPMENT.

Comparing negative and positive integers on a number line.

Example

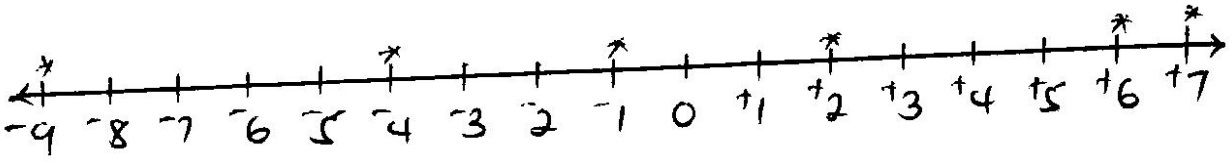
Compare these integers using $>$, $<$ or $=$

a. $^{+}7$ and $^{-}9$

b. $^{-}4$ and $^{-}1$

c. $^{+}6$ and $^{+}2$

Solution



(a) $^{+}7$ is on the right of $^{-}9$, so $^{+}7$ is greater than $^{-}9$ $= {}^{+}7 > {}^{-}9$

(b) $^{-}4$ is on the left of $^{-}1$, so -4 is less than $^{-}1$ $= {}^{-}4 < {}^{-}1$

Suggested activity

A Use $>$, or $<$ or $=$ to compare.

1. $^{+}10$ 10 2. $^{-}100$ $^{-}200$ 3. ^{-}y ^{+}y

4. $^{+}13$ $^{-}9$ 5. 34 $^{+}34$ 6. $^{+}8$ $^{-}9$

List integers which are:

Less than $^{-}100$ 4. More than 0

More than $^{+}14$ 5. Less than $^{-}3$

Less than $^{+}5$ 6. More than $^{+}1$

LESSON : 55:

TOPIC : INTEGERS

SUB-TOPIC :ORDERING INTEGERS

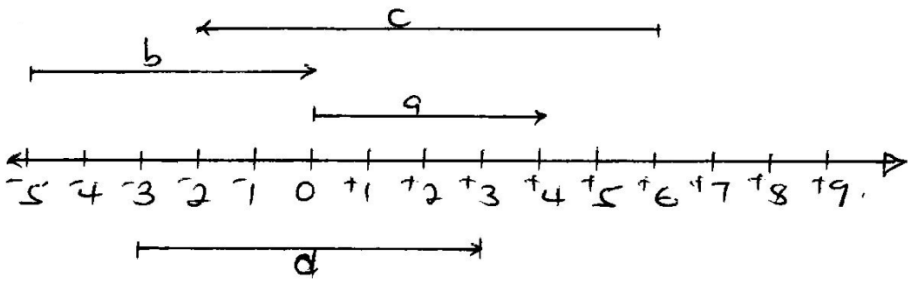
READ AND WRITE: Arrow, represent, Steps/ gaps, Negative, Positive integer.

LESSON DEVELOPMENT.

Representing integers on the number line.

Example:

What integers are represented by a, b, c, d?



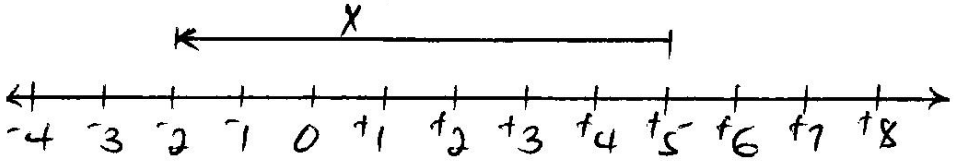
A = $^{+}4$

B = $^{+}5$

C = $^{-}8$

D = $^{+}6$

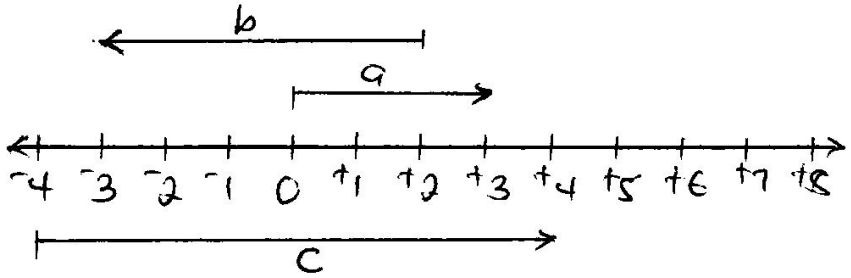
2. Show -7 starting from $^{+}5$



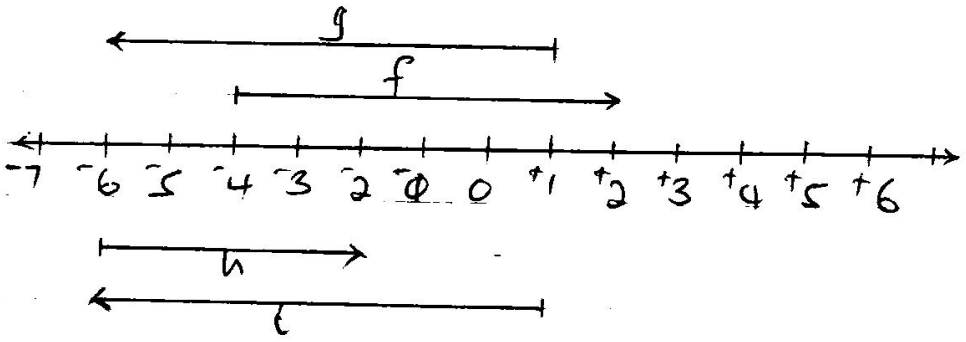
Starting from $^{+}5$, arrow X = $^{-}7$

SUGGESTED ACTIVITY

Find the integers that are represented by the arrows.



a=_____ b _____ c _____



f = ____

g = _____

h = _____

i= _____

LESSON :56

TOPIC : INTEGERS

SUB-TOPIC : ADDITION AND SUBTRACTION OF INTEGERS.

READ AND WRITE : Integers, addition, Negatives, Positives

LESSON DEVELOPMENT. Adding positive and negative integers.

Work out: $^{+}5 + {}^{-}3$

Solution

Compare positive and negative, pair positives and negatives.

Positive	Negative
+ + + + +	- - -
Two positives remain .	All negatives are finished

So $^{+}5 + {}^{-}3 = {}^{+}2$

. Workout: $^{+}4 + {}^{-}7$

Solution

Positives	Negatives
+ + + +	- - - - - - -
All positive are finished	Three negatives remain

So, $^{+}4 + {}^{-}7 = {}^{-}3$

SUGGESTED ACTIVITY

WORK OUT

1.	$^{+}3 + {}^{-}2$	2.	$^{+}7 + {}^{-}7$	3.	$^{+}15 + {}^{-}17$
4.	$^{+}8 + {}^{-}3$	5.	$^{-}6 + {}^{+}2$	6.	$^{-}15 + {}^{+}6$
7.	$^{-}3 + +2$	8.	$^{-}9 + {}^{+}9$	9.	$0 + {}^{-}5$

LESSON : 57

TOPIC : INTEGERS

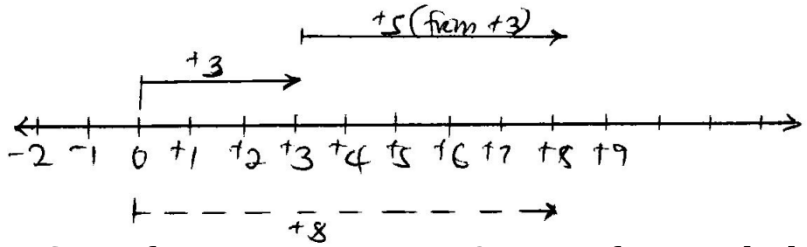
SUB-TOPIC : ADDITION AND SUBTRACTION OF INTEGERS

READ AND WRITE : Integers, Addition, Negatives, Positives.

LESSON DEVELOPMENT.

Adding integers using the number line.

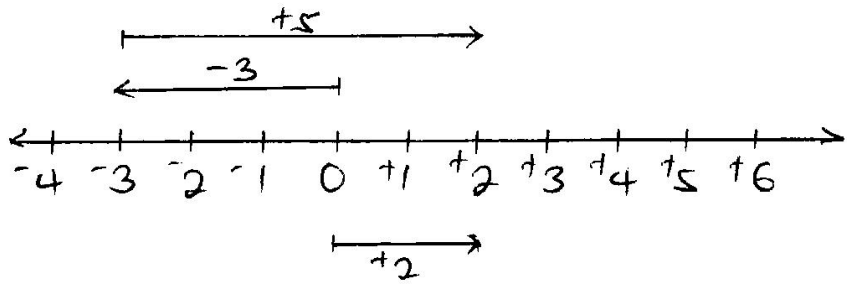
1. Work out: $^{+}3 + {}^{+}5$



Start from zero. Move $^{+}3$ steps forward, then move $^{+}5$ steps from $^{+}3$.

$\therefore \ {}^{-}3 + {}^{+}5 = {}^{+}8$

2. Workout: $^{-}3 + {}^{+}5$.



Start from zero, move $^{-}3$ (three) steps backward. Then move $^{+}5$ (five) steps forward from $^{-}3$.

$\therefore \ {}^{-}3 + {}^{+}5 = {}^{+}2$

SUGGESTED ACTIVITY

Work out the following using number lines

1. $^{-}2 + {}^{+}6$
2. $^{-}5 + {}^{-}4$
3. $^{+}7 + {}^{-}5$
4. $^{+}5 + {}^{-}4$
5. $^{-}3 + {}^{-}5$
6. $^{+}15 + {}^{-}8$
7. $^{-}2 + {}^{-}6$
8. $^{-}6 + {}^{+}4$
9. $+6 + {}^{-}8$
10. $^{+}5 + {}^{+}4$

LESSON : 58:

TOPIC : INTEGERS

SUB-TOPIC : ADDITION AND SUBTRACTION OF INTEGERS

READ AND WRITE : Negative integers, positive integers, Subtraction.

LESSON DEVELOPMENT.

Subtracting positive and negative integers.

Examples

Workout: $^{-}4 - 7$

Solution

Compare and pair $(^{-}4), (^{-}7)$

(-4), (-7)	No. (+)
- - - -	
- - - - - - - -	
-11	

Since there are no positives, the answer is negative.

$\therefore {}^{-}4 - 7 = {}^{-}11$

2. Workout $+4 - {}^{+}7$

Solutions

First simplify the signs, that is (-x+= -)

(-7)	$(^{+}4)$
- - - - - - -	+ + + +
$^{-}3$	

$\therefore {}^{+}4 - {}^{+}7 = {}^{-}3$

SUGGESTED ACTIVITY

Work out the following without using number lines.

1.	${}^{-}7 - {}^{-}6$	2.	${}^{-}8 - {}^{+}3$	3.	${}^{-}15 - {}^{+}10$
4.	${}^{+}7 - 9$	5.	${}^{+}8 - {}^{-}3$	6.	${}^{-}9 - 7$
7.	${}^{+}8 + {}^{+}3$	8.	${}^{+}15 - 10$	9.	$+9-7$

LESSON : 59:

TOPIC : INTEGERS

SUB-TOPIC : ADDITION AND SUBTRACTION OF INTEGERS

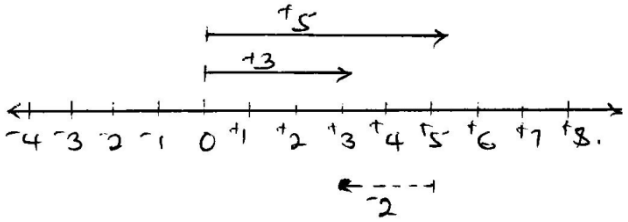
READ AND WRITE: Negative, positive integers, Subtraction.

LESSON DEVELOPMENT. Subtracting integers using a number line.

Examples

1. Work out: ${}^{+}3 - {}^{+}5$

Solution



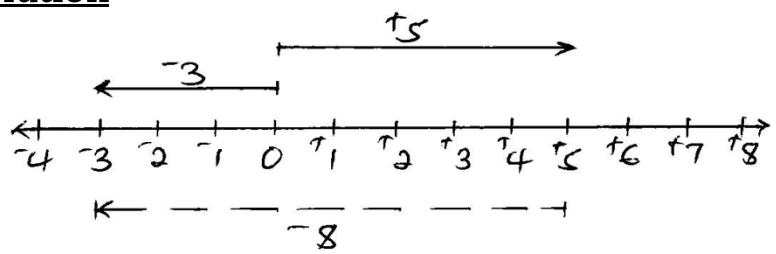
First draw ${}^{+}3$ from 0. Then draw ${}^{+}5$ from zero.

The answer runs from the second arrow head to the first arrow head.

$\therefore {}^{+}3 - {}^{+}5 = {}^{-}2$

2. Work out: ${}^{-}3 - {}^{+}5$

Solution



$\therefore {}^{-}3 - {}^{+}5 = {}^{-}8$

SUGGESTED ACTIVITY

Work out the following using number lines.

1. $^{+}4 - {}^{+}3$
2. $^{+}4 - {}^{-}3$
3. $^{-}4 - {}^{+}3$
4. $^{-}4 - {}^{-}3$
5. $^{-}6 - {}^{+}8$
6. $^{+}6 - {}^{-}8$
7. $^{-}6 - {}^{-}8$
8. $^{+}6 - {}^{+}8$
9. $^{-}5 - {}^{+}5$
10. $^{+}5 - {}^{+}5$

LESSON 60:

TOPIC : INTEGERS

SUB-TOPIC :ADDITION AND SUBTRACTION OF INTEGERS

READ AND WRITE: Arrows, integers, statement.

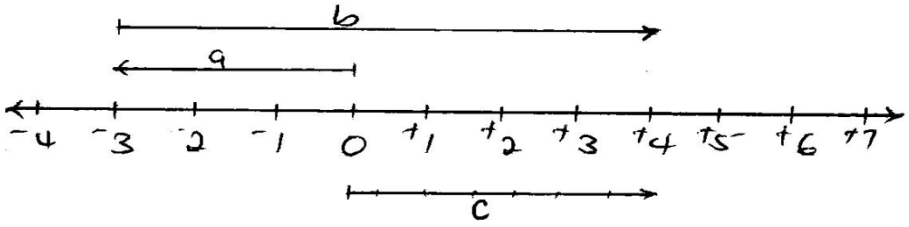
LESSON DEVELOPMENT.

Forming mathematical statements from number lines.

Examples.

1. Find the integers represented by a, b, c.

   $A = {}^{-}3$, $b. = {}^{+}7$, $c = {}^{+}4$



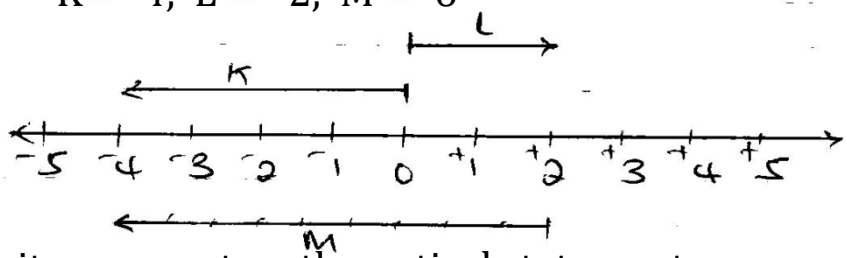
   Write a mathematical statement represented by statement:

   $a + b = c$

   $^{-}3 + {}^{+}7 = {}^{+}4$

2. Find the integers represented by K, L, M.

   $K = {}^{-}4$, $L = {}^{+}2$, $M = {}^{-}6$



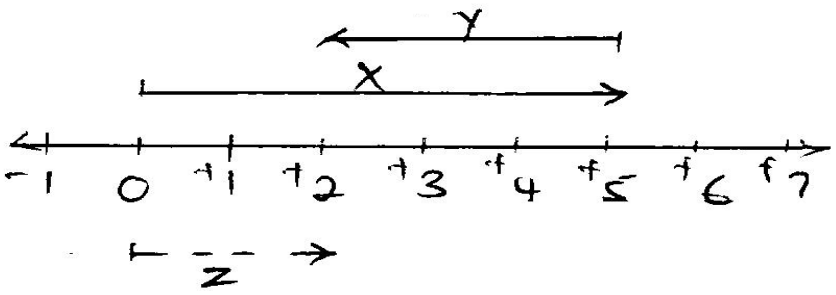
Write a correct mathematical statement represented on the number line above.

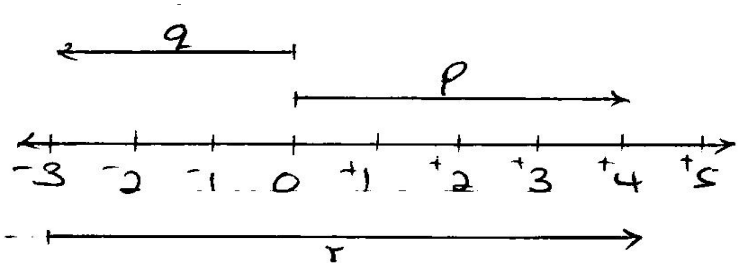
Statement: $K - L = M$

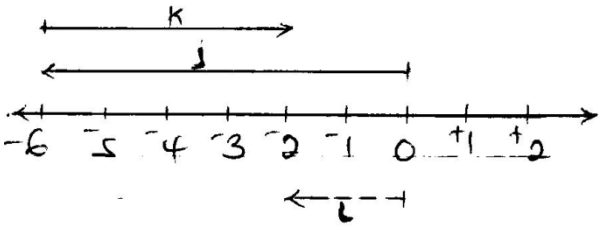
$= {}^{-}4 - {}^{+}2 = {}^{-}6$

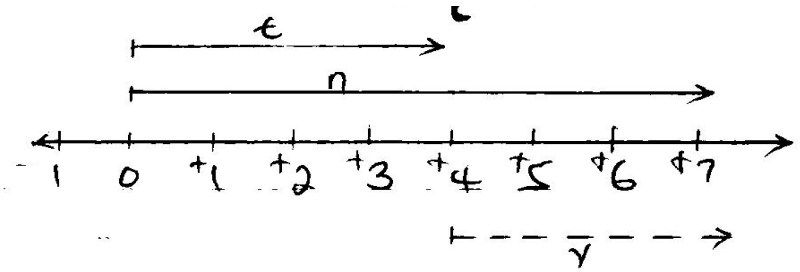
SUGGESTED ACTIVITY

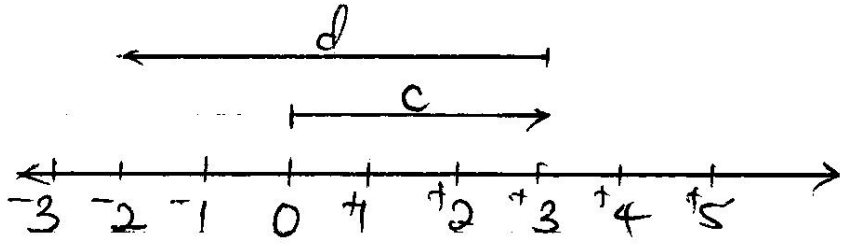
Write the mathematical statement for the following.

1. 

2. 

3. 

4. 

5. 

LESSON : 61:

TOPIC : INTEGERS

SUB-TOPIC : SIMPLE WORD PROBLEM

READ AND WRITE : Profit, loss, difference.

LESSON DEVELOPMENT. Simple word problems involving integers.

Example:

Jackline made a loss of shs. 80,000 on the first day and a profit of shs. 120,000 on the second day. What did she end up with?

Solution

$(^{-}80{,}000 + {}^{+}120{,}000) =$ shs. 120,000=

Shs. 80,000=

Shs. 40,000=

She ended up with a profit of shs. 40,000=

SUGGESTED ACTIVITY

Express the quantities involved using integers.

1 A team failed to score a goal in the game.

2. The school team had 5 goals against and 8 goals for.

3. Buyoga netball team had 13 goals for and 8 goals against.

4. Otim borrowed shs. 15,000 and was paid shs. 25,000.

5. A trader made a profit of shs. 430,000 in May. In June, she made a loss of shs. 280,000. What did she end with?

6. A canteen attendant made a loss of shs. 28,000 and another loss of shs. 17,000 later. Find the total loss which he incurred.

LESSON :62:

TOPIC : DATA HANDLING

SUB-TOPIC :Tally Marks

READ AND WRITE: - Tallies, Marks, fifth.

LESSON DEVELOPMENT.

Counting and representing numbers with tally marks.

Examples / Activity

Blue // Green //// Yellow 𝍸 /

Pink 𝍸 // Red 𝍸 ///

How may pupils like yellow?

5 + 1 = 6 pupils

How many pupils like green?

4 pupils

A. Use tally marks to represent these numbers.

a 3= b. 7 c. 18

/// 𝍸 / 𝍸 𝍸 𝍸 ///

B. Find the numbers represented by the following tally marks.

(a) //// (b) 𝍸 (c) 𝍸 𝍸 //

////= 4 𝍸 = 5 𝍸 𝍸 // = 12

(d) 𝍸 𝍸 𝍸 𝍸 ///

𝍸 𝍸 𝍸 𝍸 /// = 12

SUGGESTED ACTIVITY

1. Find the numbers represented by following tally marks.

(a) //

(b) 𝍸

(c) 𝍸 𝍸 ///

(d) 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 /

(e) 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 ////

2. Use tally marks to represent these numbers of items.

(a) 17

(b) 11

(c) 13

(d) 24

(e) 29

(f) 68

(g) 35

LESSON : 63

TOPIC : DATA HANDLING

SUB-TOPIC : Tally Marks

READ AND WRITE: - Fifth, Tallies, Represent

LESSON DEVELOPMENT. Drawing tables for data represented by tally marks.

Examples:

An assortment of boxes were put in a bookstore as shown. Draw a table for the information below.

Mathematics books //// English books 𝍸 ///

SST 𝍸 𝍸 /// R.E books 𝍸 𝍸 𝍸 science books.𝍸 /

Subject	MATHEMATICS	ENGLISH	SCIENCE	SST	R.E
Number of books	4	8	6	13	15

SUGGESTED ACTIVITY

Draw tables for the information represented by tally marks.

Toothpaste 𝍸 /// biscuits . 𝍸 𝍸 / soap 𝍸

Matches 𝍸 𝍸 // books 𝍸 𝍸 𝍸 //

Items	Toothpaste	Matches	Biscuits	Books	soap
Number of boxes					

2. A school recorded the number of cars that we by passing for a week.

   Monday 𝍸 / Tuesday /// Wednesday 𝍸 //

   Thursday //// Friday = 𝍸 𝍸 // Saturday 𝍸 𝍸 ///

   Sunday = 𝍸 ////

3. A teacher recorded the number of pupils absent for a week.

   Monday 𝍸 / Wednesday 𝍸 ///

   Tuesday //// Thursday 𝍸 𝍸 Friday 𝍸 𝍸 ///

4. A fruit seller recorded the number of fruits she sold in a day.

   Pineapples? 𝍸 𝍸 𝍸 watermelon 𝍸 𝍸

   Lemons? 𝍸 𝍸 oranges 𝍸 𝍸 𝍸 𝍸 /

   Passion fruits? 𝍸 𝍸 𝍸 𝍸 𝍸 /

LESSON 64:

TOPIC: DATA HANDLING

SUB-TOPIC: Tally Marks

READ AND WRITE: - Information / data, Tallies, frequency.

LESSON DEVELOPMENT.

Recording information using tally marks.

Example:

The ages of children in a village were recorded in years as follows.

2	4	7	3	4	2	3	4	5	3	4	4
4	5	6	4	3	6	5	2	3	3	5	6

Use tally marks to record the information.

Age of pupils	Tallies	Frequency
2 years	///	3
3 years	𝍸 /	6
4 years	𝍸 //	7
5 years	////	3
6 years	///	3
7 years	/	1

(i) How many children of 3 years are in the village?

There are 6 children who are 3 years

(iii) What is the total number of children that were recorded?

There were 24 children that were recorded.

(iv) Which age has the highest number of children?

Age 4 has the highest number of children.

SUGGESTED ACTIVITY:

Use tallies to record the information given below:-

1. A teacher recorded marks for the test marked out of 20.

   11, 10, 14, 13, 19, 16, 17, 13, 18, 19, 18, 19,
   18, 17, 12, 13, 14, 15, 16, 18, 17, 13, 15, 16,
   18, 17, 12, 14, 19, 18, 14,

2. A traffic police officer recorded number of traffic offences weekly for 20 weeks. The results were;

   25, 30, 40, 50, 20, 25, 40, 60, 70, 30,
   40, 50, 40, 60, 30, 40, 50, 20, 25, 30.

3. A pupil rolled a juice 20 times and the results were recorded as follows:-

   1, 3, 6, 4, 2, 3, 4, 6, 5, 3,
   2, 1, 1, 3, 4, 6, 2, 4, 1, 1

LESSON 65:

TOPIC: DATA HANDLING

SUB-TOPIC: Scales on the horizontal and vertical axes.

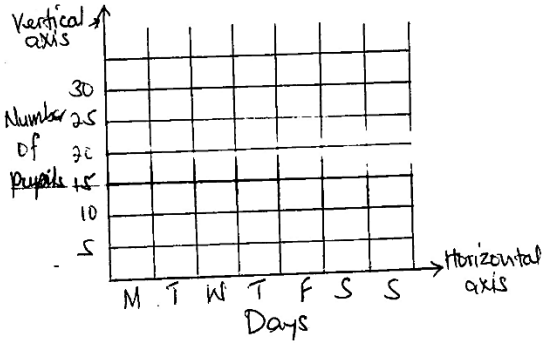
READ AND WRITE: - Scales, axes, labels, horizontal, vertical.

LESSON DEVELOPMENT.

Scales on the horizontal and vertical axes.

Example:

Draw the horizontal and vertical axes. On the vertical axis, show number of pupils with 1 small division (square) equal to 5 pupils. On the horizontal axis, show the days of the week with 1 small division (square) equal to 1 day.



SUGGESTED ACTIVITY

Draw the vertical and horizontal axes.

On the horizontal axis, show the first six months of the year with scale.

On the vertical axis, show rain in millimeters with scale:

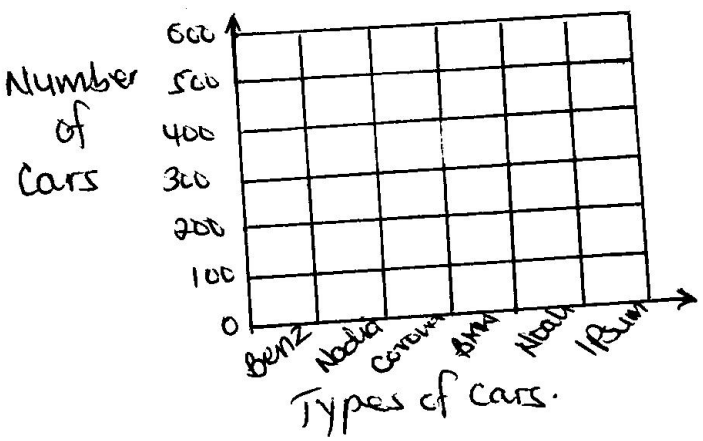
1 small division = 20millimitres.

Draw a graph and show the vertical axis and the horizontal axis.

Show time with scale: 1 small division = 2 hours on the horizontal axis

Show temperature in degrees Celsius, with scale: 1 small division = 10^0C on the vertical axis.

Study the graph below and answer the question that follows:



What does the horizontal axis show?

What is the scale on the horizontal axis?

What does the vertical axis show?

What is the scale on the vertical axis?

LESSON 66:

TOPIC: DATA HANDLING

SUB-TOPIC: Bar graphs

READ AND WRITE: - Bars, axis, horizontal and vertical.

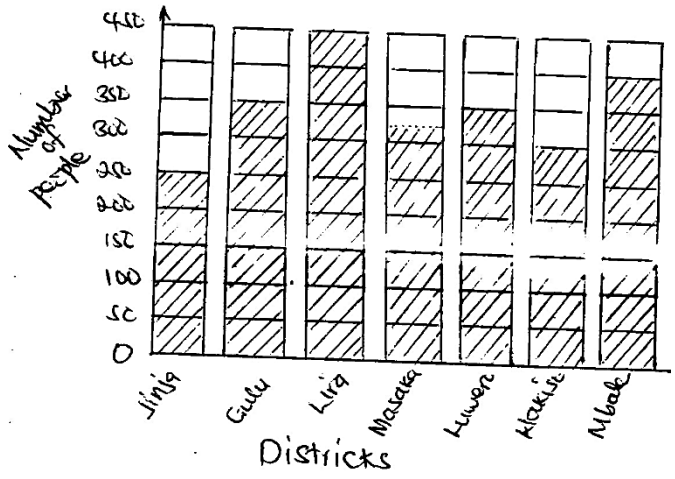
LESSON DEVELOPMENT.

Interpreting development

Activity

Study the bar graph below and answer the questions that follow.

Number of people who attended the AIDS prevention seminar in the seven districts.



(a) Which type of graph is this?

It is a bar graph

(b) What does the horizontal axis show?

It shows the districts

(c) Which district had the highest attendance?

Lira district had the highest attendance

(d) How many people from the central region attended the seminar?

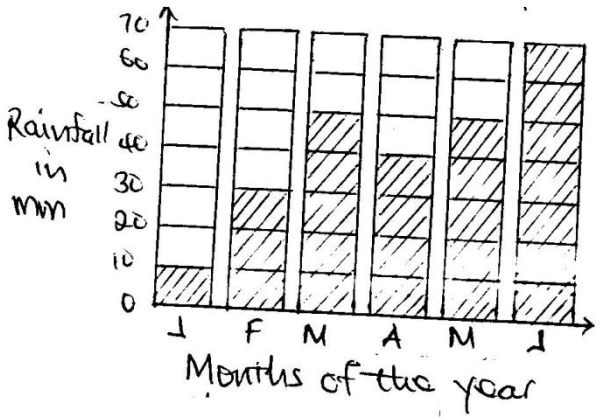
Wakiso had	300 people
Masaka had	325 people
Luwero had	+350 people
Total	**975 people**

Therefore, 975 people from the central region attended the seminar.

SUGGESTED ACTIVITY

Study the graphs below and answer the questions that follow.

Rainfall recording at central park primary school in the first half of the year.



(a) What is the graph about?

(b) What does the horizontal axis show?

© What is the scale on the horizontal axis?

(d) How much rain was recorded for each month?

(e) In which months were rainfall recorded the same?

(f) Find the difference of the highest and lowest rainfall recorded.

(g) In which month was the highest rainfall recorded?

(h) How much rainfall was recorded in the months of January, March and June?

LESSON 67:

TOPIC: DATA HANDLING

SUB-TOPIC: Bar graphs

READ AND WRITE: - Bars, axis, horizontal, vertical.

LESSON DEVELOPMENT.

Drawing bar graphs.

A grain milling company produced the following sacks of maize flour in a week.

Monday 40 sacks, Tuesday 50sacks, Wednesday 35 sacks, Thursday 40 sacks and Friday 45 sacks.

(a) Draw a table and show the above information.

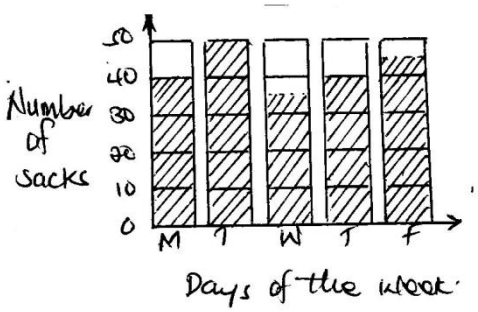
Days	**M**	**T**	**W**	**T**	**F**
No. of sacks	40	50	35	40	45

(b) Which day registered the highest number of sacks?

Tuesday registered the highest number of sacks.

(c) Use a suitable scale and draw a bar graph to represent the data in the table.

Maize flour production at a given milling company in a week.



SUGGESTED ACTIVITY:

Read and draw graphs.

1. The following schools got computers from the Ministry of Education, Science, Technology and Sport: Kyanja P.5 30 computers, Wailugu P/S

20 computers, St. Mark P/S 10 computers and Lutete P/s 25 computers. Tabulate the information and draw a graph to show the above information.

2. Below are the ages of primary five pupils

Age in years	10	11	12	13
No. of pupils	10	25	15	5

(a) How many pupils are in that class?

(b) Using a suitable scale, draw a bar graph to represent the data.

LESSON 68:

TOPIC: DATA HANDLING

SUB-TOPIC: Line graphs

READ AND WRITE: - Line, graphs, data, horizontal, vertical.

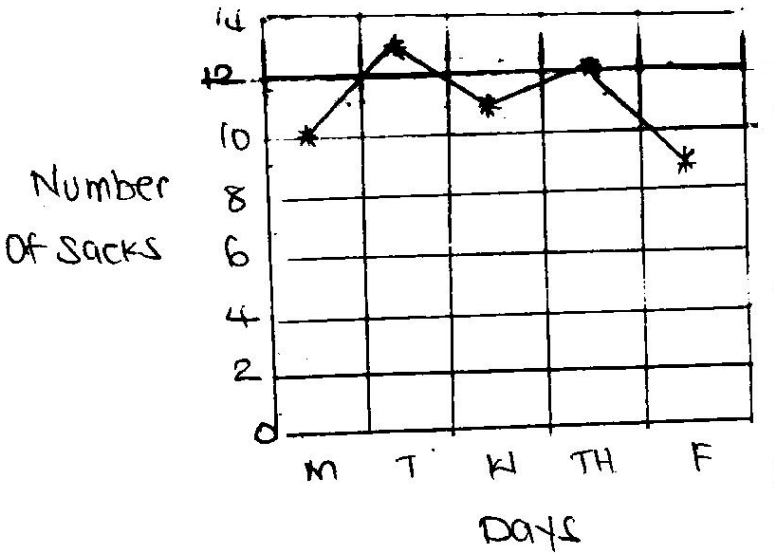
LESSON DEVELOPMENT.

Interpreting line graphs.

Note: When interpreting line graphs, consider the point where the star is marked.

Example:

The graph below shows the sacks of maize flour milled in a week by Mboga millers. Study it and answer the questions that follow.



(a) How many sacks were milled on Tuesday?

13 sacks were milled on Tuesday

(b) On what day did Mbogo miller mill 12 sacks.

On Thursday

(c) If each sack weighed 100kg, how may kilogrammes of maize were milled that week.

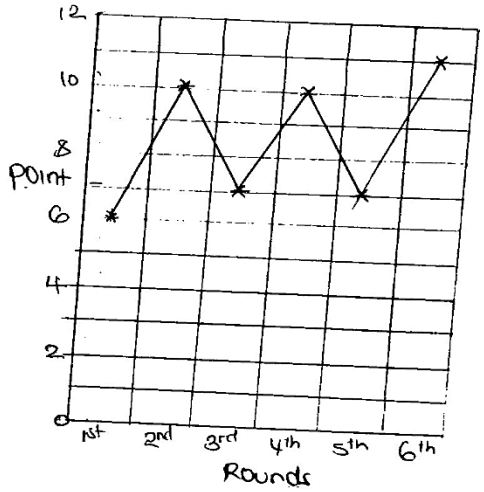
$(10 + 13 + 11 + 12 + 9) \times 100$

$= 55 \text{ sacks} \times 100$

= 5500kgs.

<u>Exercise</u>:

The graph below shows Andrew's scores during a badminton tournament. Study it and answer the questions that follow.



Rounds

(a) In which round did Andrew score the lowest points?

(b) What did Andrew score in the fourth round?

(c) Find the total points that Andrew scored in the tournament?

(d) What is the difference of the lowest and highest score?

LESSON 69:

TOPIC: DATA HANDLING

SUB-TOPIC: Line graphs

READ AND WRITE: - Graphs, Lines, horizontal, vertical.

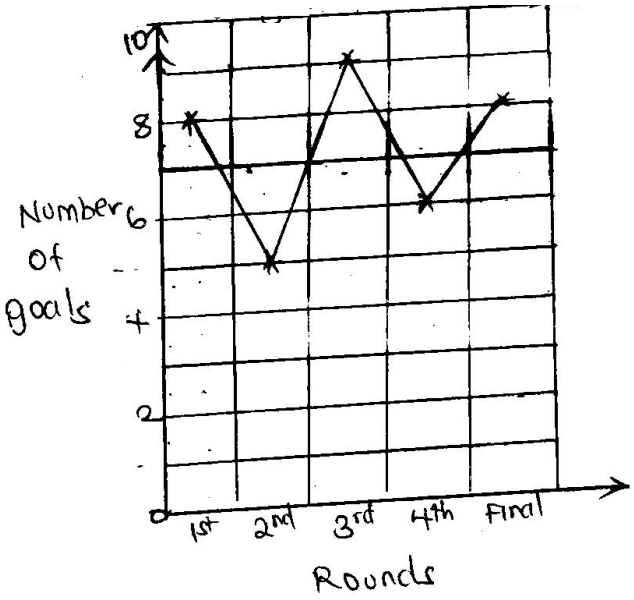
LESSON DEVELOPMENT. Drawing line graphs.

When drawing line graphs, you must choose a suitable scale.

Example:

The table below shows the goals which were scored by netball team during the leagus. Draw a line graph for the information given.

Rounds	1st	2nd	3rd	4th	Final
Number of goals	8	5	9	6	8



- Choose a suitable scale in this case, each small division on the vertical axis represents 1 goal.
- Mark off the goals of each round in the middle of the columns
- Join the points you have marked.

Exercise:

Workout

1. The table below shows the temperature of a place recorded at a 3-hours interval on a certain day.

Time	6:00am	9:00am	12:00noon	3:00pm	6:00pm
Temperature	15^0C	17^0C	27^0C	24^0C	20^0C

   Using a suitable scale, draw a line graph for the data.

2. A fruit-exporting company recorded the number of pineapples it exported in the first half of the year as follows.

   January 3,500; February; 3,000; March, 1,500, April 2,00; May 2,500 and June 4,000.

(a) Draw a table for the information above.

(b) Draw a line graph to represent the data above.

(c) If the company sold each pineapple at USD 2, how much did it earn?

LESSON 70:

TOPIC: DATA HANDLING

SUB-TOPIC: Average

READ AND WRITE: - Average, items, Sum

LESSON DEVELOPMENT.

Finding average

To find average, find the sum of all the items and divide it by the number of items.

Examples:

Find average of 15, 10, 17 and 18

$$\text{Average} = \frac{\text{Total}}{\text{Average}}$$

$$= \frac{15 + 10 + 17 + 18}{4}$$

$$= \frac{60}{4}$$

$$= \underline{\underline{15}}$$

2. Nakaye scored the following points in tennis tournament. 7, 4, 6, 5 and 3. Find her average score.

$$\text{Average} = \frac{\text{Total score}}{\text{Number of rounds}}$$

$$= \frac{7 + 4 + 6 + 3}{5}$$

$$= \frac{25}{5}$$

$$= \underline{\underline{5}}$$

Exercise:

Attempt all questions:

Find the average of the following numbers.

1. 4, 6, 2, 8, 5
2. 25, 5, 15, 10, 20
3. 8, 10, 12, 6, 9, 15
4. 3, 6, 9, 12, 15, 10, 8
5. Find the average age of 4 pupils whose ages are: 11 years, 13 years, 12 years and 8 years.
6. Akiiki score 75% in Social studies, 74% in Science, 96% in Mathematics and 91% in English. Calculate her average score.

7. Find the average height of 5 pupils whose heights are 127cm, 135cm, 100cm, 130cm and 128 cm.

LESSON 71:

TOPIC: DATA HANDLING

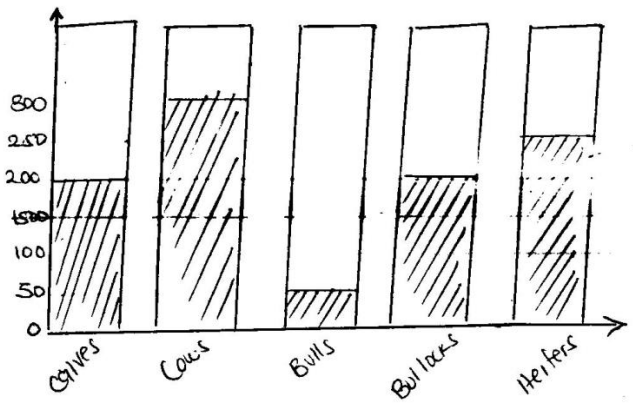
SUB-TOPIC: Average

READ AND WRITE: - Average, line, bar, scale.

LESSON DEVELOPMENT. Finding average on bar and line graphs.

Example:

The graph below shows the number of cattle at Ruhindi's farm. Study it an answer the questions that follow.



(a) How many bullocks are there at the farm?
There are 200 bullocks at the farm.

(b) How many more cows than bulls are there at the farm?

$300 - 50 = 250$ cows

© Find the mean of the kinds of cattle at the farm.

$$\text{Mean / Average} = \frac{\text{Total number of cattle}}{\text{Number of kinds of cattle}}$$

$$= \frac{200 + 300 + 50 + 200 + 250}{5}$$

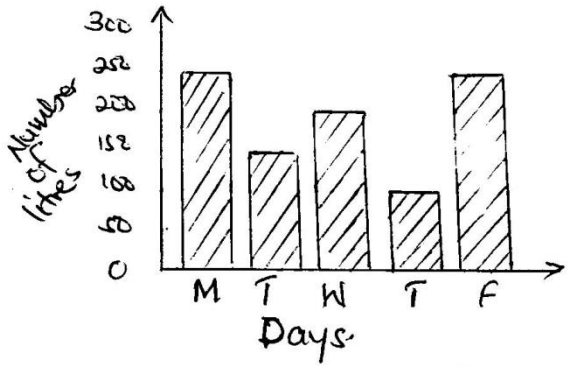
$$= \frac{1000}{5}$$

$$= \underline{200}$$

SUGGESTED AC TIVITY

Work out:

1. The graph below shows litres of milk which were supplied by Luswata to the dairy for 5 days. Study it and answer the questions that follow.



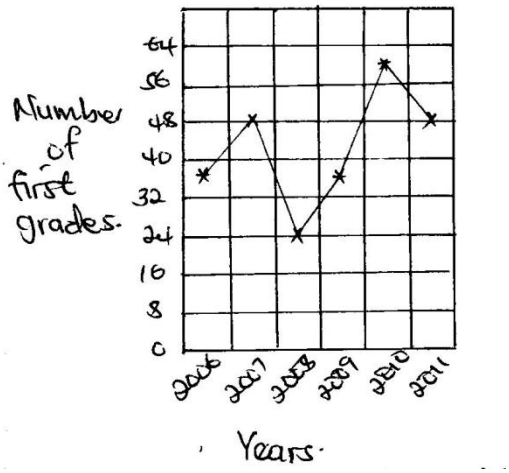
(a) How many litres were supplied on Friday?

(b) On which days did Luswata supply the highest number of litres?

(c) How many more litres of milk were supplied on Wednesday than on T Tuesday?

(d) Find the average number of litres which were supplied per day.

2. The graph below shows the number of first grades which were got at St. Lucia primary school for the last six years. Use it to answer the questions that follow.



(a) How many first grades did the school get in 2006.

(b) In which year did the school get to first grades?

© When did the school register a very bad decline?

(d) Draw a table to show the information on the graph.

(e) Calculate the average number of first grades in the six years.

LESSON 72:

TOPIC: TIME

SUB-TOPIC: - Time on the 12 – hour clock.

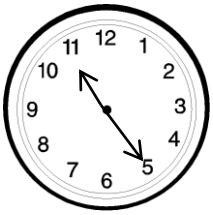
READ AND WRITE: – Time, Clock face, Hours, Minutes.

LESSON DEVELOPMENT.

Telling and writing time on the clock face using a.m or p.m

Examples:

Write the time in the morning.



It is 25 minutes past 11a.m or 11:25 a.m.

What time is it in the afternoon?

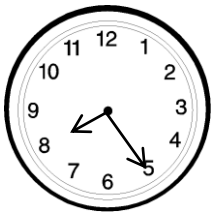
It is 10 minutes to 2 p.m or 1:50p.m

3. A time went to bed at a half past 8 in the evening. Write the time a time went to bed using a.m or p.m.

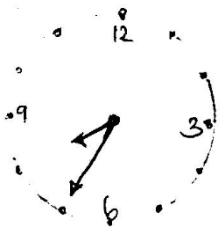
   A half past 8 in the evening is 8:30p.m.

<u>Exercise:</u>

Write time in words and figure.

1. 

2.

3. 

4.

Write the time using a.m or p.m

5. The time when the first lesson begins at 8:O'clock
6. The time when you have lunch at 1 O'clock.
7. The time when your father comes back home from work at a half past 6 O'clock.

LESSON 73:

TOPIC: TIME

SUB-TOPIC: - Time on the 12 – hour clock.

READ AND WRITE: –Hours, Minutes, Time,

LESSON DEVELOPMENT.

Expressing hours to minutes.

Examples:

1. How many minutes are there in 5 hours?

   5hrs minutes

   1hr. = 60minutes

   5hrs = 5 X 60 minutes

   = 300 minutes.

2. Change $2\frac{1}{4}$ hours to minutes

   2 ¼ hrs minutes

   I hr = 60minutes

   $2\frac{1}{4}$ hr = $\frac{9}{4}$ x 60 minutes

   = 135 minutes

   $2\frac{1}{4}$ hrs = 135 minutes

Exercise:

Express the following hours as minutes.

1. 3 hr

2. 4 hr
3. $6\frac{1}{4}$ hr
4. 4. 8hr
5. The village meeting lasted $3\frac{1}{3}$ hours. How many minutes did it take?
6. The head teacher took $1\frac{1}{5}$ hour addressing the pupils about the dangers of drugs. Express the time he spent with the pupils in minutes.
7. We tool $3\frac{1}{4}$ hours doing general cleaning. How many minutes did we take?

LESSON 74:

TOPIC: TIME

SUB-TOPIC: - Time on the 12 – hour clock.

READ AND WRITE: – Hours, Minutes, Clock face, Time.

LESSON DEVELOPMENT. Changing minutes to hours.

Example:

Change 180 minutes to hours.

60 minutes = 1 hour

180 minutes = $\frac{180}{60}$

∴ **180 minutes = 3 hours.**

Example II

A taxi travelled for 540 minutes. How many hours did it take?

60 minutes = 1 hour

540 minutes = $\frac{540}{60}$

It took 9 hours.

Exercise:

Change the following minutes to hours.

1. 120 minutes
2. 240 minutes
3. 360 minutes
4. 720 minutes
5. 90 minutes
6. We took 120 minutes cleaning our house. How long did we take cleaning in hours?
7. The concert lasted for 300 minutes. Express the time it lasted in hours.
8. Joseph took 30 minutes reading and 90 minutes writing notes. Express the time he spent on the two activities in hours.

LESSON 75:

TOPIC: TIME

SUB-TOPIC: - Duration

READ AND WRITE: – Hours, Minutes, Time

LESSON DEVELOPMENT.

To find duration, subtract the time an activity started from time an activity ended.

Example 1:

A youth counseling session stated at 09:15 a.m. and ended at 11:45 a.m. For how long did it last?

The session ended at 11:45a.m

It started at − 09:15a.m

2:30 hours

It lasted 2 hours and 30 minutes or 2 ½ hours

Example II.

Mayo left Kampala for Bosia at 3:10pm. If he arrived at Busia at 8:45 P.m; how long did the journey take?

He arrived at Busia at 8:45p.m

He left Kampala at 3:10pm

The journey tool 5:35 hours

Therefore, the journey took 5 hours 35 minutes.

Exercise:

1. A football match started at 5:00pm and ended at 6:50p.m. for how long did it last?
2. A party started at 2:30a.m and ended at 7:00p.m. for how long did the party take?
3. The game ranger started driving the tourist through the game park at 2:30p.m and ended at 6:15 p.m. how long did the tour take?
4. Kasule left Kampala for Kasese at 4:12 a.m and arrived at 12:00noon. Find the time the journey lasted.
5. The HIV/AIDs conference started at 8:45a.m and ended at 12:00 noon. Find the time the conference lasted.
6. Semakula left home for the village at 4:00a.m and arrived at 11:30 a.m. for how long did his journey last?

LESSON 76:

TOPIC: TIME

SUB-TOPIC: - Time, Distance and speed

READ AND WRITE: – Time, Distance, Speed, Kilometers, Hours.

LESSON DEVELOPMENT.

Find distance

To find distance, multiply speed by time, that is

Distance = Speed X Time (D = S X T)

Example 1:

A car moved at a speed of 80 kilometres per hour for 3 hours.

Find distance it covered.

Distance = Speed X Time

= 80km/hr X 3hr

= **240km.**

Example II.

Nambuusi travelled for $2\frac{1}{4}$ hours at a speed of 70km per hour. What distance did she cover?

Distance = Speed X Time

= 70km/hr x 2 ½ hr

= 70 X $\frac{5}{2}$ km

= 35 X 5

= **175km.**

Exercise:

1. A cyclist rode at a speed of 28 kilometres per hour for 3 hours. What distance did he cover?
2. A bus moved from Mbarara to Kampala at a speed of 85 kilometres per hour for 4 hours. Find the distance it covered.
3. A train moved at a speed of 66 kilometres per hour for $7\frac{1}{2}$ hours. Calculate the distance it covered.
4. Opaya travelled for 6 hours at a speed of 72.5 kilometres per hour. What distance did he cover?

5. Aine travelled for $5\frac{1}{4}$ hours at a speed of 80 kilometres per hour. What distance did he cover?

6. A car moved at a speed of 93 kilometres per hour for $6\frac{1}{2}$ hours. Find the distance it covered.

LESSON 77:

TOPIC: TIME

SUB-TOPIC: - Time, Distance and Speed

READ AND WRITE: – Time, Speed, Distance, Kilometres, hours.

LESSON DEVELOPMENT.

Solving problems related to distance.

Example I.

Nimbi started driving at 7:00 am and arrived at her destination at 9:30am. If she was driving at a speed of 82 kilometres per hour, how long was her journey?

First find time.

Arrived at 9:30a.m

Departed - 7:00am

2:30

She took 2 hours and 3 minutes.

Time $= 2\frac{30}{60} = 2\frac{1}{2} hrs$

Distance = speed x Time

= 82km /hr x $2\frac{1}{2}$hrs

$= 82 \text{ x } \frac{5}{2} km$

$= 41 \text{ x } 5$

$= 205$km

Exercise:

1. A train started its journey at 3:00pm and arrived at its destination at 6:00p.m if it was moving at a speed of 55 kilometres per hour, how far was the journey?
2. A bus moved from Arua to Kampala at speed of 100 kilometres per hour. If it left at 5:15 am and arrived in Kampala at 11:30 am. Find the distance it covered
3. We started our journey to Kasese at 8:00am and arrived at 11:45 am. If we were driving at a speed of 80 kilometres per hour, what distance did we cover.
4. Ogwang travelled from Iganga to Lira at a speed of 90 kilometres per hour, if he started the journey at 4:00pm and reached his destination at 8:00pm, how long was the journey

LESSON 78:

TOPIC: TIME

SUB-TOPIC: - Time, Distance and Speed

READ AND WRITE: – Time, Distance, speed, Kilometres, hours.

LESSON DEVELOPMENT.

Finding time.

To find time, divide distance by speed, that is

Time = Distance ÷ Speed $\left(T = \frac{D}{S}\right)$

Example:

Matsiko covered a distance of 180km at a speed of 60kilometres per hour. What time did she take?

Time = Distance ÷ Speed

= 180km ÷ 60km/hr

= $\frac{180}{60}$

Time = 3 hours

Example II

What time does Kabalu need to cover a journey of 280 kilometres at a speed of 80 kilometres per hour?

Time = Distance ÷ speed

= 280km ÷ 80 km/hr

$$\frac{280}{80}$$

Time: $\frac{7}{2}$ hours or $3\frac{1}{2}$ hours

Exercise:

1. The distance from Kampala to Lira is 360 kilometres. How long will Ochura take to travel from Kampala to Lira at a speed of 90 kilometres per hour.
2. A cyclist covered a distance of 120 kilometres at a speed of 24 kilometres per hour. How long did the journey last?
3. Babirye travelled from Iganga to Masaka, a distance of 240 kilometres. How long did she take travelling is she moved at a speed of 80km/hr.
4. Calculate the time a train took a cover a distance of 520 kilometres at a speed of 65 kilometres per hour.
5. Find the time that is needed to cover a distance of 660kilometres at a speed of 120 kilometres per hour.

LESSON 79:

TOPIC: TIME

SUB-TOPIC: - Time, Distance and Speed

READ AND WRITE: – Time, Distance, speed.

LESSON DEVELOPMENT. Finding speed

To find speed, divide distance by time that is

Speed = $\frac{\text{Distance}}{\text{Time}}$ $\left(S = \frac{D}{T}\right)$

Example:

Kojoki covered a distance of 420 kilometres in 6 hours. Calculate her speed.

Speed = Distance ÷ *time*

= 420km ÷ 6 hrs

Speed = 70km/hr

Example II

At what speed should a driver travel to cover 280 kilometres in $3\frac{1}{2}$ hours.

Speed = Distance ÷ time

= 280km ÷ $3\frac{1}{2}$

= $280 \div \frac{7}{2} = 40\ x\ 2$

∴ Speed = 80 km/hr

Exercise:

1. A bus took $2\frac{1}{2}$hours to travel from Hoima to Kampala via Kiboga, a distance of 200 kilometres. At what speed was it moving?
2. A ship covered 250 kilometres in 5 hours. Find its speed.
3. The distance from Kampala to Masindi via Luwero is 270 kilometres. If Abwooli covered it in 3 hours at what speed was she driving.
4. A car took 5 hours to travel from Atiak to Moroto via Kitgum, a distance of 470 kilometres. At what speed was it moving?
5. Mugisha travelled from Fortportal to Masaka via Ibanda, a distance of 306 kilometres. If he took $4\frac{1}{4}$ hours, at what speed was he driving?