

P.5 MATHEMATICS LESSON NOTES FOR TERM II

Date	Time	No. of pupils

THEME : Numeracy

TOPIC : Fractions

SUB TOPIC : Place values of decimals

COMPETENCES

The learner;

- Reads, pronounces and writes the word decimals

Subject :

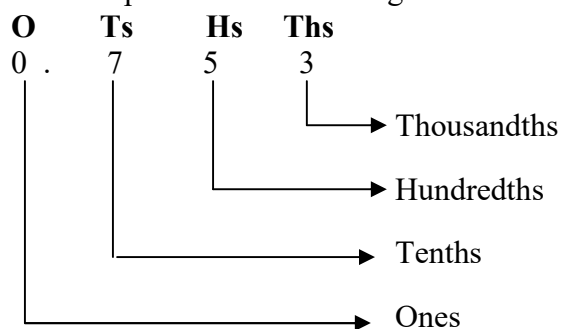
The learner;

- Identifies the place value of each digit

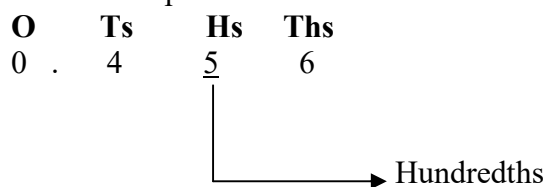
Place values of decimals

Examples

- Find the place value of each digit in 0.753

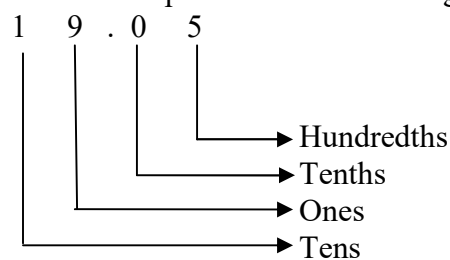


- What is the place value of 5 in 0.456



∴ The place value of 5 is Hundredths

- What is the place value of each digit in 19.05



Exercise

A: Find the place value of each digit in the following

1. 0.4
2. 20.45
3. 620.243
4. 523,421.25
5. 34.65

B: What is the place value of the underlined digits below

6. 45. 88
7. 620 . 243
8. 138.5

Date	Time	No. of pupils

THEME : Numeracy

TOPIC : Fractions

SUB TOPIC : Value of digits in decimals

COMPETENCES

The learner;

- Identifies the question given
- Interprets the question effectively
- Finds the value of each digit

Finding values of decimals**Examples**

1. Find the value of each digit in 0.87

O	Ts	Hs
0	8	7

The value of 8 = $8 \times \frac{1}{10}$

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

$$= 0.8$$

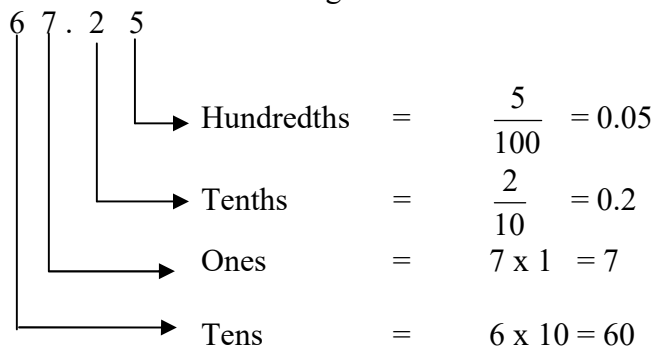
The value of 7 = $7 \times \frac{1}{100}$

$$= \frac{7}{100}$$

$$= 0.07$$

value of 0 = $0 \times 1 = 0$

2. Find the value of each digit in 67.25



Exercise

Write the value of each digit in the numbers below

1. 0.75
2. 0.125
3. 9.5
4. 0.39
5. 56.82

Date	Time	No. of pupils

THEME : Numeracy

TOPIC : Fractions

SUB TOPIC : Writing decimal fractions in words

Writing decimal fractions in words

Examples

1. Write 0.5 in words

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

 = Five tenths

Using the word point

0.5 – zero point five

2. Write 0.75 in words

$$0.75 = \frac{75}{100}$$

= Seventy five hundredths

0.75 - zero point seven five

3. Write 40.65 in words

40.65

$40 \text{ and } \frac{65}{100}$

= Forty and sixty five hundredths

Exercise

Write the following decimal fraction in words using the word

1. 0.2
2. 4. 01
3. 4. 18
4. 7. 45
5. 12.8
6. 0.44
7. 62.12
8. 60.37
9. 84. 15
10. 99.999

Write the following decimals in words without the word “point”

- a) 0.3
- b) 4.5
- c) 12.8
- d) 10.05
- e) 11.006
- f) 44.12

Date	Time	No. of pupils

THEME : Numeracy

TOPIC : Fractions

SUB TOPIC : Writing decimal fractions in figures

Writing decimal fractions in figures**Examples**

1. Write sixty three and twenty five hundredths

$$63 \text{ and } \frac{25}{100}$$

$$= 63 \frac{25}{100}$$

$$= \mathbf{63.25}$$

2. Five hundred twenty nine and thirty six hundredths

$$529 \text{ and } \frac{36}{100}$$

$$= \mathbf{529.36}$$

Exercise**Write the following in figures**

1. Three tenths
2. Four hundredths
3. Six and twenty five hundredths
4. Eighty eight thousand and seventy five hundredths
5. Nine thousand four hundred and five hundredths
6. Twelve point eight nine.
7. Four hundred point four one two.

Date	Time	No. of pupils

THEME : Numeracy**TOPIC : Fractions****SUB TOPIC : Expanding decimals in value form****Expanding decimals in value form****Examples**

1. Expand 0.56
= $0.5 + 0.06$
2. 364.27
= $300 + 60 + 4 + 0.2 + 0.07$

Exercise**Expand**

1. 8.25
2. 415.9
3. 4.569
4. 0.59
5. 0.054

Write expanded numbers as single ones**Examples**

1. Write $40 + 0.9 + 0.04 + 0.005$

$$\begin{array}{r} 40 \\ 0.9 \\ 0.04 \\ \underline{0.005} \\ \hline 40.945 \end{array}$$

$$\begin{array}{r}
 2. \quad 0.4 + 0.5 + 0.03 \\
 \quad 0.4 \\
 \quad 0.5 \\
 \quad \underline{0.03} \\
 \quad \underline{0.93}
 \end{array}$$

Exercise

Write the following numbers as single ones

1. $4 + 0.3 + 0.03 + 0.004$
2. $20 + 4 + 0.2$
3. $8 + 0.3 + 0.4 + 0.003$
4. $100 + 0.9 + 0.009 + 0.0009$
5. $10 + 8 + 0.9$

Date	Time	No. of pupils

THEME : Numeracy

TOPIC : Fractions

SUB TOPIC : Changing Common Fractions to decimals

Changing common fractions to decimals

Examples

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

$$\begin{array}{r}
 0.5 \\
 2 \overline{) 1.0} \\
 \underline{0} \\
 1 \\
 \underline{1} \\
 0 \\
 \cdot
 \end{array}$$

$0 \times 2 = 0$
 $1 \times 2 = 2$
 $5 \times 2 = 10$

$\therefore \frac{1}{2} = 0.5$

$$\begin{array}{r}
 2. \quad \frac{3}{4} \\
 \quad \quad 0.75 \\
 \quad \quad 4 \overline{) 3.00} \\
 \quad \quad \underline{0 \times 4 = 0} \quad \downarrow \\
 \quad \quad \quad 3 \quad 0 \quad \downarrow \\
 \quad \quad \underline{7 \times 4 = 28} \quad \downarrow \\
 \quad \quad \quad \quad 2 \quad 0 \\
 \quad \quad \underline{5 \times 4 = 20} \\
 \quad \quad \quad \quad \quad 0 \\
 \quad \quad \quad \quad \quad \cdot \cdot \\
 \therefore \frac{3}{4} = 0.75
 \end{array}$$

Exercise

Convert the following fractions to decimals

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

Date	Time	No. of pupils

Changing decimals to common fractions

Examples

1. Change 0.25 to a common fraction in its lowest terms

$$\frac{25}{100}$$

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

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

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

$$\begin{array}{c|c}
 5 & 25 \\
 \hline
 5 & 5 \\
 \hline
 & 1
 \end{array}$$

$$\begin{array}{c|c}
 2 & 100 \\
 \hline
 2 & 50 \\
 \hline
 5 & 25 \\
 \hline
 5 & 5
 \end{array}$$

$$1$$

Exercise

Convert the following decimals to common fractions

1. 0.5
2. 0.6
3. 0.24
4. 0.8
5. 0.27
6. 0.125

Date	Time	No. of pupils

THEME : Numeracy

TOPIC : Fractions

SUB TOPIC : Comparing fraction (decimals) using $>$, $<$, $=$.

Note

Change to common fractions then use the biggest denominator as LCM.

Examples 1

$$0.2 \quad < \quad 0.5$$

$$\begin{array}{cc} \frac{2}{10} & \frac{5}{10} \\ & \swarrow \quad \searrow \\ & \text{LCM} = 10 \end{array}$$

$$\begin{array}{cc} \frac{2}{10} \times \cancel{10} & \frac{2}{10} \times \cancel{10} \\ 2 \text{ parts} & 5 \text{ parts} \end{array}$$

$$\underline{2 < 5}$$

Example 2

$$0.6 \quad > \quad 0.06$$

$$\begin{array}{cc} \frac{6}{10} & \frac{6}{100} \\ & \swarrow \quad \searrow \\ & \text{LCM} = 100 \end{array}$$

$$\begin{array}{cc} \frac{6}{10} \times \cancel{100} & \frac{6}{100} \times \cancel{100} \\ 6 \times 10 & 6 \end{array}$$

$$\underline{60 > 6}$$

Activity

Use >, < or = to complete the decimals below

1. 0.7 ____ 0.9

2. 6.2 ____ 2.6

3. $\frac{8}{10}$ ____ 0.8

Date	Time	No. of pupils

Ordering decimal fractions

Examples

1. Arrange from the smallest 0.1, 0.11, 1.1

$$\begin{array}{ccc} 0.1 & 0.11 & 0.1 \\ \downarrow & \downarrow & \downarrow \\ \frac{1}{10} & \frac{11}{100} & \frac{11}{10} \end{array}$$

$$\frac{1}{10} \times 10\cancel{0} = 1 \times 10 = 10$$

$$\frac{11}{10\cancel{0}} \times 10\cancel{0} = 11 \times 1 = 11$$

$$\frac{11}{10} \times 10\cancel{0} = 11 \times 10 = 110$$

0.1, 0.11 1.1

<u>2</u>	10	100	10
2	5	50	5
5	5	25	5
5	1	5	1
	1	1	1

LCM

$$(2 \times 2) \times (5 \times 5)$$

$$4 \times 25 = 100$$

2. Arrange from the biggest 0.22, 0.2, 1.2

$$\frac{22}{100} \quad \frac{2}{10} \quad \frac{12}{10}$$

$$\text{LCM} = 100$$

$$\frac{22}{100} \times 100 = 22 \times 1 = 22$$

$$\frac{2}{10} \times 100 = 2 \times 10 = 20$$

$$\frac{12}{10} \times 100 = 12 \times 10 = 120$$

$$\frac{3}{4} \times 100 = 12 \times 10 = 120$$

1.2, 0.2, 0.22

Exercise

Arrange the decimals as instructed

- a) 0.1, 0.3, 0.33 (smallest)
- b) 0.5, 0.55, 0.05 (biggest)
- c) 0.8, 8.08, 0.88 (smallest)
- d) 0.1, 1.11, 0.11 (biggest)
- e) 7.7, 0.77, 0.7 (smallest)
- f) 2.2, 0.22, 0.02 (biggest)

Ordering decimals using a number line should be taught to children

Note: Any decimal on the right of another on a number line is greater than that on the left.

Date	Time	No. of pupils

THEME : Numeracy

TOPIC : Fractions

SUB TOPIC : Addition of decimal fraction s

Competences

Subjects : The learner;

- Identifies the number given
- Arranges the decimals according to their place value form
- Adds effectively.

Addition of decimal fractions

Examples

1. Add: $0.45 + 13.2 + 52$

$$\begin{array}{r} 0.45 \\ + 13.20 \\ \hline 52.00 \\ \hline \mathbf{65.65} \end{array}$$

2. Workout : $63 - 19.78$

$$\begin{array}{r} 63.10 \\ - 19.78 \\ \hline \mathbf{43.22} \end{array}$$

Exercise

a) Subtract:-

1. $73 - 19.5$
2. $12 - 9.5$
3. $29 - 6.9$
4. $1 - 0.9$
5. $3 - 0.03$

b) Add:

1. $0.06 + 8.72$
2. $3.426 + 13$
3. $9.004 + 6.84 + 11.3$
4. $5.72 + 14 + 3.89$

Date	Time	No. of pupils

Combined operations

Examples

1. Workout $13.75 - 27 + 91.25$

$$\begin{array}{r} (13.75 + 91.25) - 27 \\ 13.75 \\ + 91.25 \\ \hline 105.00 \\ - 27.00 \\ \hline 78.00 \end{array}$$

2. Workout $44 - 2.02 + 23.00$

$$\begin{array}{r} 44 + 23.00 - 2.02 \\ 44.00 \\ + 23.00 \\ \hline 67.00 \\ - 2.02 \\ \hline 64.98 \end{array}$$

Exercise

Workout

1. $35.1 - 44.3 + 17.6$
2. $8.24 + 22.9 - 7.8$
3. $2.76 - 2.85 + 1.69$
4. $65.6 - 45.9 - 0.36$
5. $8.05 + 4.2 - 7.45$
6. $6.8 - 7 + 0.2$
7. $14 - 5.26 + 7.02$
8. $6.8 - 4 + 0.3$

Division

multiplication of decimals

Date	Time	No. of pupils

Examples

Divide;

$$0.2 \div 0.4$$

$$\frac{2}{10} \div \frac{4}{10}$$

$$\frac{2}{10} \times \frac{10}{4}$$

$$\frac{1}{2} = 0.5$$

Multiply;

$$0.6 \times 0.7$$

$$\frac{6}{10} \times \frac{7}{10}$$

$$\frac{42}{100}$$

$$= 0.42$$

Simplify

$$0.8 \div 0.4$$

$$1.2 \times 0.8$$

$$\frac{0.2 \times 0.4}{0.6}$$

GEOMETRY

Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Identifying parallel lines

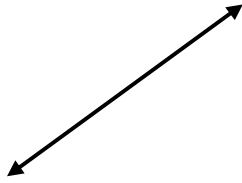
Language Competences

The learner reads, writes, pronounces and spells the words

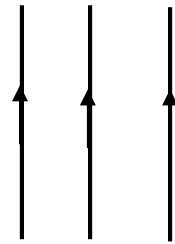
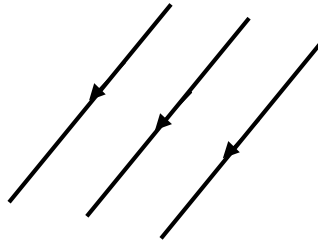
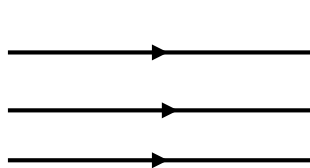
- Parallel
- Line
- Arrow
- Same
- Distance

Identifying parallel lines

- A line is a set of points extending of both directions without ending. A line has arrows to show that it does not end e.g.

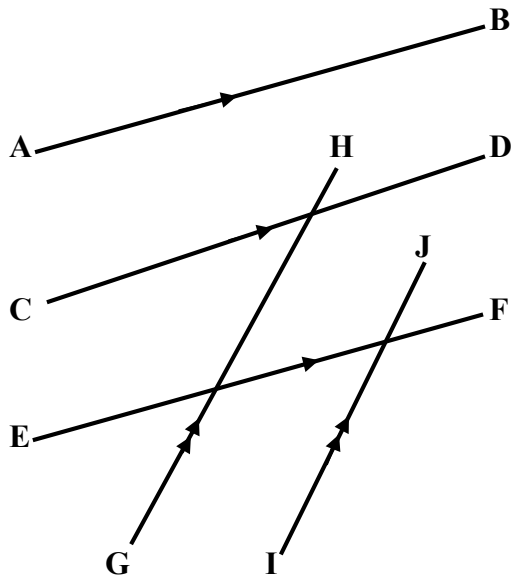


- Parallel lines are those lines which do not meet because they have the same distance apart at every point. Arrows show that the lines are parallel.



Examples

Identify parallel lines in the diagram below.



AB is parallel to CD and EF

CD is parallel to EF

GH is parallel to IJ

Evaluation phase

The learners will attempt exercise on page 176, New MK book 5.

Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Construction of parallel lines

Competences

Subject : The learner ;

- Identifies the steps taken when constructing parallel lines
- Uses a ruler and a set square in construction of parallel lines

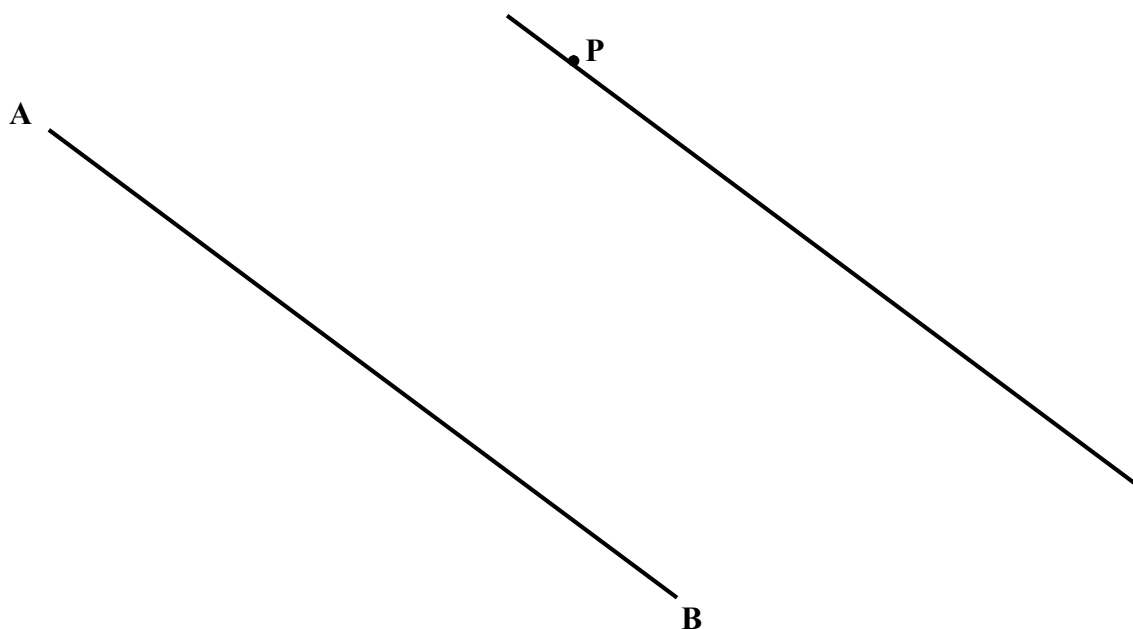
Language : The learner;

- Spells, reads and writes words such as
 - o Construction
 - o Parallel
 - o Lines

Construction of parallel lines

Steps taken while constructing

- Draw line AB and mark point P, through which the line parallel to AB will pass.



More is to be got from the new MK. Pupils book 5 page 177.

Exercise

Learners will attempt exercise 8:2 on page 178.

Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Constructing perpendicular bisectors

Competences

Language : The learner;

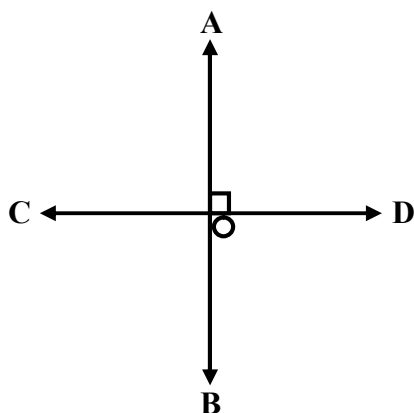
- Reads, spells and writes

Subject : The learner;

- States the steps followed when dealing with perpendicular bisectors.
- Drops perpendicular bisectors on lines.

Perpendicular lines

Perpendicular lines are any two lines which form a right angle e.g.

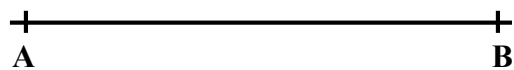


\overline{AB} is perpendicular bisector

Constructing a perpendicular bisector

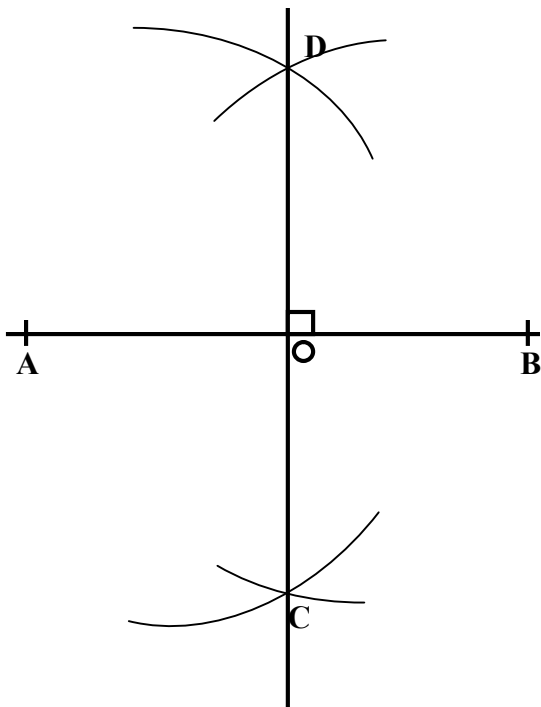
Step 1

Construct line AB



Step 2

Drop a perpendicular bisector



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

Evaluation

The learner will do exercise 8:6 on page 183 New MK book 5.

Date	Time	No. of pupils

THEME : **Geometry**

TOPIC : **Geometry**

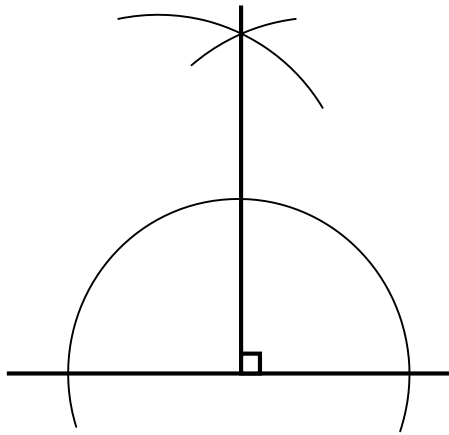
SUB TOPIC : **Construction of angles such as 90^0 , 60^0 , 120^0**

Competences

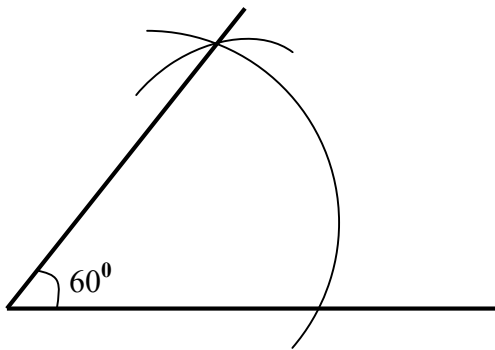
Subject : The learner;

- States the steps taken when constructing the above angles.
- Constructs the angles effectively.

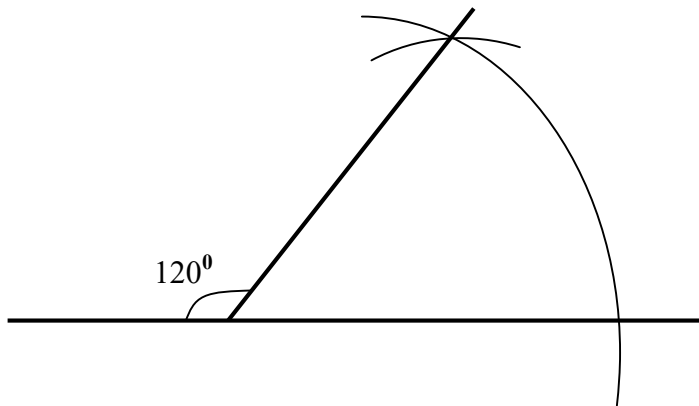
Constructing angle 90° .



Constructing angle 60° .



Constructing angle 120° .



Exercise

Learners will construct the above angles step by step with the teacher's instruction.

Date	Time	No. of pupils

THEME : **Geometry**

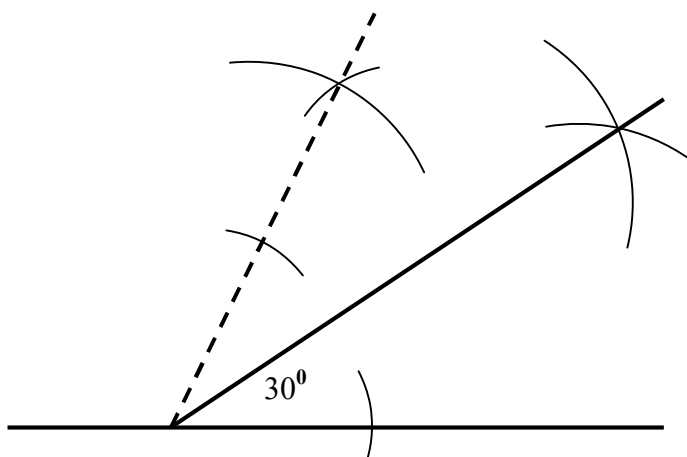
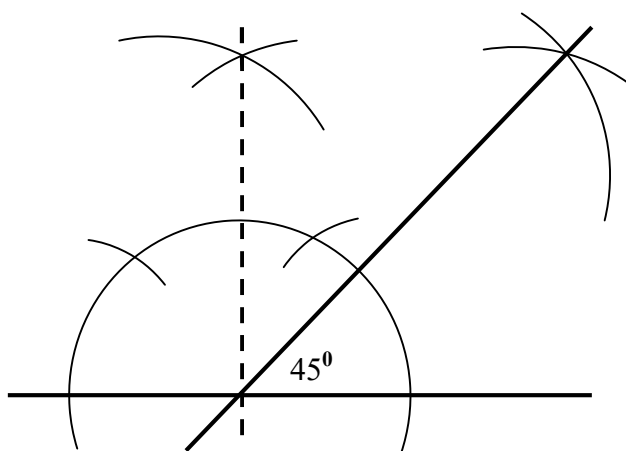
TOPIC : **Geometry**

SUB TOPIC : **Bisecting 90° and 60° .**

Subject : The learner;

- Constructs an angle of 90° and 60° .
- Bisects the angles

Bisecting 90° and 60° .



Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Construction of a square

Language Competences :

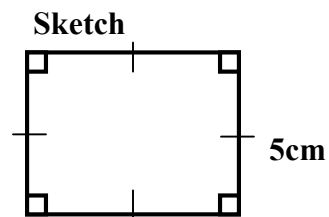
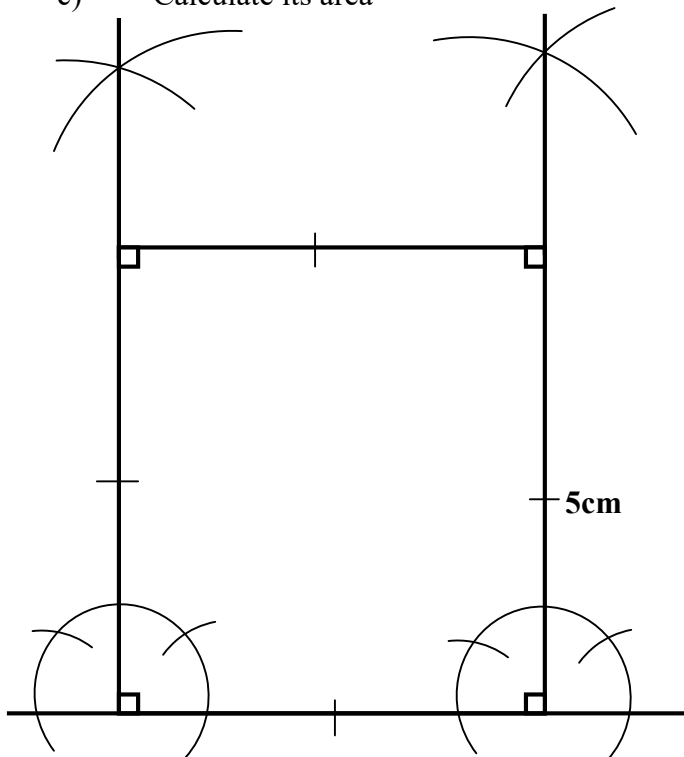
The learner;

- States the steps taken when constructing a square
- Constructs the square effectively
- Find the area and perimeter of the square constructed.

Construction of a square

Example

- 1.a) Using a pair of compasses, ruler and a pencil only construct a square of side 5cm.
- b) Find the distance round the square
- c) Calculate its area



- a) Distance round is the same as perimeter

Perimeter = 4 sides

$$= 4 \times 5$$

$$= (4 \times 5) \text{ cm}$$

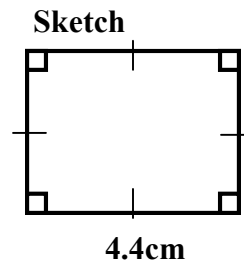
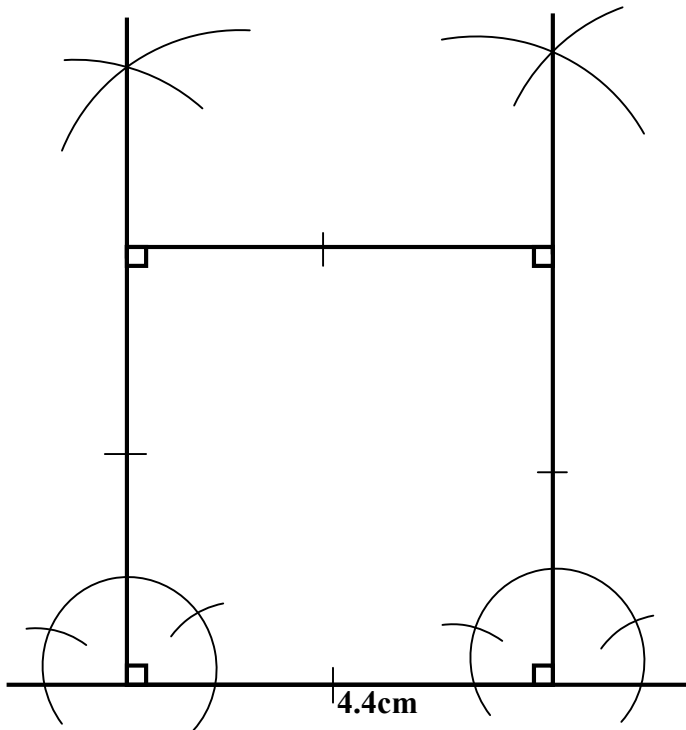
$\therefore \text{perimeter} = 20\text{cm}$

b) Area = Side x side

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

$$= \underline{25\text{ cm}^2}$$

2. Using a pair of compasses, ruler and a pencil only, construct a square ABCD where $\overline{AB} = \overline{BC} = \overline{CD} = \overline{AC} = 4.4\text{cm}$



b) Find its perimeter

Perimeter = 4 side

$$= 4 \times 5$$

$$= (4 \times 4.4)\text{cm}$$

$$= 4 \times \frac{44}{10}$$

$$= \frac{176}{10}$$

$$= \underline{17.6\text{cm}}$$

Or

Perimeter = Add all sides

$$= 4.4\text{cm} + 4.4\text{cm} + 4.4\text{cm} + 4.4\text{cm}$$

$$\underline{\text{Perimeter} = 17.6\text{cm}}$$

$$4.4$$

$$\underline{\times 4}$$

$$\underline{176}$$

$$4.4$$

$$\underline{+4.4}$$

$$8.8$$

$$\underline{4.4}$$

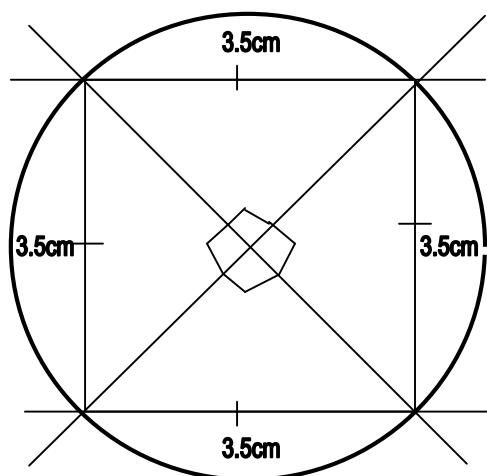
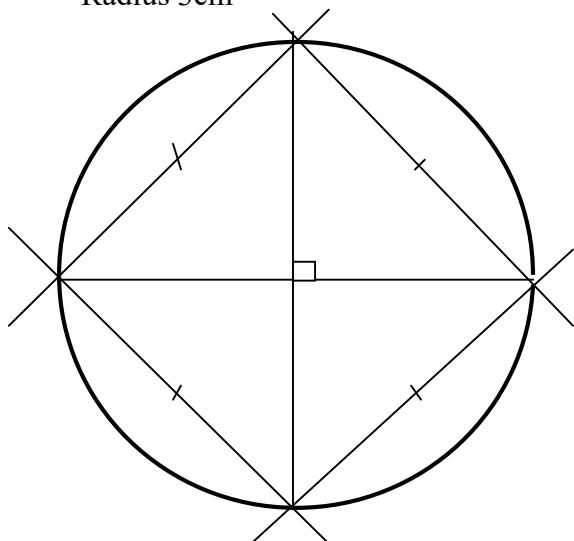
$$13.2$$

$$\underline{4.4}$$

$$17.6$$

Constructing a square in a circle of given radius

Radius 3cm



c) Calculate the area of the square above

$$\begin{aligned}\text{Area} &= \text{side} \times \text{side} \\ &= 4.4\text{cm} \times 4.4\text{cm}\end{aligned}$$

$$= \frac{44}{10} \times \frac{44}{10} \text{ cm}^2.$$

$$= \frac{19.36}{100} \text{ cm}^2.$$

$$= \underline{\underline{19.36\text{cm}^2}}$$

4 4

x 4 4

1 7 6

1 7 6

1 9 3 6

Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Construction of a rectangle

Language Competences :

The learner;

- Writes, reads and spells the word rectangle

Subject : The learner;

- States the steps taken when constructing a rectangle
- Draws constructs a rectangle under the instruction of a teacher.

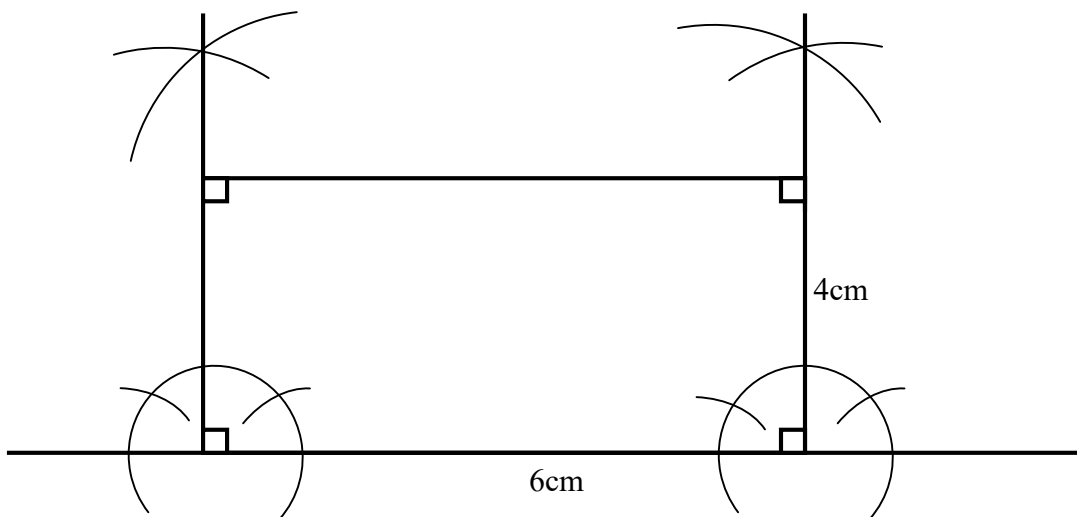
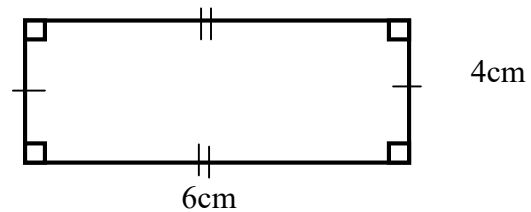
Construction of a rectangle

Properties of a rectangle

- It has two lines of folding symmetry
- It has 4 right angles
- It is made up of the length and width
- It has two diagonals

Example

- Using a pair of compasses, ruler and a sharp pencil only construct a rectangle of length 6cm and width 4cm
- Calculate its
 - Area
 - Perimeter



b)

i) Area = $L \times W$
= $6\text{cm} \times 4\text{cm}$

Area = 24cm^2 .

ii) Perimeter = Add all sides
= $L + L + W + W$
= $6\text{cm} + 6\text{cm} + 4\text{cm} + 4\text{cm}$
= $12\text{cm} + 8\text{cm}$

Perimeter = 20cm

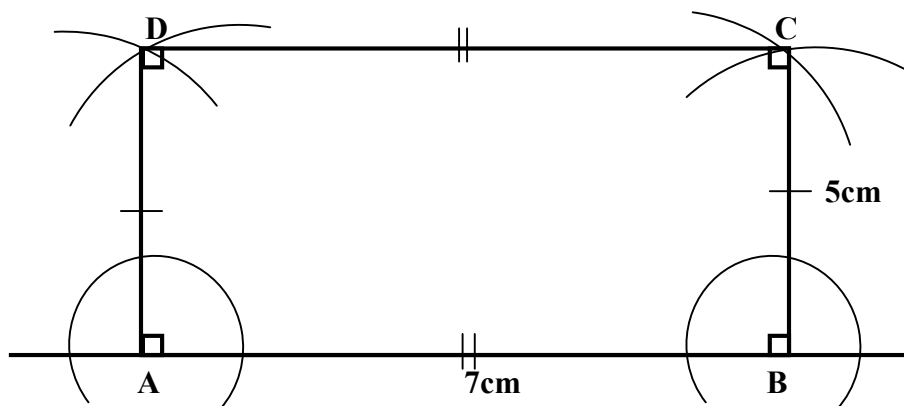
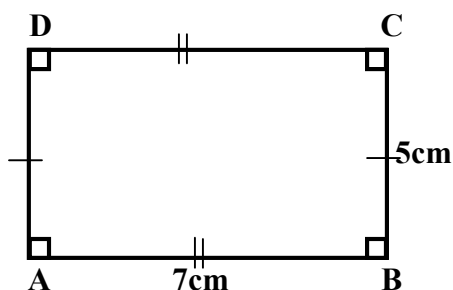
2.a) Using a pair of compasses, ruler and a pencil only, construct a rectangle ABCD where

$$\overline{AB} = 7\text{cm and } \overline{BD} = 5\text{cm.}$$

b) Calculate its

i) Area

ii) Perimeter



Exercise

Using a pair of compasses, ruler and a sharp pencil only,

a) Construct a rectangle ABCD where $\overline{AB} = 5\text{cm}$ and $\overline{BC} = 3\text{cm}$.

b) Calculate its

i) Area

ii) Perimeter

Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Lines of folding symmetry

Language Competences :

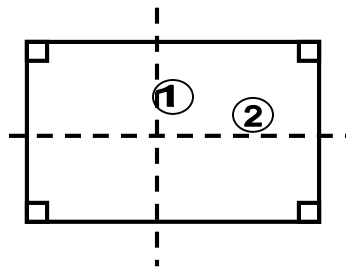
The learner;

- Reads, pronounces, writes and spells the words
 - o Fold
 - o Folding
 - o Symmetry
 - o Divide

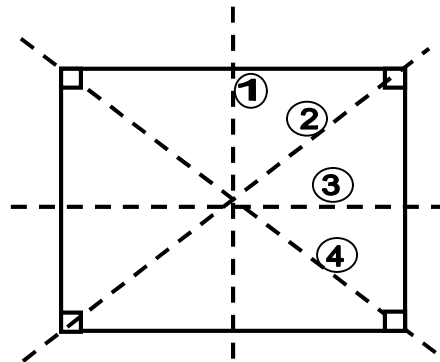
Lines of folding symmetry

A line of symmetry is a line that divides a figure or an object into equal parts which do not overlap each other when folded.

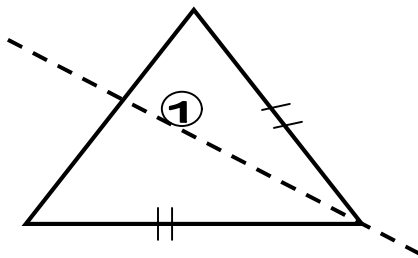
Examples



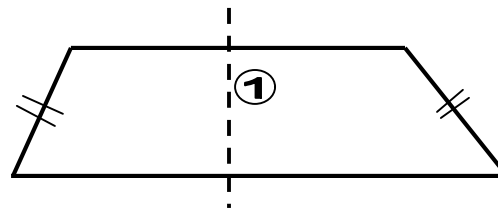
Two lines of symmetry



4 line of symmetry



1 line of folding symmetry



1 line of folding symmetry

Evaluation phase

The learners will attempt exercise 8:7 on page 185 from New MK. Pupils book 5.

Date	Time	No. of pupils

THEME : **Geometry**

TOPIC : **Geometry**

SUB TOPIC : **Constructing a circle when given radius or diameter.**

Language Competences :

The learner;

- Reads, pronounces, writes and spells the words
 - Radius
 - Diameter
 - Radii
 - Circle
 - Circumference
 - Centre

Constructing a circle

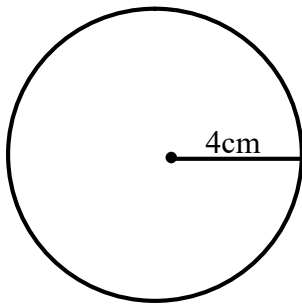
A circle is any circular/ round object using a pencil and pair of compasses

Procedure

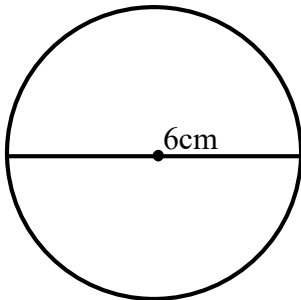
- Fix a pencil firmly.
- Measure the given radius from the ruler with the pointer at zero and adjust (open) the pencil to the required radius.
- Fix the pointer firmly on a book or pencil then rotate the pencil to make a circle.

Examples

Draw a circle of radius 4cm.



2. Construct a circle of diameter 6cm

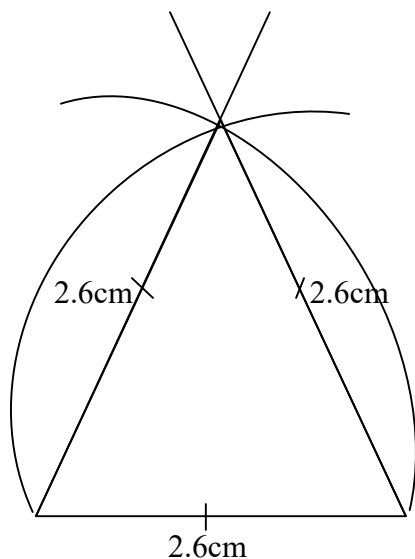


$$\begin{aligned}\text{Radius} &= \frac{d}{2} \\ &= \frac{6\text{cm}}{2}\end{aligned}$$

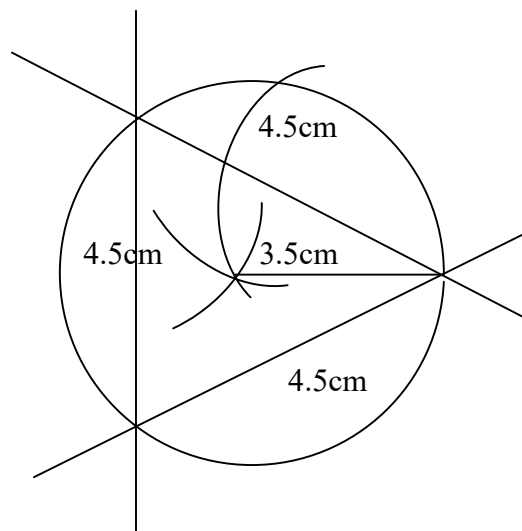
$$\underline{\text{Radius}} = \underline{3\text{cm}}$$

Evaluation phase: The learner will attempt exercise 8.8 on page 186 New MK. Book 5.

Constructing equilateral triangles



Finding the perimeter



Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Constructing a regular hexagon

Language Competences :

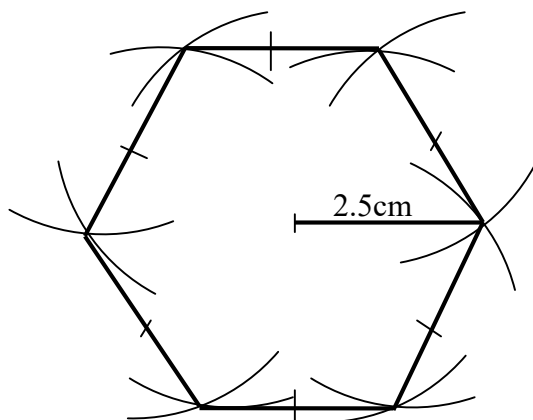
The learner;

- Reads, pronounces, writes and spells the words
 - Hexagon
 - Regular
 - Equal
 - All – sides

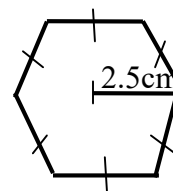
Constructing a regular hexagon

Examples

Construct a regular hexagon using a circle of radius 2.5cm.



Sketch



Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Rotation and Revolution

Language Competences :

The learner;

- Reads, pronounces, writes and spells the words
 - Rotate
 - Rotation
 - Revolute
 - Centre

Rotation and Revolution

- An angle is the amount of opening or turning.
- A rotation / revolution is a complete turn from a point and back

Examples of rotation

- a) 1 revolution = 4 right angles
 = 4×90^0
 = 360^0
- b) Half a revolution = $\frac{1}{2} \times 360^0$
 = 180^0
- c) Quarter a revolution = $\frac{1}{4} \times 360^0$
 = 90^0
- d) Three quarter turn = $\frac{3}{4} \times 360^0$
 = 3×90^0
 = 270^0

Evaluation phase

The learner will attempt exercise 8:11 on page 190, New MK book 5.

Date	Time	No. of pupils

THEME : Geometry

TOPIC : Geometry

SUB TOPIC : Angles on a compass direction

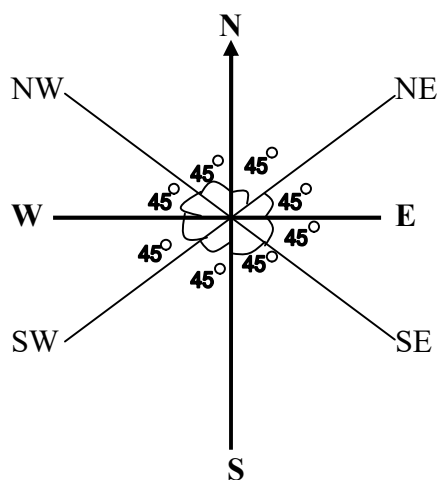
Language Competences :

The learner;

- Reads, pronounces, writes and spells the words
 - Compass direction
 - Turn
 - Sub division

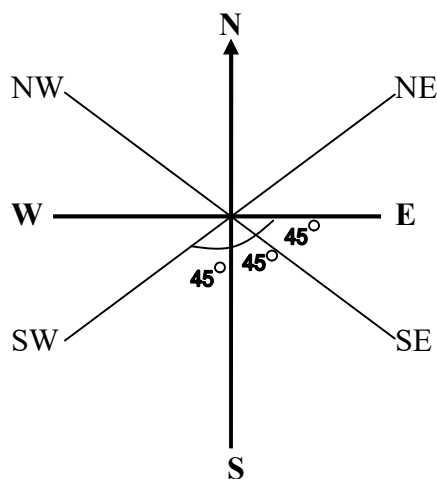
Angles on a compass

A compass direction has 8 sub division / direction in between each is 45° .



Examples

What is the smaller angle between East and South West?



$$45^{\circ} + 45^{\circ} + 45^{\circ}$$

$$90^{\circ} + 45^{\circ}$$

$$135^{\circ}$$

\therefore The smaller angle is 135°

Exercise:

The learners will attempt exercise 8:12 on page 191, New MK book 5.

Date	Time	No. of pupils

TOPIC : Geometry

SUB TOPIC : Clockwise and anti clock wise

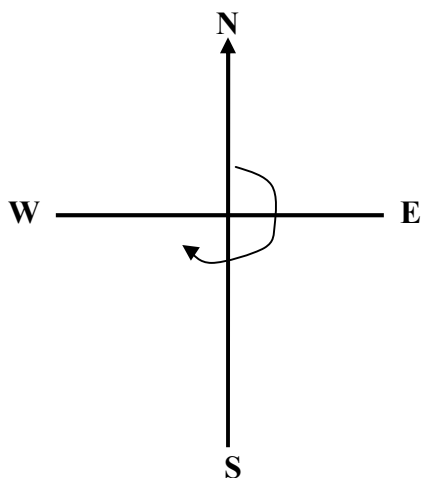
Language Competences :

The learner;

- Reads, pronounces, writes and spells the words
 - Clock
 - Ant
 - Clock wise
 - Ant clockwise
 - Turn
 - Right
 - Left

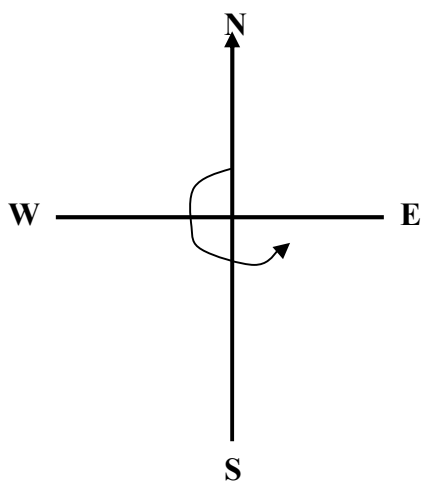
Clock wise and anti clock wise turns

a) Clock wise is a right hand turn



Right hand turn

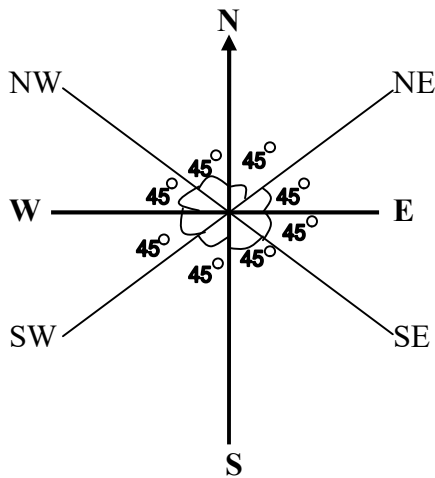
b) Anti clock wise turn is a left hand turn.



Anticlock wise

Example

A boy was facing North, he turned clock wise to face South East. What angle did he make?

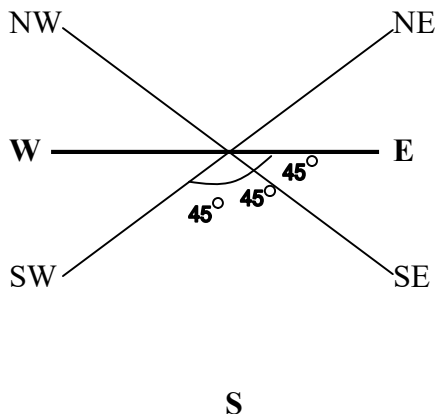


$$\begin{array}{r} \text{Angle} = 45^0 \\ + 45^0 \\ + 45^0 \\ \hline 135^0 \end{array}$$

Evaluation phase

The learner will attempt exercise 8:13 on page 192, New MK book 5.

N



$$45^0 + 45^0 + 45^0$$

$$90^0 + 45^0$$

$$135^0$$

\therefore The smaller angle is 135^0

Exercise:

The learners will attempt exercise 8:12 on page 191, New MK book 5.

Date	Time	No. of pupils

TOPIC : Geometry

SUB TOPIC : Types of angles

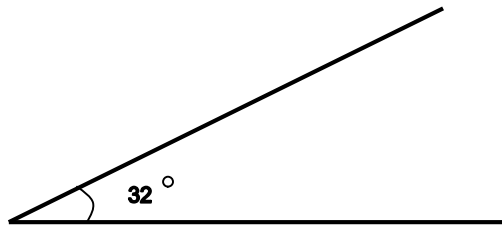
Language Competences :

The learner;

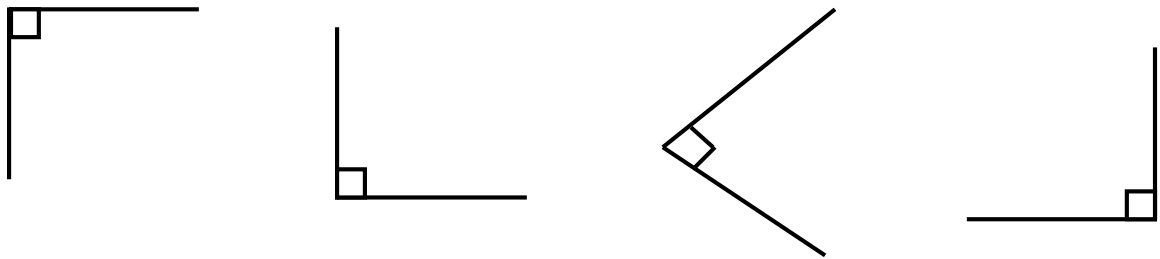
- Reads, pronounces, writes and spells the words
 - Angle
 - Right
 - Straight line
 - Reflex

Types of angles

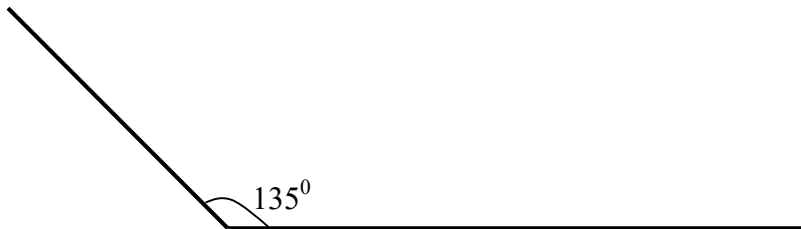
- a) Acute angle – These are angles that are less than 90° . i.e.



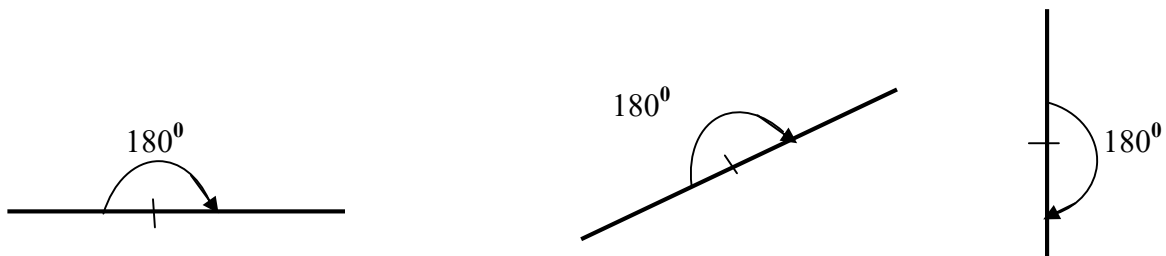
- b) Right angles- These are angles that add up to 90° i.e.



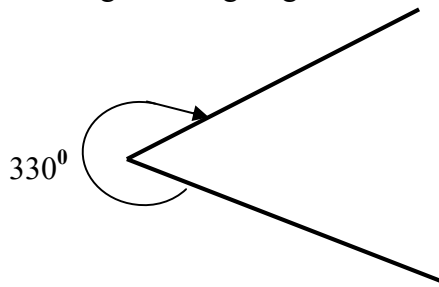
- c) Obtuse angles- These are angles greater than 90° but less than 180° i.e. $91^{\circ} - 179^{\circ}$.



- d) Straight line angles. Are angles that add up to 180° .



- e) Reflex angles – Angles greater than 180° but less than 360° i.e. from 181° – 359° .



- f) Centre angles – These are angles at a point and they add up to 360° i.e.

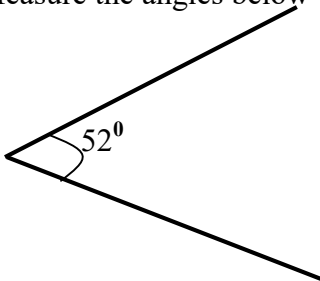
Measuring and drawing angles

A protractor has two sides ie outer scale and inner scale. The outer scale is used when measuring starting from the left while the inner scale is used when measuring starting from the right ie

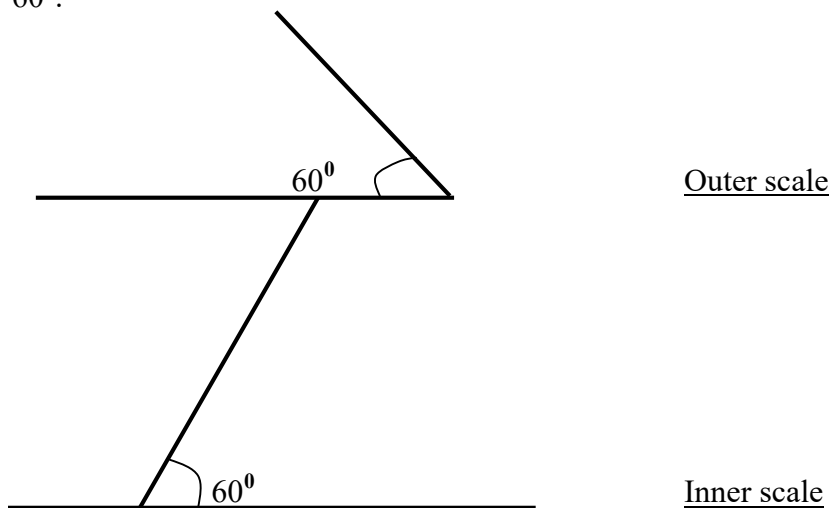


Examples

1. Measure the angles below



2. Draw the following angles using a protractor, pencil and a ruler.
 60° .



Evaluation phase :

The learners will attempt exercise 8:15 pages 193 – 196, New MK. Book 5.

Date	Time	No. of pupils

TOPIC : Geometry

SUB TOPIC : Finding missing angles

Language Competences :

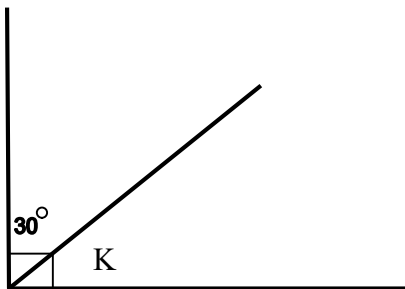
The learner;

- Reads, pronounces, writes and spells the words
 - o Point
 - o Straight line
 - o Right angle

Finding unknown angles in right angle

Examples

1. Find the value of angle K.



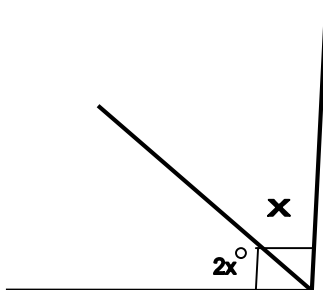
$$K + 30^{\circ} = 90^{\circ} \text{ (right angles)}$$

$$K + 30^{\circ} - 30^{\circ} = 90^{\circ} - 30^{\circ}$$

$$K + 0 = 60^{\circ}$$

$$K = 60^{\circ}$$

2.



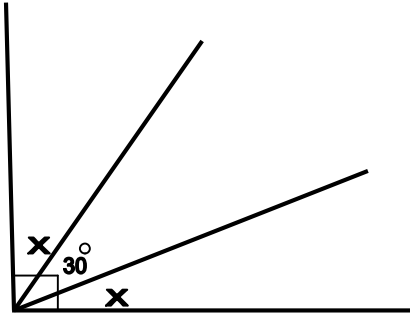
$$X + 2x = 90^{\circ} \text{ (right angles)}$$

$$3x = 90^{\circ}$$

$$\frac{3x}{3} = \frac{90^{\circ}}{3}$$

$$X = 30^{\circ}$$

3.



$$X + x + 30^{\circ} = 90^{\circ} \text{ (right angles)}$$

$$2x + 30^{\circ} = 90^{\circ}$$

$$2x + 30^{\circ} - 30^{\circ} = 90^{\circ} - 30^{\circ}$$

$$2x + 0 = 60^{\circ}$$

$$2x = 60^{\circ}$$

$$\frac{2x}{2} = \frac{60}{2}$$

$$X = 30^{\circ}$$

4. $y, 2y$ are right angles, find the value of y .

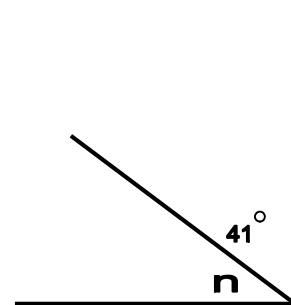
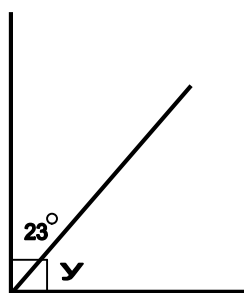
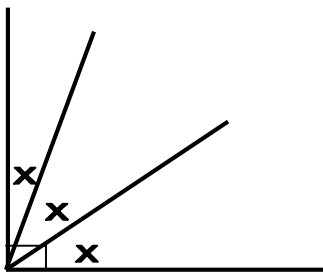
$$Y + 2y = 90^{\circ}$$

$$3y = 90^{\circ}$$

$$\frac{3y}{3} = \frac{90^{\circ}}{3}$$

$$Y = 30^{\circ}$$

5. Find the value of the unknown angle below



Date	Time	No. of pupils

TOPIC : Geometry

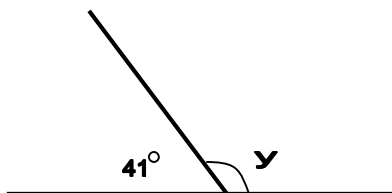
SUB TOPIC : Finding missing straight line angles

Language Competences :

Finding missing straight line angle

Examples

1.



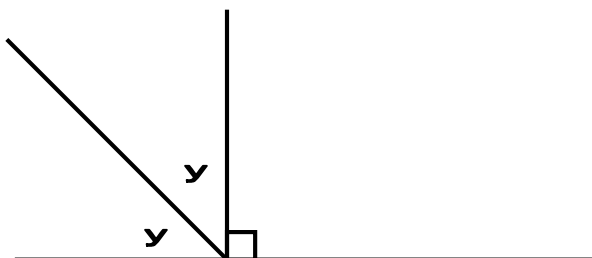
$$y + 41^{\circ} = 180^{\circ} \text{ (straight line angles)}$$

$$y + 41^{\circ} - 41^{\circ} = 180^{\circ} - 41^{\circ}$$

$$y + 0 = 139^{\circ}$$

$$y = 139^{\circ}$$

2.



$$y + y + 90^{\circ} = 180^{\circ} \text{ (straight line angles)}$$

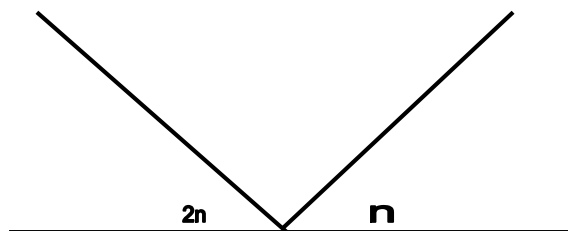
$$2y + 90^{\circ} - 90^{\circ} = 180^{\circ} - 90^{\circ}$$

$$2y + 0 = 90^{\circ}$$

$$\frac{2y}{2} = \frac{90}{2}$$

$$y = 45^{\circ}$$

3.



$$n + 2n + 90^{\circ} = 180^{\circ} \text{ (straight line angles)}$$

$$3n + 90^{\circ} = 180^{\circ}$$

$$3n + 90^{\circ} - 90^{\circ} = 180^{\circ} - 90^{\circ}$$

$$3n + 0 = 90^{\circ}$$

$$3n = 90^{\circ}$$

$$\frac{3n}{3} = \frac{90}{3}$$

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

$$180^{\circ}$$

$$\underline{-90^{\circ}}$$

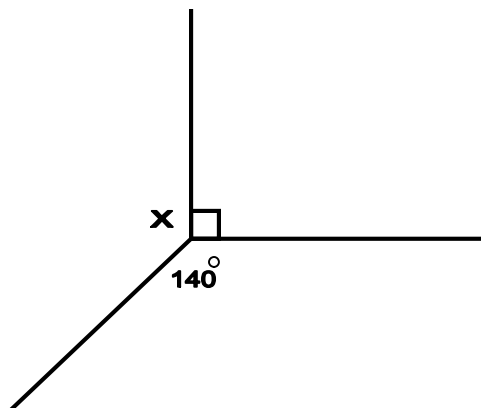
$$\underline{90^{\circ}}$$

Centre angles

These are angles that add up to 360° .

Examples

1. Find the value of x in the



$$3x + 90^\circ + 140^\circ = 360^\circ \text{ (centre angles)}$$

$$x + 230^\circ = 360^\circ$$

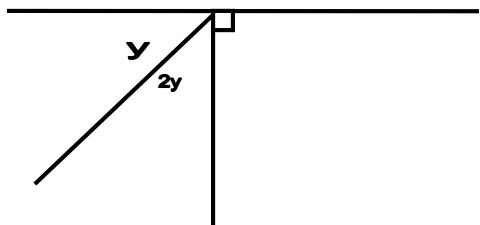
$$x + 230^\circ - 230^\circ = 360^\circ - 230^\circ$$

$$x + 0 = 130^\circ$$

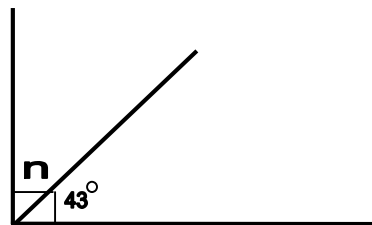
140°	360°
$+ 90^\circ$	$- 230^\circ$
<u>230°</u>	<u>130°</u>

2. Find the values of the unknown angles below

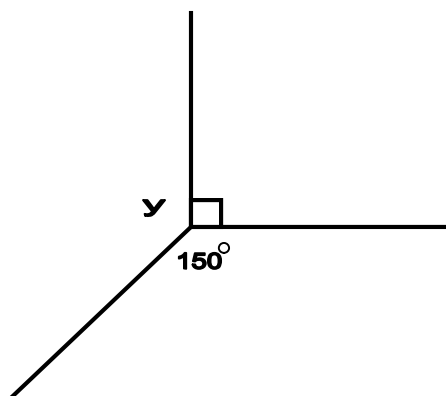
i)



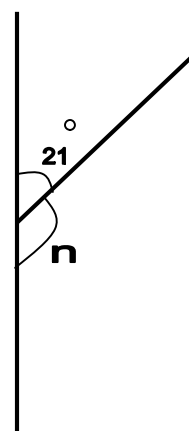
ii)



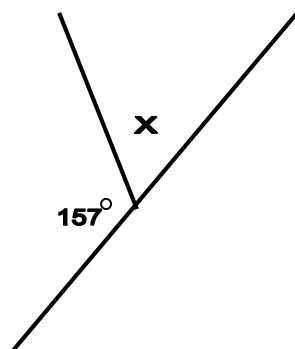
iii)



iv)



v)



Date	Time	No. of pupils

TOPIC : Data handling

SUB TOPIC : Reading and interpreting tables

Language Competences : The learner reads, spells, writes and pronounces the words

- Interpret
- Interpreting
- Read

Reading and interpreting tables

Examples

A farmer recorded the number of pineapples he harvested each month as January 400, February 360, March 330, April 380, May 400, June 480.

- a) Put the above information on a table.
- b) Which was the highest number of pineapples harvested?
- c) What was the difference between the highest and lowest number of pineapples harvested?
- d) Find the sum of all pineapples harvested.

a)

Month	January	February	March	April	May	June
Pineapples	420	360	330	380	400	480

b) 480 pineapples

c) Difference =
$$\begin{array}{r} 480 \\ - 330 \\ \hline 150 \text{ pineapples} \end{array}$$

d) Sum =
$$\begin{array}{r} 420 \\ 360 \\ 330 \\ + 380 \\ 400 \\ 480 \\ \hline 2370 \end{array}$$

Evaluation :

The learners will attempt exercises 10:3 on pages 2018 – 219 and 10:4 on page 220.

1. Below are the marks scored by Sarah in a series of revision exercises marked out of 50. Use them to answer the questions that follow
35, 12, 40, 28, 35
 - a) Find her mode
 - b) What is the range of her scores?
 - c) Find her median marks.
 - d) Calculate her mean score

2. In Mukono Health Centre.= IV, the immunization department recorded the weights of the babies immunized on a certain date in kg. Use them to answer the questions that follow
15, 12, 13, 15, 17, 10, 8, 9, 15, 6
- Find the modal weight
 - Find the median weight
 - Find the median mark
 - What is the range of the weights recorded?
 - Calculate the average weight recorded that day.
3. Mr. Mafene measured the heights of some of his learners and recorded as follows.
120cm, 110cm, 139cm, 110cm, 140cm
- Find the modal height
 - Find the range
 - Find the median
 - Calculate the mean height.

Date	Time	No. of pupils

TOPIC : Data handling

SUB TOPIC : Interpreting bar graphs

Language Competences : The learner reads, spells, writes and pronounces the words

- **Information**
- **Bar**
- **Horizontal**
- **Axis**
- **Vertical**

Interpreting bar graphs

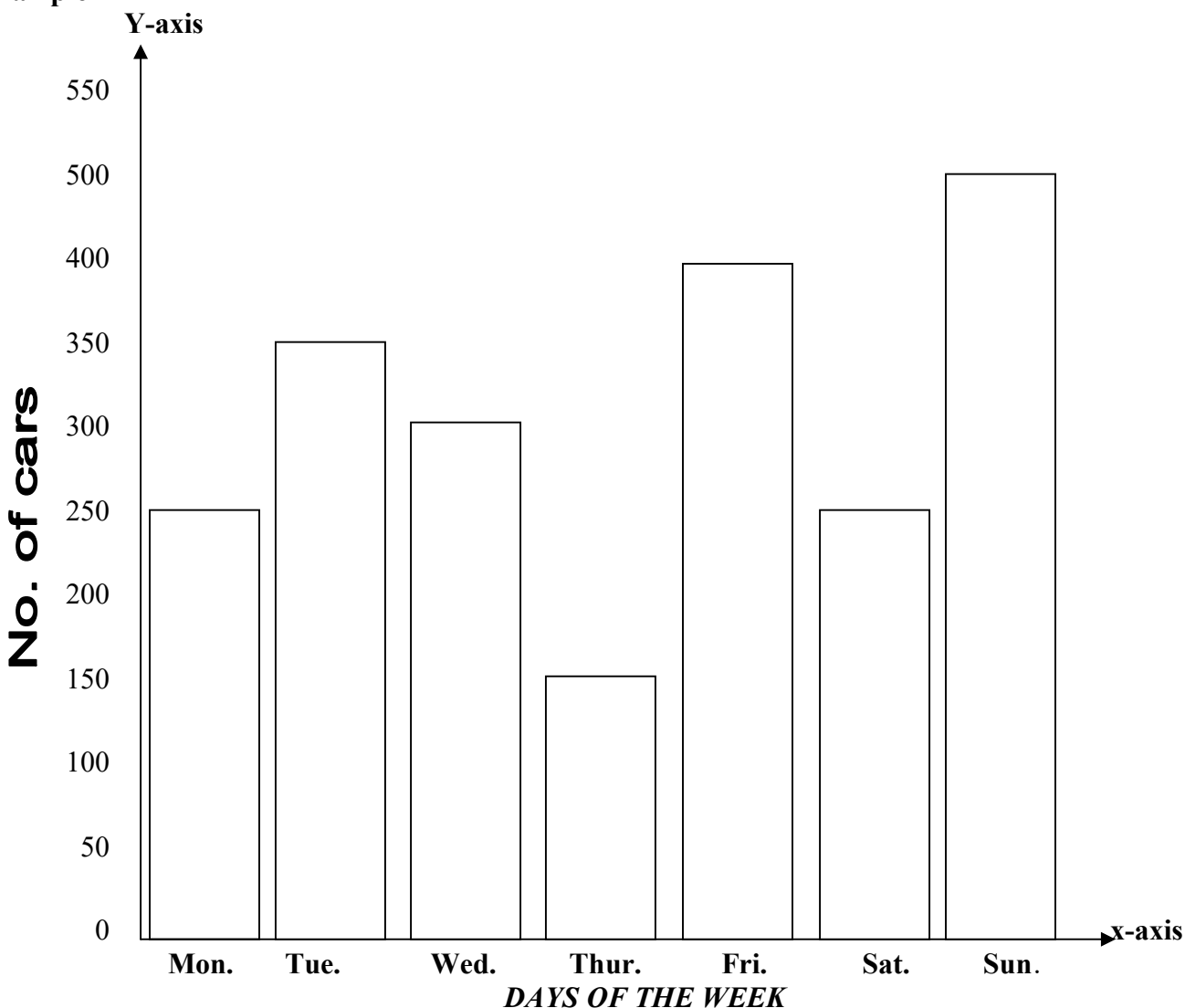
A bar graph is a graph that uses bars to represent information.

Features are

- Y-axis (Vertical axis)
- X-axis (Horizontal axis)

Scale : Means what one small box / square represents (Stands for).

Example



Scale : Y-axis : One small square represents 50 cars.

X-axis : One small square represents a day.

Questions

- How many cars were sold on Thursday?
350 cars were sold
- Which two days had the same number of cars sold?
Tuesday and Saturday
- Which day had the least number of cars sold?
Thursday
- Find the total number of cars sold

$$\begin{array}{r}
 500 \\
 450 \\
 350 \\
 350 \\
 300 \\
 250 \\
 150 \\
 \hline
 2350 \text{ cars}
 \end{array}$$

Evaluation phase :

The learners will attempt exercise 10:5 on pages 222-223 New MK pupils nook 5.

Date	Time	No. of pupils

TOPIC : Data handling

SUB TOPIC : Drawing bar graphs

Language Competences : The learner reads, spells, writes and pronounces the words

- Bar
- Axis
- Line
- Table

Drawing bar graphs

Note :

- Identify the highest number given
- Set your own suitable scale

Example

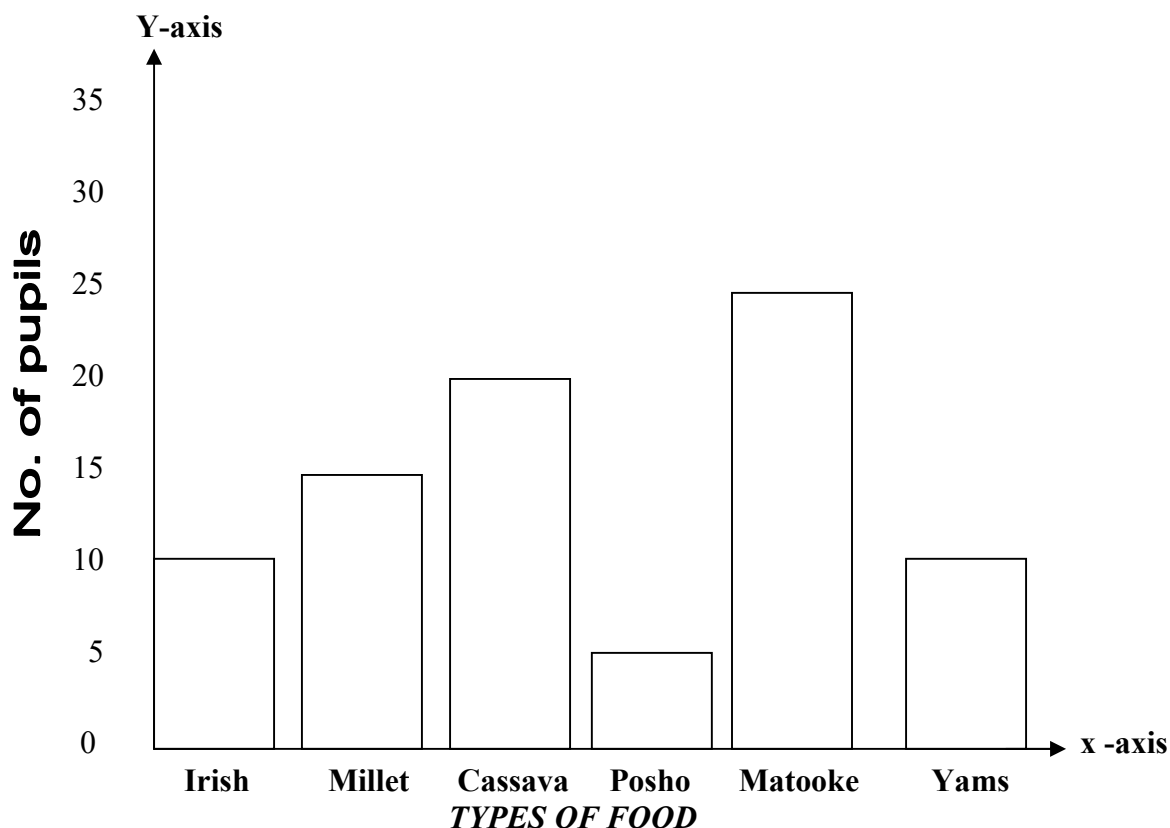
The table below shows food liked by pupils in P.5 class.

No. of pupils	10	15	5	20	25	10
Types of food	Potato	Millet	Posho	Cassava	Matooke	Yams

Scale

Y-axis = 5 pupils

X-axis = 1 type of food



X-axis : One small square represents a day.

Date	Time	No. of pupils

TOPIC : Data handling

SUB TOPIC : Interpreting a line graph

Language Competences : The learner reads, spells, writes and pronounces the words

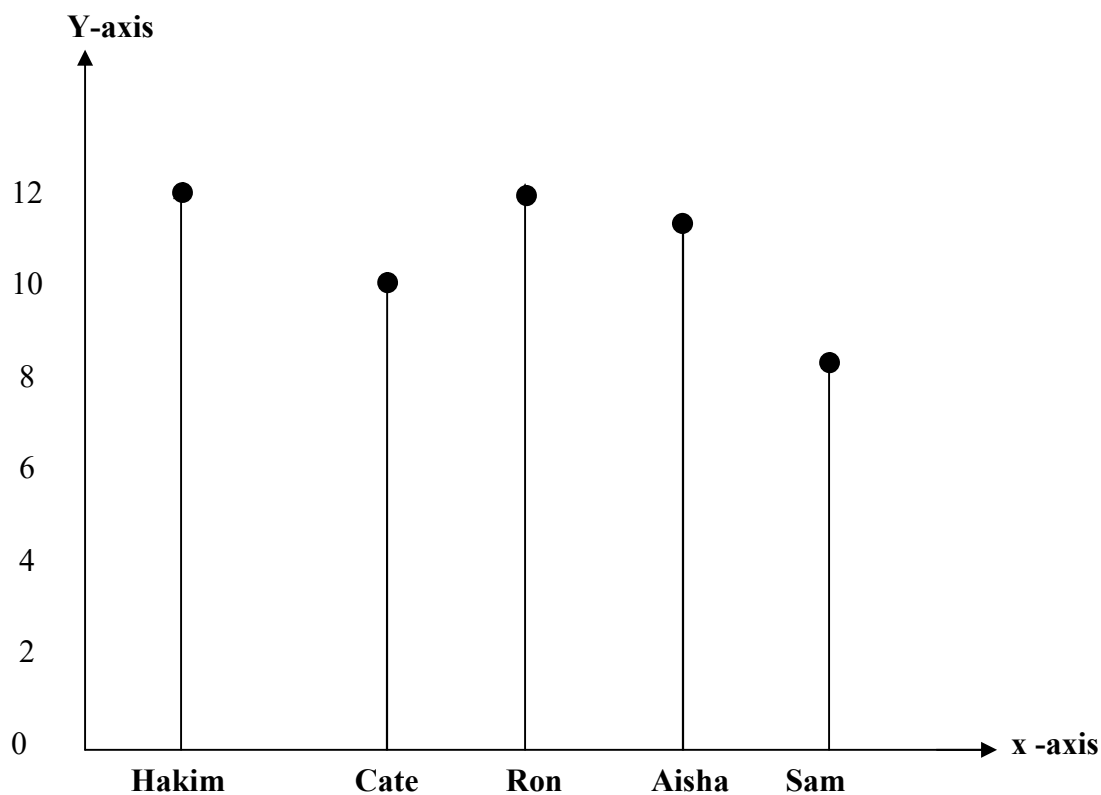
- Line
- Graph
- Scale

Interpreting line graphs

These graphs use lines to show information

Examples

The graph below shows the ages of 5 pupils



a) Name the pupils with the same age?

Hakim and Ron

b) How old is the youngest pupil?

The youngest pupil is 8 years

c) How old is Aisha?

Aisha is 11 years old

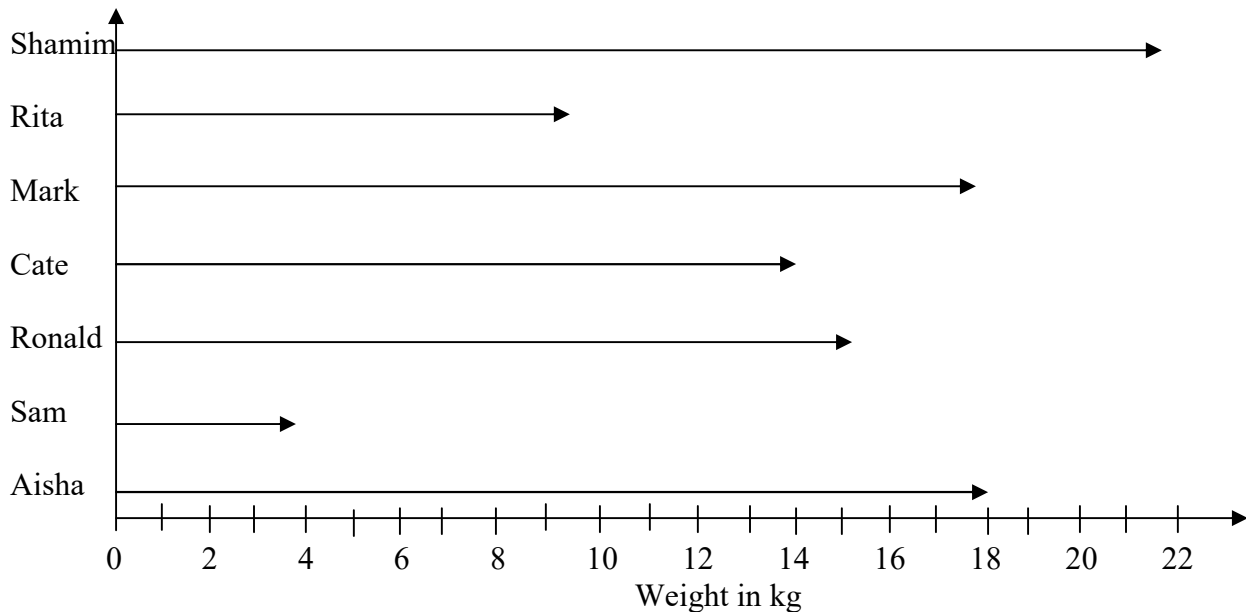
d) Calculate their average age.

$$\begin{aligned}\text{Average} &= \frac{\text{Sum of items}}{\text{No. of items}} \\ &= \frac{12 + 12 + 11 + 10 + 3}{5} \\ &= \frac{53}{5} \\ \text{Average} &= 10\frac{3}{5} \text{ years}\end{aligned}$$

Evaluation phase:

The learners will attempt exercise 10:8 on page 230 New MK book 5.

The graph below represents weight of 7 pupils



1. What is the age of the youngest child?
2. Find the range of pupils age.
3. How old is Cate?
4. What is the median age?
5. By how many years is Aisha older than Rita?

Date	Time	No. of pupils

TOPIC : Time

SUB TOPIC : Telling time using am and pm

Language Competences : The learner reads, spells, writes and pronounces the words

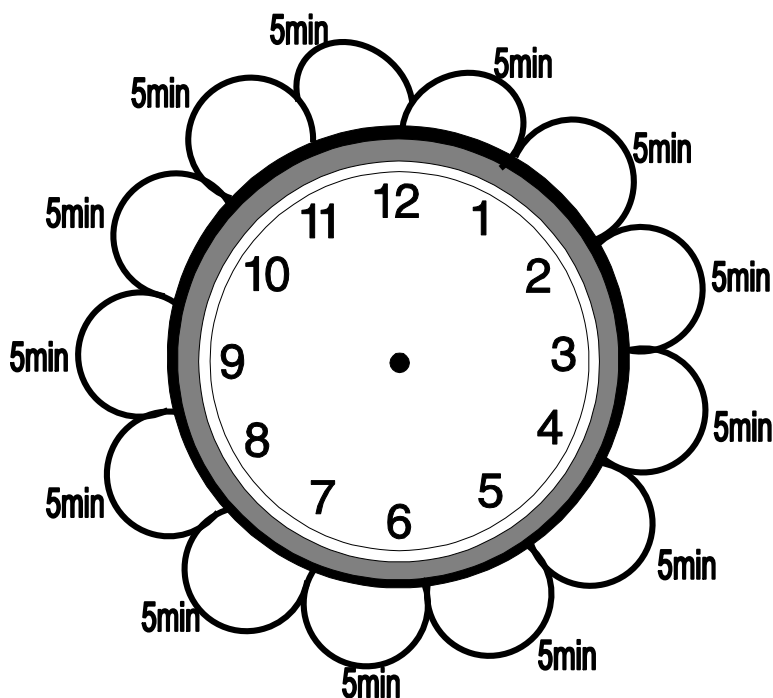
- Time
- Am

- **Pm**
- **After noon**
- **Evening**
- **Morning**

Telling Time using am and pm

Note

- Am mean Antemeridian (which is the morning time)
- Pm means post meridian (After noon)
- A clock face is marked at 12 intervals each having 5 minutes



$$(5 \times 12) \text{ Intervals} \\ = 60 \text{ minutes}$$

Evaluation phase :

The learners will attempt exercise 11:14 on

Date	Time	No. of pupils

TOPIC : Time

SUB TOPIC : Finding Duration

Language Competences : The learner reads, spells, writes and pronounces the words

- Duration
- Spent
- Interval
- Beginning
- Ending

Finding duration

Note

- Duration is the length of time or time spent.
- Time has two points ie
 - o Point of time - here the answer is in am or pm
 - o Period of time - here the answer is in hours, minutes or seconds

Examples

1. Alex started walking from his home at 7:35am and reached the town at 9:10am. How long did it take him?

$$\begin{array}{rcll} \text{Duration} & = & \text{Ending time} - \text{Starting time} & \\ & = & \begin{array}{r} \text{Hrs} \quad \text{Min} \\ 9 \quad 10 \\ - 7 \quad 35 \\ \hline 1 \quad 35 \end{array} & \begin{array}{r} 60 \\ + 10 \\ 70 \\ - 35 \\ \hline 35 \end{array} \end{array}$$

∴ It took him 1 hour and 35 minutes

2. A bus started its journey at 9:00am and ended at 11:00am. How long did the journey take?

$$\begin{array}{rcll} \text{Duration} & = & \text{Ending time} - \text{Starting time} & \\ & = & \begin{array}{r} \text{Hrs} \quad \text{Min} \\ 11 \quad 00 \\ - 9 \quad 00 \\ \hline 2 \quad 00 \end{array} & \end{array}$$

∴ The journey took 2 hours.

Evaluation phase:

The learner will attempt exercise 11:15 on page 252 New MK. Book 5.

Date	Time	No. of pupils

TOPIC : Time

SUB TOPIC : Interpreting distance time table

Language Competences : The learner reads, spells, writes and pronounces the words

- Distance
- Time
- Arrive
- Afternoon
- Leave

Interpreting distance time table

- Distance time table shows the distance covered in a particular time.
- Departure time is the time of leaving a place while arrival time is the time of reaching the place.

Examples

The table below is a distance time table for a bus travelling from Masindi to Kitgum.

Town	Distance	Arrival	Departure
Masindi			9:00am
Kigumba	39km	9:40am	10:00am
Kamudini	115km	11:10am	11:25am
Lira	191km	12:30pm	1:00pm
Kitgum	125km	3:15pm	4:55pm

- a) At what time did the bus arrive at Kamudini?

At 11:10am

- b) At what time did the bus leave Lira?

At 1:00pm

- c) What is the distance between Kigumba and Lira?

$$\begin{array}{r} 191 \text{ km} \\ - 39 \text{ km} \\ \hline 152 \text{ km} \end{array}$$

- d) Find the time taken from Kigumba to Kamudini

$$\begin{array}{rcl} \text{Duration} & = & \begin{array}{cc} \text{Hrs} & \text{Min} \\ 11 & 10 \\ - 10 & 00 \\ \hline 10 & 10 \end{array} \end{array}$$

The time taken is 1 hour and 10 minutes

- e) Find the total time taken from Masindi to Kitgum

$$\begin{array}{rcl} \text{Duration} & = & \text{Ending time} - \text{Starting time} \\ & = & \begin{array}{cc} \text{Hrs} & \text{Min} \\ 11 & 00 \\ - 9 & 00 \\ \hline 2 & 00 \end{array} \end{array}$$

The journey took 6 hours and 15 minutes

Evaluation phase

The learner will attempt exercise 11:16 on page 253 New MK. Book 5.

Date	Time	No. of pupils

TOPIC : Time

SUB TOPIC : Find Time

Language Competences : The learner reads, spells, writes and pronounces the words

- Time
- Long
- Span
- Time span
- Distance
- Total
- Speed

Finding Time

Note:

- Time is how long something takes to happen or occur.
- Time is a result of dividing distance by speed. Time is measured in hours, minutes and seconds.

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

Example

1. A taxi travelled at a speed of 70km every hour to cover a distance of 245km. How long did it take?

$$\begin{aligned}
 \text{Time} &= \frac{\text{Distance}}{\text{Speed}} \\
 &= \frac{245\text{km}}{70\text{km}} = \frac{245\text{km}}{70\text{km}} \times 1\text{hr} \\
 &= 3 \frac{1}{2} \text{hrs}
 \end{aligned}$$

Evaluates phase:

The learner will attempt exercise 11:18 on page 256 New MK pupils book 5.

Date	Time	No. of pupils

TOPIC : Time

SUB TOPIC : Finding Speed

Language Competences : The learner reads, spells, writes and pronounces the words

- Speed
- Distance
- Time
- Total
- Divide
- Duration

Finding Speed

Note:

- Speed is the rate at which something happens / done / travels or moves.
- Speed is the distance covered in a particular time. It is measured in km/hr/ m/ seconds.

Example

The distance from Kampala to Mbarara is 256km. A bus took 4hrs travels from Kampala to Mbarara. At what speed was it travelling?

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$= \frac{256\text{km}}{4\text{hr}}$$

$$= \underline{\underline{64\text{km/hrs}}}$$