MBUYA PARENTS' PRIMARY SCHOOL

LESSON NOTES FOR MATHEMATICS P.4 TERM I 2021

TOPIC I: SET CONCEPTS

SUB TOPIC: REVISION OF SETS

CONTENT: **Definition**

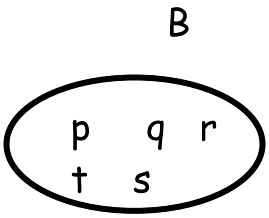
A set is a collection of well defined objects.
An element is an object or a thing which belongs to a set.

Naming sets

- A set of tomatoes
- A set of bags
- A set of oranges

Counting members in a set

Examples



Set B has 5 members therefore n(B) = 5 members

$\therefore$**n(B) = 5 members**

X = $\{r, s, t\}$ set X has 3 members
Therefore n(x) = 3 members.

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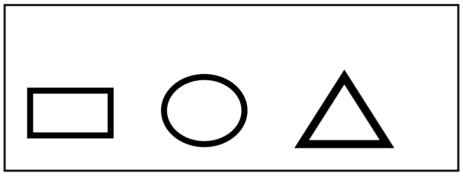
ACTIVITY:

Name these sets.

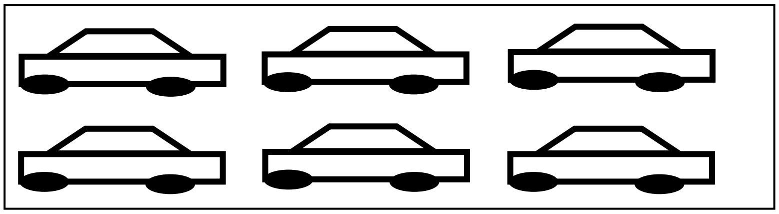
1. a, e, i, o, u

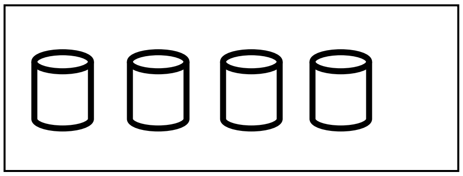
A set of ___________

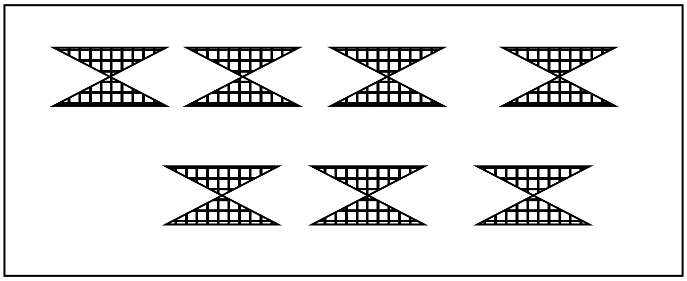
2.



A set of ___________

3.  A set of__________

4.  **A set of ___________________**

5.  **A set of _______________**

LESSON 2:

CONTENT: Equivalent and non-equivalent sets.

Equivalent sets are sets with the same number of members but they are not the same

Symbol $\longleftrightarrow$

Example.

M = (1, 2, 3, 4)   N= (a, e,i, o)

Set M is equivalent to set N

Or $M \longleftrightarrow N$

Note: Equivalent sets are also called matching sets.

Non – Equivalent sets

These are sets which do not have the same number of members.

Symbol

$\nleftrightarrow$

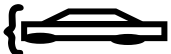
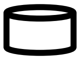
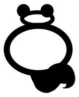
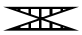
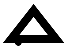
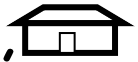
Example

P = {a, b, c}   Q = {p, q, u, s}

Set P and Q are non – equivalent, non matching sets.

Activity:

Write equivalent or not equivalent.

1. A= {,  }   B={  ,   }

____

2. X= {a, b, c, d}   Y= {1, 2, 3, 4, 5}

____

3. D= {cup, brush, stone, fork}

K= {   }

____

4. X= {a, e, i, o, u} Y= { 1, 2, 3, 4, 5}

____

5. R= {m, a, t}   S= {s, u, n}

____

LESSON 3:

TOPIC: SET CONCEPTS

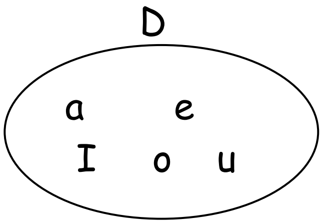
SUB-TOTAL: TYPES OF SETS

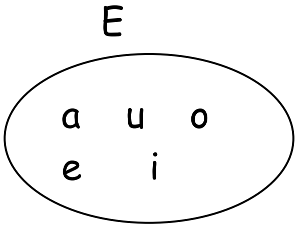
CONTENT: EQUAL SETS AND EQUAL SETS

Equal sets:

Equal sets are sets which have the same number of elements which are exactly the same.

Examples:





Symbol =

Set D and E are equal sets

Not equal sets.

Not equal sets are sets which don't have same members.

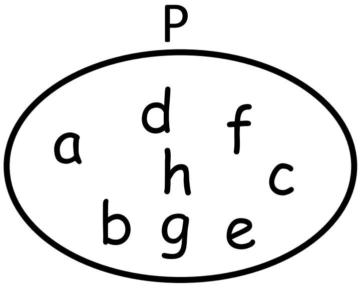
Examples:

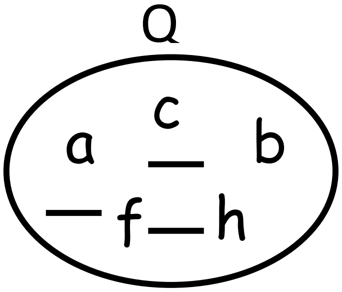
Set A = (a, b, c, d) B
= (1, 2, 3, 4)
Set A and B are equivalent sets.

Symbol ≠

ACTIVITY:

1. Sets with the same type of members and same number of members are called____________ sets.
2. If set P and Q are equal find the missing number in set Q.





3. Write equal or not equal.

X = { b, o, y }   Y = { b, a, y }
Set X is _____________ to set Y.

4. M = { P, O, T }   N = { T, O, P }

Set M is ____________ to set N.

LESSON 4:

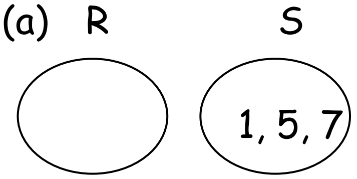
CONTENT: EMPTY SETS

Empty sets are sets which do not have members or a set whose members cannot be found.

Symbol $\emptyset$ or { }

Examples

(a)



Set R is an empty set.

(b) A set of goats with 5 legs each is an empty set.

ACTIVITY:

1. List down five examples of empty sets.

2. Draw a set of men who breast feed babies.

3. Write empty or not empty.

a) A set of people with five hands __________ sets.

b) A set of chairs in a house ______________ sets.

c) A set of flies as big as a cow _________ sets.

d) A set of bread made of stones ________ sets.

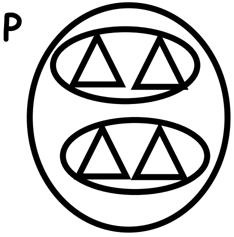
e) A set of homes with two cars __________ sets.

LESSON 5:

CONTENT: Even and Odd sets.

Even sets are sets whose members can all be paired

Example:



Set P has 4 members.

Members of set P have all been paired; therefore it is an even set.

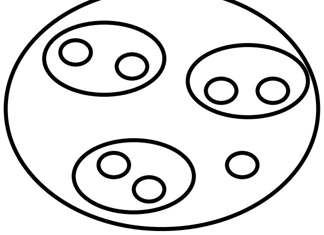
Note: An empty set is an even set.

Odd sets

Odd sets are sets whose members can not all be paired.

Example:

Not all members of set U have been paired. Therefore it is an odd set.

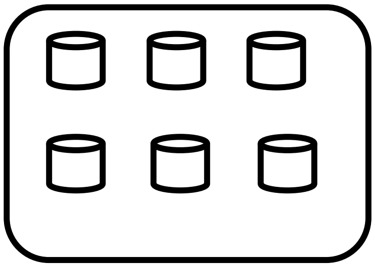


ACTIVITY:

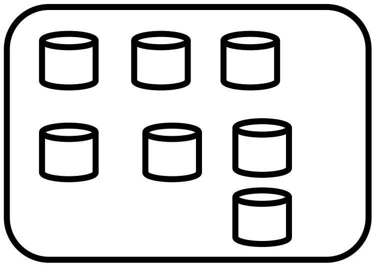
State whether odd or even.

1.

Q

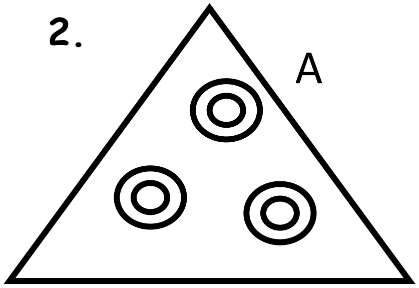


P

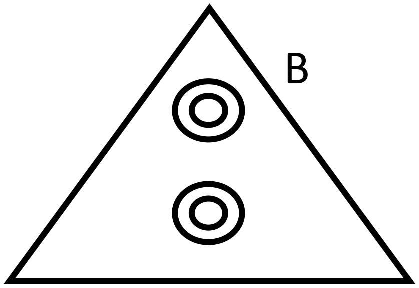


2.

A

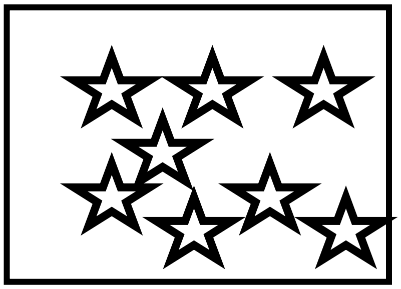


B

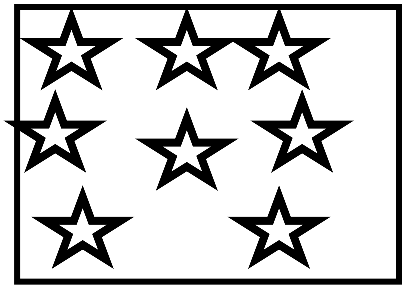


3.

S



R



4. Set X= { m, e, a, n, t} and set Y= { P, i, n, c, h}.

5.

LESSON 6:

SUBTOPIC: INTERSECTION OF SETS.

CONTENT: **Symbol for intersection** $\cap$

Intersection sets have common members of two sets

Examples:

P = (a, b, c, d, e) **q** = (a, e, i, o, u)

Find (i) P $\cap$ Q. = (a, e)

n (P $\cap$ Q) = 2 element

Note: Sets without common members are non – intersecting sets.

Examples

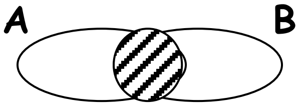
W = (1, 2, 3, 4) N = (a, b, c)

Set W and N are non – intersecting sets.

Drawing venndiagrams and shading the intersection.

Example:-

- Shading the intersection set.



A $\cap$ B is shaded.

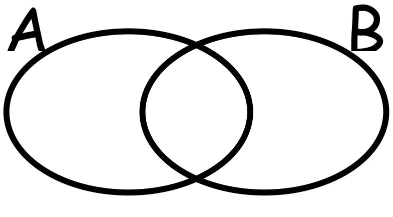
ACTIVITY:

1. Write a set symbol for intersection set.

2. If F= { x, y, z, r, s, t } and G= { r, s, t, u, v, w }
   What is F∩ G.

3. Set K = { 1, 2, 3, 4, 5, 6 } and set L= { 2, 4, 6, 8, 10 }.
   List down the members of K∩L.

4. In the diagram below shade A∩B



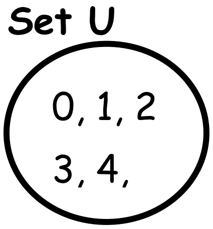
5. Given that set R = { 1, 2, 3, 4, 5 } and set Y= { 2, 5, 7, 8 }
   Find R∩Y.

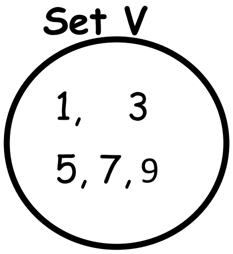
6. If K ={ cow, cat, bull, cocks, goats }
   P={ calf, cow, hen, kitten, goat }
   Find K∩ P.

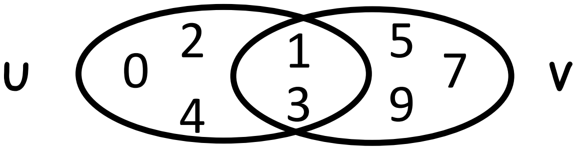
LESSON 7: Listing members in the intersection

Example:

1.






U
0
2
4
1
3
5
9
7
V

$\therefore$ U $\cap$ V = {1, 3, 5}

2. Set D = {p, q, r, s, t }

   Set E = {f, g, r, p }

   $\therefore$ D $\cap$ E = {p, r}

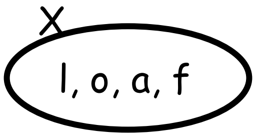
Number of elements in the intersection

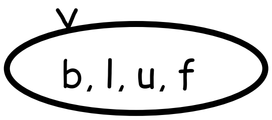
Examples:

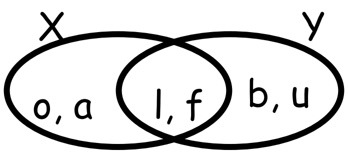
Set S = (g, o, a, t) T = (r, o, t)

S $\cap$ T = (o, t) Therefore; number of elements in the intersection set are 2.
n(S$\cap$T) = 2 elements

Set







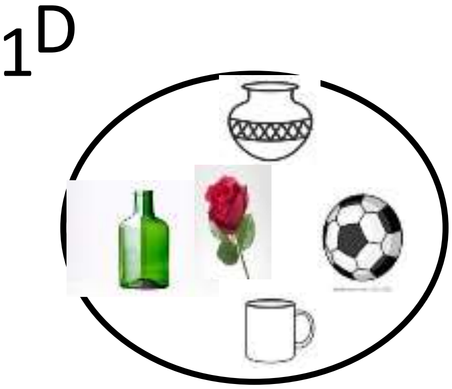
X ∩ Y = (l, f)

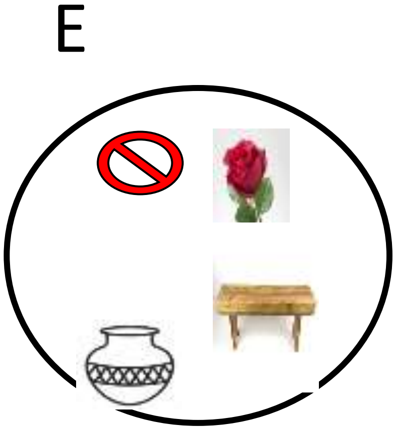
∴ n(X ∩ Y) = 2 elements

Activity.

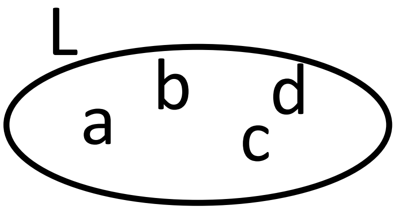
Draw the Venn diagram and list the members in the intersection set.

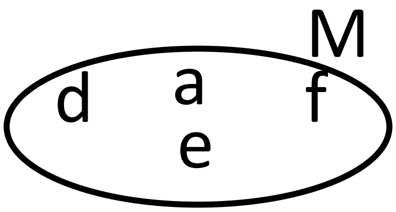
1



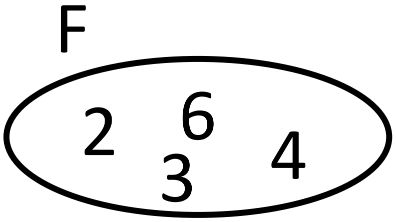


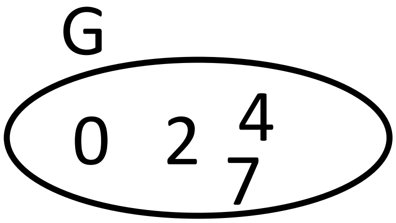
2.





3.





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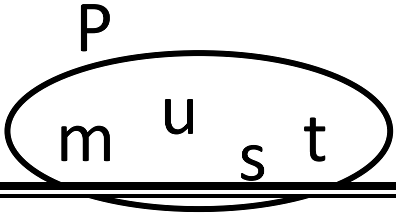

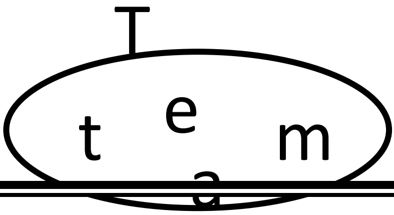

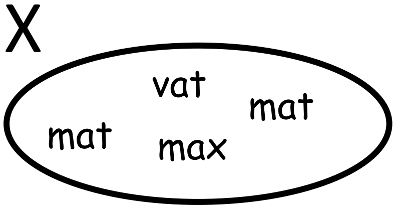
X
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mat
mat
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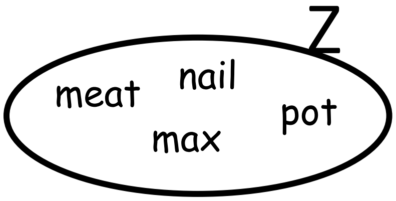

Z
nail
meat
pot
max

LESSON 8:

CONTENT: UNION OF SETS AND INTERSECTION

A Union set is a collection of all the members in the given sets.

Symbol, → U

Listing of members in union sets.

Examples

If P = (a, e, i, o, u) Q = (a, b, c, d, e)

What is P U Q?

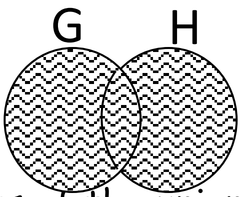
$P \cup Q$ = (a, e, i, o, u, b, c, d)

N.B: All common members are written once.

Drawing Venn diagrams and shading.

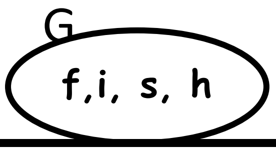
Examples:

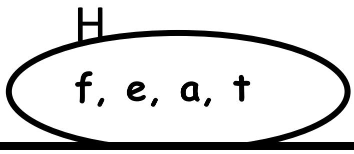
Shade $G \cup H$

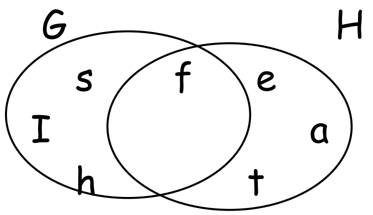


Listing members of the union set

Example:







G ∪ H = (i, s, f, h, e, a, t)

∴ Number of elements in the union set are 7

n(G∪H) = 7 elements.

Activity

1. Write the set symbol for union set.

2. Draw a Venn diagram and shade the union.

3. Given that P= {orange, eggs, yam, mango }

Q= {pawpaw, cabbage, eggs, carrot, yams }

6. If R={ a, e, i, o, u } and S = { a, b, c, d, e, f}

Find R∪S.

7. K= { M, A, N, G, O } and L= { M, O, N, K, E, Y }

Find K∪L.

LESSON 9: DIFFERENCE OF SETS

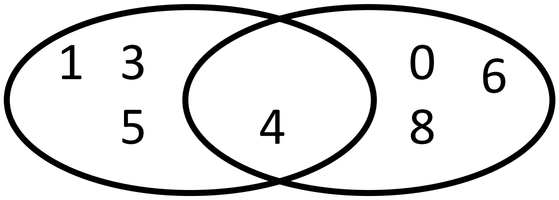
Example:

Set A = (1, 2, 3, 4, 5)

B = (0, 2, 4, 6, 8)

Note: Members of a given set only is got without common members.

A B



Find members of

(i) Set A only = $\{1, 3, 5\}$

(ii) Set B only = $\{0, 6, 8\}$

Members of set A only is represented by A – B

Members of set B only is shown as B – A.

Activity

1.Given that A={ 1, 0, 4, 2, 3 } and B= { 2, 3, 5, 7 }.

Find; a) A-B

b) B-A

2. If D= { p, q, r, s, t, u, m, v, w} and E={ k, l, m, n, o, p, q, r}

a) D-E

b) E-D

3. H={ apple, mango, orange} and G= { guava, pear, apple }

Find;

a) H-G

b) G-H.

4. M={ beans, peas, maize, millet } and N={ maize, sorghum, simsim }

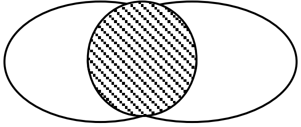
Find;

a) M-N

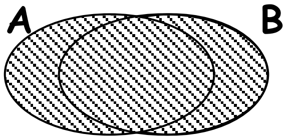
c) N-M.

SHADING VENN DIAGRAMS.

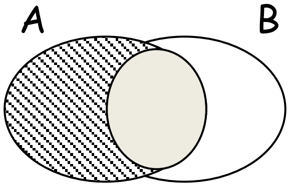
A ∩ B



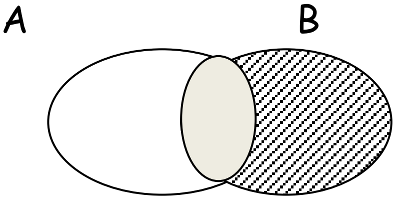
A ∪ B



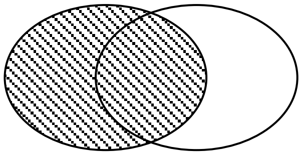
A only (A – B)



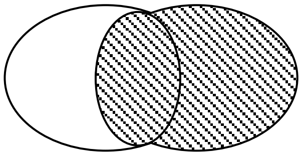
B only (B – A)



Set A



Set B



ACTIVITY:

Draw and shade these regions

(i) A but not B

(ii) A ∪ B

(iii) Set B

(iv) B – A

(v) A - B

LESSON 10:

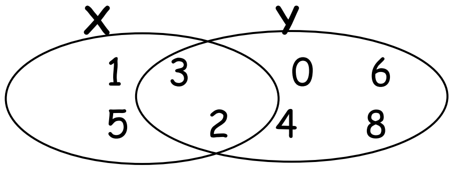
CONTENT: PUTTING SETS ON A VENN DIAGRAM

Examples:

X = (1, 2, 3, 4, 5)

Y = (0, 2, 4, 6, 8)

Represent the two sets on a venn diagram.



List members of

X only = {1, 5}

Y – X ={0, 6, 8, 4}

X∩ Y = {2, 3}

n(X∪Y)

= 8 elements

n(X∩Y)

= 2 members.

ACTIVITY

Set M = {a, b, c, d, e}
N = {a, e, i, o, u}

(a) Represent the two sets on the Venn diagram below

(b) Use your Venn diagram to answer the following:-

(i) M ∩ N

(ii) M ∪ N

(iii) N(P only)

(iv) N(Q)

(v) P - Q

(vi) n(Q – P)

(vii) n(Q only)

LESSON 11:

SUB TOPIC SUBSETS

CONTENT:

Definition

A subset is a set of members got from a given set.

An empty set is a subsetof any set

A set is a subset of itself (its called a super set).

Symbol
$\subseteq$

Symbol for not subset
$\nsubseteq$

Listing subsets

1. If A= {a, b} .Write down the subsets of A.
{ }, {a}, {b}, {a,b}

= 4 subsets.

2.Set P = {1, 2, 3}

The subsets are:;
{}, {1, 2, 3}, {1, 3}, {2, 3}, {1}, {2}, {3}, {1, 2},

= 8 subsets.

Activity

1. Write the set symbols for subsets.

2. Set B = { b, c} List down subsets in set B.

3. Write down the subsets for the following sets.

   a) K = { a, b, c}.

   b) M= { x, y}.

   c) W={ Boy, girl, Book }

TOPIC : OPERATION ON NUMBERS

SUBTOPIC: Adding up to ten thousand

Examples

1. Add: 7464 + 4425

Arrange these numbers in their place values

TH	H	T	O
7	4	6	4
+4	4	2	5
11	8	8	9

2. Add: 4622 + 5043 + 6231

TH	**H**	**T**	**O**
4	6	2	2
5	0	4	3
+ 6	2	3	1
15	8	9	6

ACTIVITY:

Add these numbers correctly.

1. 4 2 6
+ 3 4 3
____

2. 1 1 2 5
+ 7 3 2 1
____

3. 6 0 1 0
+ 4 0 8 9
____

4. 4 0 2
4 0 0 5
+ 1 2 1 0
____

5. 1 4 3 3 1
+ 2 6 5 1

6. 7 2 1 4 1
+ 1 4 1 0 3

7. 2 6 1 8 7
+ 2 2 0 1

LESSON : 24

More addition of numbers

Example:

(i) **Add:**

	TH	H	T	O
	1	3	7	8
+		5	8	9
	1	9	6	7

- Arrange numbers in their place values
- Add by regrouping all numbers (answers) that exceed 9

(ii)	TTH	TH	H	T	O
	1	4	3	3	1
+		2	6	5	1
	1	6	9	8	2

ACTIVITY:

1. 6 0 4 9
+ 4 9 6 3

3. 4 4 1 6 0
+ 5 6 9 4 9

2. 2 0 7
1 3 5
+ 6 5

4. 3 0 8 6 3
+ 2 4 6 7 8

5.
$$\begin{array}{r} 6151 \\ 879 \\ +\ 642 \\ \hline \\ \hline \end{array}$$

6.
$$\begin{array}{r} 83143 \\ +\ 13106 \\ \hline \\ \hline \end{array}$$

7.
$$\begin{array}{r} 6010 \\ +\ 4089 \\ \hline \\ \hline \end{array}$$

8.
$$\begin{array}{r} 87891 \\ +\ 4682 \\ \hline \\ \hline \end{array}$$

LESSON : 25

Addition with word problems

Example:

1. Alice carried 349 books, her brother carried 578 books. How many books were carried altogether?

Alice carried = 349 books
Her brother = 578 books
Both carried = 927 books

(2) Maria bought sugar for shs. 15,000. Soap at shs. 800 and a bunch of Matooke at shs. 3500. How much money did she spend?

Sugar	shs. 15,000
Soap	shs. 800
Matooke	Shs 3500

Total Expenditure sh. 19,300

ACTIVITY:

1. A boy counted 268 cars on Monday and 454 on the next day. How many cars did he count in the two days?
2. Amos carried 349 books. His brother carried 573 books. How many books were carried altogether?
3. Ashamba had 4784 coffee trees. If 8474 more trees were planted. How many coffee trees are there altogether?
4. The table below shows two games played by Henry and John on a computer and their scores.

	Game 1	Game 2
Henry	1438	842
John	3453	1285

i) What was Henry's total score?

ii) What was the score of Henry's first game?

5. What is the sum of sh.1 3 0 and sh. 4834?

LESSON 26

SUB TOPIC: SUBTRACTION

Examples 1:

1. 246 - 192

H	T	O
2	4	6
-1	9	2
0	5	4

- Arrange numbers vertically by their place values.
- Subtract impossible numbers by

Example 2.

2. 530 - 254

- Arrange numbers vertically in their place values.
- Subtract by borrowing.

H T O
5 3 0
-2 5 4
2 7 6

ACTIVITY:

Subtract the following.

1. 9 9 6
-3 5 6

2. 8 6 4 2
-7 1 4 2

2. 3 4 0
-3 3 0

4. 1 7 8 3
- 6 8 1

6. 8 6 4 0
- 1 4 2 2

6. 3 2 8
- 1 6

7. 5 6 7 9
-3 4 8 9

8. 8 9 4 6
-3 5 5 7

LESSON: 27

SUB TOPIC: SUBTRACTION OF LARGER NUMBERS

Example:

(i) 10246 -3118

TTH	TH	H	T	O
1	0	2	4	6
-	3	1	1	8
	7	1	2	8

(ii) 24035 - 3727

TTH	TH	H	T	O
2	4	0	3	5
-	3	7	2	7
2	0	3	0	8

Activity

Workout the following

1. 3 4 6 8 3
-3 4 6 8

2. 3 8 4 3 0
- 7 9 8 5

3. 4 2 6 8 5
-9 8 7 6

4. 5 1 3 0 7
-1 9 8 3 9

3. 4 7 3 4 2

6. 4 9 3 4 1

-1 9 8 3 9 **- 3 6 6 8 4**

8. 6 8 3 7 5
-4 3 7 8 6

8. 54,105 – 38,469.

LESSON: 28

SUB TOPIC: WORD PROBLEM INVOLVING SUBTRACTION

Example:

What is the difference between 243 and 37?

$$\begin{array}{r} 243 \\ -\ \ 37 \\ \hline 206 \\ \hline\hline \end{array}$$

(ii) Katabula had shs. 2500. He bought a book for 350.

What was his change?

Katabula had 2500
He paid - 350
His change 2150

ACTIVITY:

1. **Find the difference between 39 and 15.**
2. **Find the difference between 142 and 135.**
3. **Subtract 11 from 70.**

4. Take away 24 from 224.
5. Find the difference between 174 and 36.
6. Annet is 25 years old.Salim is 18 years old. Find the difference between their ages.
7. A library had 76,600 books,3212 were taken away. How many books remained in the library?
8. Mukiibi was given sh,27,000 by the uncle.He used sh.4500 to buy a shirt. How much money did he remain with?

LESSON: 29

TOPIC: OPERATION ON NUMBERS

SUB TOPIC MULTIPLICATION

Other words that call for multiplication are: product, times.

CONTENT: Multiplying by one digit

Example 1:

(i)
$$\begin{array}{r} 4\ 3\ 4\ 6 \\ \underline{\times \qquad 3} \\ 1\ 3\ 0\ 3\ 8 \\ \hline\hline \end{array}$$

(ii)
$$\begin{array}{r} 1 \quad 0 \\ \underline{\times \quad 2} \\ 2 \quad 0 \\ \hline\hline \end{array}$$

(iii)
$$\begin{array}{r} 4\ 3 \\ \underline{\times\ 4} \\ 1\ 7\ 2 \\ \hline\hline \end{array}$$

(iv)
$$\begin{array}{r} 1 \quad 4 \\ \underline{\times \quad 8} \\ 1\ 1\ 2 \\ \hline\hline \end{array}$$

Activity

Workout the following

a) 3 2 4
x 2

b) 8 2 6
x 3

c) 7 3 0
x 4

d) 6 2 4
x 5

e) 5 1 0
x 7

f) 9 6 3
x 7

g) 5 9 3
x 3

h) 3 3 3
x 9

i) 8 5 6
x 6

LESSON: 30

Word problems involving multiplication by one digit.

Example:

1. Juma is paid shs. 6960 a day. How much will he get if he works for 7 days.

Solution:

1 day he gets shs. 6960

7 days he gets 6 9 6 0

$$\begin{array}{r} 6\,9\,6\,0 \\ \underline{\times \quad\quad 7} \\ \underline{\underline{\text{Shs. } 4\,8\,7\,2\,0}} \end{array}$$

$\therefore$ **He gets 48, 720 in 7 days.**

ACTIVITY:

LESSON: 31

Multiplication as repeated addition

CONTENT:

Example:

(a) 4 x 2 = 2 + 2 + 2 + 2

$\underline{\underline{= \quad 8}}$

(b) 3 + 3 + 3 + 3 = 4 x 3

$\underline{\underline{= \quad 12}}$

ACTIVITY:

Use repeated addition to multiply the following:-

(i) 3 x 2

(ii) 6 x 4

(iii) 4 x 3

(iv) 5 x 3

(v) 8 x 2

Complete

a) 2 + 2 + 2 + 2 = ___________ x ________

b) 4 + 4 + 4 + 4 =____________x ________

c) 3 + 3 + 3 + 3 + 3 __________x ________

d) 8 + 8 = _______________x ________

e) 9 + 9 + 9 = ______________ x _______

Multiplication of 3digit number by a 2 digit number.

Examples

1.
$$\begin{array}{r} 232 \\ \times\ 12 \\ \hline 464 \\ +\,232 \\ \hline 2784 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 123 \\ \times\ 23 \\ \hline 369 \\ +\,246 \\ \hline 2829 \\ \hline \end{array}$$

Activity

Workout the following

1. 432 x 13.
2. 221 x 31.
3. 911 x 11.
4. 721 x 12.
5. 922 x 21.

6. **115 x 32.**
7. **821 x 22.**
8. **432 x 32.**

Multiplying a whole by 10.

Examples

1. Multiply 345 by 10.

   = 345 x 10.

   = 3450

2. Multiply 749 x 10.

   = 749 x 10

   = 7490

Activity.

Workout the following.

1. 111 x 10 .
2. 123 x 10.
3. 368 x 10.
4. 584 x 10.

5. 745 x 10.

6. 861 x 10.

7. 745 x 10.

8. 586 x 10.

Multiplying 3digit number by 100.

Examples

1. Multiply 34 by 100.

=34 x 100.

= 3400

2.Multiply 962 by 100.

= 962 x 100.

= 96200.

Activity

Workout the following;

1. 24 x 100.
2. 65 x 100.
3. 99 x 100.
4. 121 x 100.
5. 346 x 100.

6. **Nakatude made 671 pancakes and sold each of them at sh.100. How much money did she earn?**

7. **Obua bought 100 chicks at sh.815 each. Find the amount of money he paid.**

8. **There are 984 pupils in Mbuya Parents' School. If each of the pupils contributed sh.100 for the orphanage, how much money did they contribute?**

LESSON 32

SUB TOPIC: DIVISION

CONTENT: DIVISION AS REPEATED SUBTRACTION

Example

1. 12 ÷ 3 = 12 – 3 = 9
9 - 3 = 6 count the number of times you subtract 3 division from the
6 - 3 = 3 dividend until you get "o" is the answer
3 - 3 = 0 ∴12 ÷3 = 4 times

ACTIVITY :

1.21 ÷ 7=
2 .22 ÷ 11=
3 . 36 ÷ 6=
4 .18 ÷ 9=
5 . 55 ÷ 11=

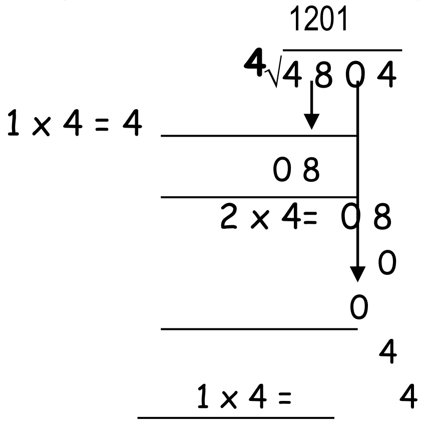
LESSON 33

TOPIC: OPERATION ON NUMBERS

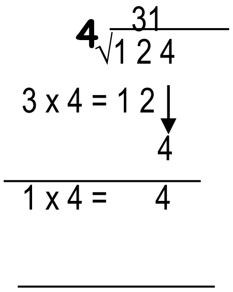
SUB TOPIC : DIVISION WITHOUT REMAINDER

CONTENT:

Example 1: Divide 4804 by 4.


1201
4√4 8 0 4
1 x 4 = 4
0 8
2 x 4= 0 8
0
0
4
1 x 4 = 4

Example 2:124 ÷ 4


31
4√1 2 4
3 x 4 = 1 2
4
1 x 4 = 4

ACTIVITY:

Workout the following.

1. 1648 ÷ 4=
2. 2136 ÷ 3=
3. 6324 ÷ 6=
4. 5124 ÷ 7=
5. 9215 ÷ 5=

LESSON 34

SUBTOPIC : WORD PROBLEMS INVOLVING DIVISION WITHOUT REMAINDERS

CONTENT : Examples

1. There are 120 oranges in 2 bags. How many oranges are in each bag?

Divide

Example 1:

060
2√1 2 0
0 x 2 = 0
1 2
6 x 2 = 1 2
0
0 x 2 = - 0

Each bag has 60 oranges

Example 2

Divide 246 text books among 3 classes

082
3√2 4 6
0 x 3 = 0
2 4
8 x 3 = 2 4
6
2 x 3 = 6

Each gets 82 books.

ACTIVITY:

Workout:

1.7951 ÷ 8=
2.9152 ÷ 9=
3.5623 ÷ 7=
4.5731 ÷ 6=

5. 1804 ÷ 3=

LESSON 35

SUB TOPIC : DIVISION WITH REMAINDERS

CONTENT: Examples

Example : Divide 38148 by 5.

07629
5√3 8 1 4 8
1 x 3 = 0
3 8
2 x 4 = 0 8
3 8
7 x 5 = 3 5
31
6 x 5 = 3 0
1 4
2 x 5 = 1 0
4 8
9 x 5 = 4 5
3

∴ 38148 ÷ 5 = 7629 rem 3

ACTIVITY:

Divide the following:-

1. **1516 by 5 =**
2. **2425 by 3 =**
3. **1212 by 5 =**
4. **135 by 2 =**
5. **215 by 4 =**

LESSON :36

SUB-TOPIC: DIVISION BY 10

Example:

(i) 650 ÷ 10

$= \frac{65\cancel{0}}{1\cancel{0}}$

$\therefore$ 650 ÷ 10 = 65.

(ii) 420 ÷ 10

$= \frac{420}{10}$

$\therefore$ 420 ÷ 10 = 42.

ACTIVITY :

(i) 200 ÷ 10 =

(ii) 370 ÷ 10 =

(iii) 810 ÷ 10 =

(iv) 340 ÷ 10 =

(v) 640 ÷ 10 =

(vi) 280 ÷ 10 =

(vii) 480 ÷ 10 =

(viii) 560 ÷ 10 =

TERM 2

FRACTIONS

A fraction is a part of a whole.

The bottom part of the fraction is a denominator.

The top part of a fraction is a numerator.

Types of Fraction

1. Proper fraction.
2. Improper fractions.
3. Mixed fraction.
4. Equivalent fractions.

Definition

1.Proper fractions.

- This is the type of fraction where the numerator is smaller than the denominator. $\frac{2}{7}$, $\frac{3}{9}$,etc.

2 .Improper fraction.

-this is the type of fraction where the numerator is greater than the denominator eg. $\frac{9}{4}$, $\frac{10}{4}$, $\frac{15}{2}$,etc

3.Mixed fractions.

-This the fraction having both a whole and a proper fraction e.g $2\frac{1}{3}$, $4\frac{3}{4}$, $3\frac{1}{2}$ etc.

4.Equivalent fractions.

-Is a fraction which is equal to another when simplified in its lowest term.

Writing and reading of fractions.

We begin with a numerator to read or write fractions in words using out of e.g $\frac{3}{4}$ three out of four or three quarters.

ACTIVITY

1.___ is a type of fraction where the top number is smaller than bottom number.

2. Mixed number is a type of fraction with both_____and _____.

3. What is an improper?

4.What do we call the top number of a fraction?

5. A type of fraction where the largest term may be expressed in its lowest term is called_______.

6.Write down three examples of a proper fraction.

i) ________

ii) _______

iii) _______

7.Write four examples of improper fractions.

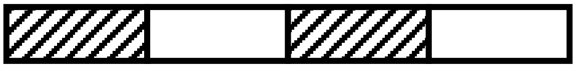
TOPIC: FRACTIONS

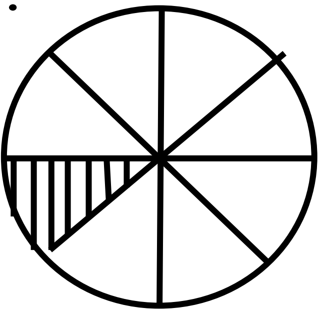
SUBTOPIC ; Naming the shaded fractions.

Content.

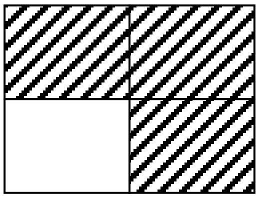
Examples

Name the shaded fractions.

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

2.  = $\frac{1}{8}$

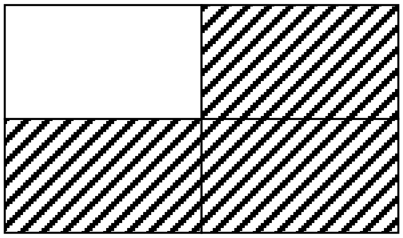
3. What fraction is unshaded?

 = $\frac{1}{4}$

Activity

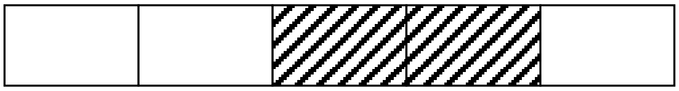
1. What fraction is unshaded?

1.



=

2.



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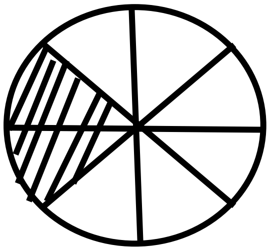
2.



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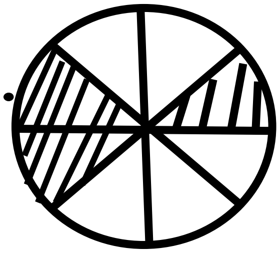
4.



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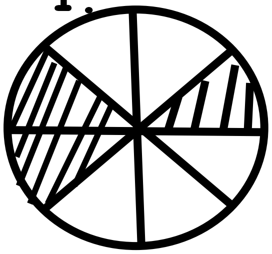
What fraction is shaded?

1.



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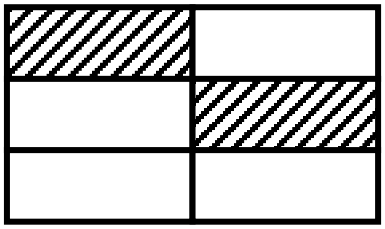
2.



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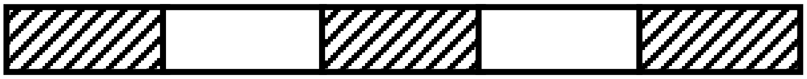
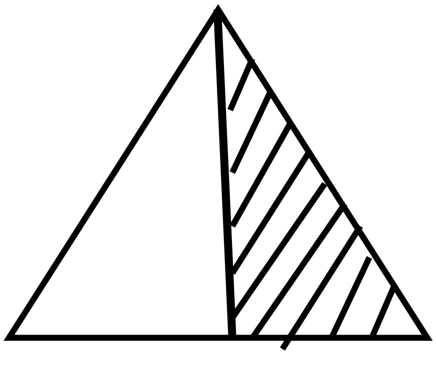
3



=.

3. =



SUBTOPIC; COMMON FRACTIONS.

CONTENT; changing a mixed fraction to an improper fraction.

Examples

$$I = \frac{(D \text{ X } W) + N}{D}$$

1. Write $4\frac{2}{3}$ as an improper fraction.

$$I = \frac{(D \text{ X } W) + N}{D}$$

$$I = \frac{(3 \text{ X } 4) + 2}{3}$$

$$I = \frac{12 + 2}{3}$$

$$I = \underline{\underline{\frac{14}{3}}}$$

2. Change $5\frac{1}{2}$ to an improper fraction.

$$I = \frac{(D \text{ X } W) + N}{D}$$

$$I = \frac{(2 \text{ X } 5) + 1}{2}$$

$$I = \frac{10 + 1}{2}$$

$$I = \underline{\underline{\frac{11}{2}}}$$

Activity

1. Change $3\frac{1}{2}$ to an improper fraction.
2. Write $7\frac{3}{5}$ as an improper fraction.
3. Express $3\frac{2}{5}$ as an improper fraction.
4. Change $2\frac{1}{4}$ to an improper fraction.
5. Convert $9\frac{2}{4}$ to an improper fraction.
6. Write $6\frac{2}{5}$ as an improper fraction.

SUBTOPIC; COMMON FRACTION.

CONTENT; converting an improper fraction to a mixed fraction.

Examples

1. Change $\frac{9}{4}$ into a mixed fraction.

$$\begin{array}{rl} & \;2 \\ 4 & \overline{)\,9} \\ 2 \times 4 \quad = & \underline{\;-8\;} \\ & \;1 \end{array}$$

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

2. **Write $\frac{17}{3}$ as a mixed number.**

$$\begin{array}{r|l} & 5 \\ \hline 3 & 17 \end{array}$$

3 x 5 = -15

2

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

Activity

Change the following to a mixed fraction.

a) $\frac{10}{3}$

b) $\frac{13}{2}$

$c)$ $\frac{15}{4}$

d) $\frac{29}{5}$

e) $\frac{27}{4}$

f) $\frac{30}{7}$

SUBTOPIC; COMMON FRACTION.

CONTENT; Forming Equivalent fractions.

Examples

1. Find the next equivalent fractions $\frac{2}{3}$?

$= \frac{3}{4} \begin{matrix} \times & 2 \\ \times & 2 \end{matrix} = \frac{6}{8}$

2. What are the next two equivalent to $\frac{3}{4}$?

$\frac{3}{4} = \left(\frac{3\,x2}{4x2} \right) \quad \left(\frac{3x3}{4x3} \right)$

$= \frac{6}{8} \quad , \quad \frac{9}{12}$

Activity

1.Find the next equivalent fraction.

a) $\frac{2}{3}$

d) $\frac{4}{5}$

b) $\frac{7}{9}$

e) $\frac{5}{6}$

c) $\frac{3}{5}$

f) $\frac{12}{17}$

2.Find the missing equivalent fraction in the given sequence.

a) $\frac{2}{5}$,___, $\frac{6}{15}$,___,$\frac{10}{25}$

b) $\frac{3}{7}$,$\frac{6}{14}$, ___.

3. What are the next two equivalent fractions.

a) $\frac{3}{10}$

b) $\frac{7}{9}$

SUBTOPIC; COMMON FRACTIONS.

CONTENT; Finding the missing number.

Examples.

1. $\frac{1}{4} = \frac{\square}{8}$

$4 \times \square = 1 \times 8$

$\frac{4\square}{4} = \frac{8}{4}$

$\square = 2$

2. $\frac{3}{10} = \frac{6}{\square}$

$3 \times \square = 10 \times 6$

$\frac{3\square}{3} = \frac{60}{3}$

$\square = 20$

2. $\frac{1}{4} = \frac{y}{12}$

$4 \times y = 1 \times 12$

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

$Y = 3$

Trial number.

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

Activity

Find the missing number.

1. $\frac{2}{3} = \frac{\square}{6}$
2. $\frac{3}{5} = \frac{m}{10}$
3. $\frac{2}{5} = \frac{4}{\square}$
4. $\frac{1}{2} = \frac{5}{x}$
5. $\frac{1}{3} = \frac{w}{9}$
6. $\frac{1}{4} = \frac{\square}{12}$
7. $\frac{1}{2} = \frac{t}{6}$
8. $\frac{1}{4} = \frac{7}{y}$

SUBTOPIC; COMMON FRACTION.

CONTENT; Reducing fractions.

Example

1. Reduce $\frac{3}{9}$ to its lowest terms. Using G.C.F.

$$\frac{3}{9} = \frac{3}{9} \begin{matrix} \div 3 \\ \div 3 \end{matrix} = \frac{1}{3}$$

---

2. Reduce $\frac{8}{16}$ to the lowest term. Using G.C.F.

$$\frac{8}{16} \begin{matrix} \div 8 \\ \div 8 \end{matrix} = \frac{1}{2}.$$

---

3. Reduce $\frac{5}{10}$ to the lowest term. Using G.C.F.

$$\frac{5}{10} \begin{matrix} \div 5 \\ \div 5 \end{matrix} = \frac{1}{2}$$

Trial number

Reduce $\frac{2}{8}$ to its lowest terms.

ACTIVITY

Reduce the following to the lowest terms.

1. $\frac{2}{6}$
2. $\frac{10}{15}$
3. $\frac{2}{12}$
4. $\frac{15}{18}$
5. $\frac{2}{16}$
6. $\frac{3}{6}$
7. $\frac{3}{18}$
8. $\frac{9}{18}$
9. $\frac{4}{20}$
10. $\frac{7}{14}$

SUBTOPIC; COMMON FRACTIONS.

CONTENT; Comparing fractions of the same denominator. Using $<$, $>$ or $=$.

Examples

Use the correct symbol to complete $<$, $>$ or =

a) $\frac{3}{4} > \frac{1}{4}$

b) $\frac{4}{6} < \frac{5}{6}$

c) $\frac{6}{9} > \frac{5}{9}$

Activity

1. $\frac{7}{11}$ ____________ $\frac{5}{11}$
2. $\frac{4}{9}$ ____________ $\frac{6}{9}$
3. $\frac{8}{10}$ ____________ $\frac{3}{10}$
4. $\frac{7}{15}$ ____________ $\frac{7}{15}$
5. $\frac{8}{12}$ ____________ $\frac{9}{12}$
6. $\frac{1}{9}$ ____________ $\frac{5}{9}$
7. $\frac{4}{6}$ ____________ $\frac{1}{6}$
8. $\frac{3}{8}$ ____________ $\frac{4}{8}$

SUBTOPIC ; COMMON FRACTIONS.

CONTENT ; Comparing fractions of different denominators.

Examples

Compare $\frac{1}{3}$ and $\frac{1}{2}$ using equivalent fractions

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

$\frac{1}{2} = \frac{2}{4} = \enclose{circle}{\frac{3}{6}}$

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

Compare the following fractions using $<$, $>$ or =.

1. $\frac{1}{4}$ and $\frac{1}{2}$
2. $\frac{5}{6}$ and $\frac{3}{8}$
3. $\frac{1}{2}$ and $\frac{2}{3}$
4. $\frac{5}{8}$ and $\frac{7}{12}$
5. $\frac{1}{3}$ and $\frac{5}{8}$
6. $\frac{1}{4}$ and $\frac{1}{6}$
7. $\frac{2}{3}$ and $\frac{1}{6}$
8. $\frac{2}{4}$ and $\frac{1}{2}$

SUBTOPIC ; COMMON FRACTIONS.

CONTENT ; Addition of fractions with the same denominator.

Examples

1.Add; $\frac{1}{5} + \frac{2}{5}$

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

$= \frac{3}{5}$

2. Ashraf used $\frac{6}{10}$ of the water in the tank on Sunday and $\frac{2}{10}$ on Monday. What fraction of water did he use in two days?

$= \frac{6}{10} + \frac{2}{10}$

$= \frac{6 + 2}{10}$

$= \frac{8}{10}$

Activity

Add the following.

1. $\frac{10}{19} + \frac{4}{19} =$

2. $\frac{8}{15} + \frac{4}{15} =$

2. $\frac{5}{9} + \frac{2}{9} =$

4. $\frac{9}{23} + \frac{11}{23} =$

5. $\frac{11}{17} + \frac{3}{17} =$

6. Sandra washed $\frac{4}{7}$ of her clothes in the morning and $\frac{2}{7}$ in the afternoon. What fraction of clothes did she wash in the morning and afternoon?

7. John ate $\frac{2}{9}$ of the apple in the morning $\frac{6}{9}$ of it in the evening. What fraction was eaten altogether?

8. Matovu sold $\frac{4}{10}$ of his land in April and $\frac{3}{10}$ in June .what fraction of land did he sell altogether?

SUBTOPIC; COMMON FRACTION.

CONTENT; Subtraction of fractions with the same denominators.

Examples

1. Subtract ; $\frac{5}{6} - \frac{1}{6}$

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

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

2. I read $\frac{2}{5}$ of mathematics books. What fraction was left?

Whole fraction = $\frac{5}{5}$.

I read = $\frac{2}{5}$.

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

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

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

Activity

Subtract correctly.

1. $\frac{3}{5} - \frac{1}{5} =$ 2. $\frac{7}{12} - \frac{2}{12} =$ 3. . $\frac{9}{13} - \frac{5}{13} =$

4. $\frac{3}{7} - \frac{2}{7} =$ 5. $\frac{4}{6} - \frac{2}{6} =$ 6. $\frac{7}{9} - \frac{2}{9} =$

7. Subtract; $\frac{2}{7}$ from $\frac{5}{7}$.

9. Find the difference between $\frac{7}{11}$ and $\frac{5}{11}$.

10. What remains if $\frac{7}{15}$ is subtracted from $\frac{13}{15}$?

SUBTOPIC; COMMON FRACTIONS.

CONTENT; Addition of mixed fraction with the same denominator.

Examples

1. Add; $1\frac{1}{4} + 4\frac{1}{4} =$

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

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

$$\underline{\underline{= 5\frac{2}{4}}}$$

3. Add ; $2\frac{1}{7} + 3\frac{5}{7}$ Trial number.

$= 2 + 3 + \frac{1}{7} + \frac{5}{7}$ workout; $3\frac{1}{5} + 4\frac{2}{5} =$

$= 5 + \frac{1 + 5}{7}$

$$\underline{\underline{= 5\frac{6}{7}}}$$

Activity

Workout the following.

1. $2\frac{3}{4} + 1\frac{1}{4} =$
2. $4\frac{2}{5} + 1\frac{1}{5} =$
3. $2\frac{2}{4} + 3\frac{1}{4} =$
4. $3\frac{1}{3} + 4\frac{1}{3} =$
5. $2\frac{2}{3} + 1\frac{1}{3} =$
6. $8\frac{4}{7} + 1\frac{2}{7} =$

SUBTOPIC ; COMMON FRACTION.

CONTENT; Subtraction of mixed fraction with the same denominator.

Example.

1. Subtract ; $4\frac{3}{5} - 2\frac{1}{5} =$

$$= 4 - 2 + \frac{3}{5} - \frac{1}{5}.$$

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

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

2. Subtract; $6\frac{5}{7} - 2\frac{1}{7} =$

$$= 6 - 2 + \frac{5}{7} - \frac{1}{7}$$

$$= 4 + \frac{5-1}{7}$$

$$= \underline{\underline{4\frac{4}{7}}}$$

Workout the following fractions.

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

6. $6\frac{3}{5} - 3\frac{1}{5} =$

7. $4\frac{2}{3} - 1\frac{1}{3} =$

8. $5\frac{5}{17} - 3\frac{4}{17} =$

SUBTOPIC; COMMON FRACTIONS.

CONTENT ; Addition of fraction of different denominators / when adding fractions.

Examples

1. Add ; $\frac{1}{2} + \frac{1}{3} =$

Equivalent fractions.

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

$$\frac{1}{3} = \boxed{\frac{2}{6}} = \frac{3}{9}$$

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

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

$$\underline{\underline{= \frac{5}{6}}}$$

2. Workout ; $\frac{2}{3} + \frac{1}{4} =$

$\frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \boxed{\frac{8}{12}} = \frac{10}{15}$

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

$= \frac{8}{12} + \frac{3}{12}$

$= \frac{8 + 3}{12}$

$= \frac{11}{12}$

Activity

Workout correctly.

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

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

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

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

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

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

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

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

SUBTOPIC ; COMMON FRACTIONS .

CONTENT ; Subtraction of fraction with different denominators.

Examples.

1. Subtraction ; $\frac{3}{4} - \frac{2}{3} =$

$\frac{3}{4} = \frac{6}{8} = \boxed{\frac{9}{12}} = \frac{12}{16} = \frac{15}{20}$

$\frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \boxed{\frac{8}{12}}$

$= \frac{9}{12} - \frac{8}{12}$

$= \frac{9 - 8}{12}$

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

Activity

Subtract the following.

1. $\frac{2}{3} - \frac{1}{2} =$
2. $\frac{3}{4} - \frac{2}{5} =$
3. $\frac{6}{7} - \frac{4}{5} =$
4. $\frac{5}{6} - \frac{3}{4} =$

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

6. $\frac{3}{4} - \frac{2}{3} =$

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

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

SUBTOPIC ; COMMON FRACTIONS.

CONTENT ; Multiplication of fractions.

Examples.

1. What is $\frac{1}{2}$ of 6.

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

$= (1 \times 6) \div 2.$

$= 6 \div 2.$

$\underline{\underline{= 3}}$

2. Workout: $\frac{2}{3}$ of 6. Trial number.

$= \frac{2}{3} \times 6.$ What is $\frac{1}{2}$ of 10.

$= (2 \times 6) \div 3.$

$= 12 \div 3.$

$\underline{\underline{= 4}}$

Activity

Multiply the following fractions.

1. $\frac{1}{5}$ of 10=
2. $\frac{2}{3}$ of 90=
3. $\frac{3}{4}$ of 12=
4. $\frac{2}{5}$ of 10=
5. $\frac{1}{7}$ of 21=
6. $\frac{4}{5}$ of 20=
7. $\frac{1}{2}$ of 16=
8. $\frac{1}{6}$ of 24=
9. $\frac{2}{3}$ of 30=
10. $\frac{1}{3}$ of 60=

SUBTOPIC ; COMMON FRACTIONS.

CONTENT ; Multiplication of a fractions by a fraction.

Formulae = $\frac{n \times n}{d \times d}$

Examples

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

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

$= \frac{2}{12}$

2. Multiply; $\frac{1}{4} \times \frac{1}{5}$

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

$= \frac{1}{20}$

Activity

Multiply the following fractions.

1. $\frac{1}{2} \times \frac{1}{2} =$
2. $\frac{2}{3} \times \frac{2}{4} =$
3. $\frac{1}{10} \times \frac{2}{20} =$
4. $\frac{1}{10} \times \frac{2}{4} =$

5. $\frac{2}{7} \times \frac{3}{4} =$

6. $\frac{3}{4} \times \frac{2}{7} =$

7. $\frac{4}{6} \times \frac{2}{4} =$

8. $\frac{2}{5} \times \frac{3}{4} =$

SUBTOPIC ; COMMON FRACTIONS.

CONTENT ; Application of fractions.

Examples.

In primary four class there are 50 pupils ,$\frac{1}{2}$ of them are girls.

a) What fraction are boys?

Fractions of boys.

Total fraction = $\frac{2}{2}$

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

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

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

b) How many boys are there?

Number of boys.

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

Total = 60.

Therefore = $\frac{1}{2}$ of 60.

$$=\frac{1}{\underset{1}{\cancel{2}}} \times \overset{30}{\cancel{60}}.$$

$$=\underline{\underline{30 \text{ boys.}}}$$

c) How many girls are in the school?

Number of girls.

Total = 60

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

= $\frac{1}{2}$ of 60.

$$=\frac{1}{\underset{1}{\cancel{2}}} \times \overset{30}{\cancel{60}}.$$

$$= \underline{\underline{30 \text{ girls}}}.$$

Activity

Solve these;

1. In primary four class there are 50 pupils , $\frac{1}{5}$ of them are boys and the rest are girls.
   a) What fraction are girls?
   b) How many girls are there than boys?
   c) How many boys are there?
2. There are 22 pens in the box. $\frac{1}{2}$ Of them are red. What fraction are the remaining pens?
3. $\frac{1}{3}$ of 120 animals are goats. How many animals are cows?
   a) What fraction are cows?
   b) How many cows are there?
   c) How many more cows than goats are there?

TOPIC; GEOMETRY

SUBTOPIC; LINES, ANGLES AND GEOMETRIC FIGURES.

CONTENT ; Drawing and measuring line segments.

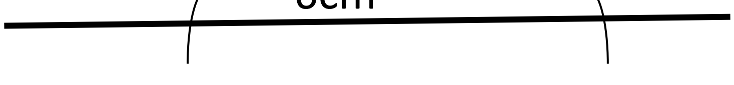
-A line segment is a line with two end points.

Examples.

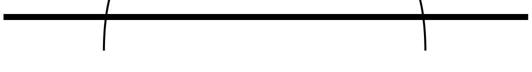
Draw a line segment PQ = 6cm

Steps taken

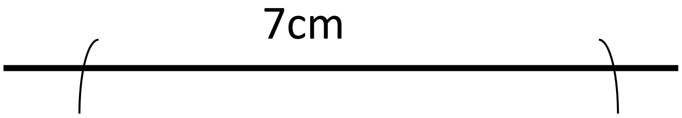
1. Draw a line.
2. Measure the length from the ruler using a pair of compasses.
3. Place the pair of compasses on the line and mark off arcs.
4. Label both arcs.



2.Draw line segment MN = 4cm



3. Draw a line segment of 7cm.



Activity

1. Draw the following line segments.

a) AB =8cm b) MN = 9cm.

c) PQ = 3cm d) TN = 5cm.

e) 10cm.

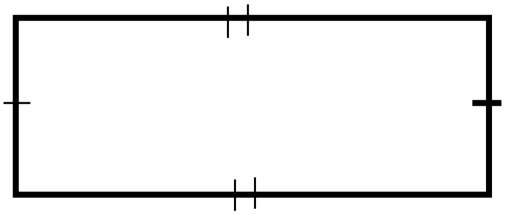
SUBTOPIC; 2-DIMENTION FIGURES.

CONTENT: Drawing and naming shapes.

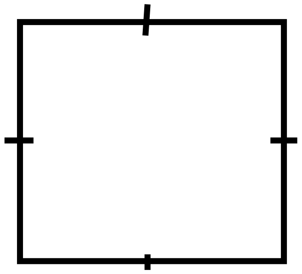
These are plane shapes because they have both length and width.

Example

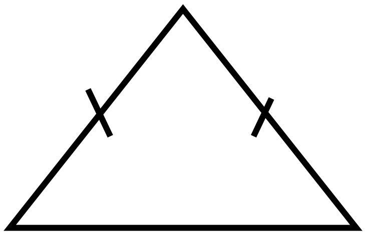
Rectangle.



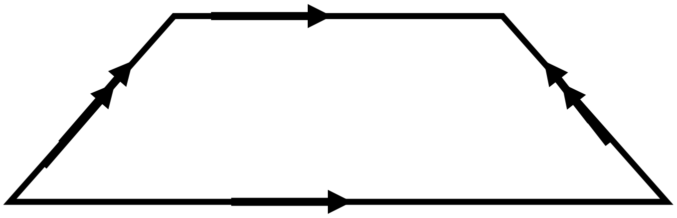
Square



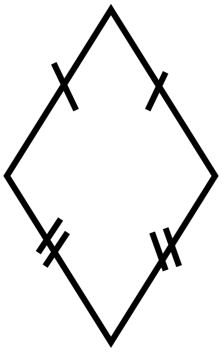
Triangle



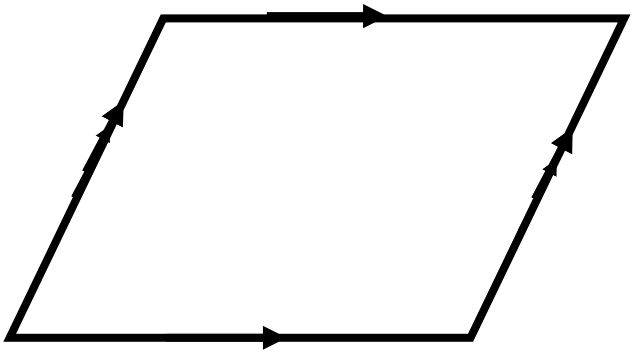
Trapezium



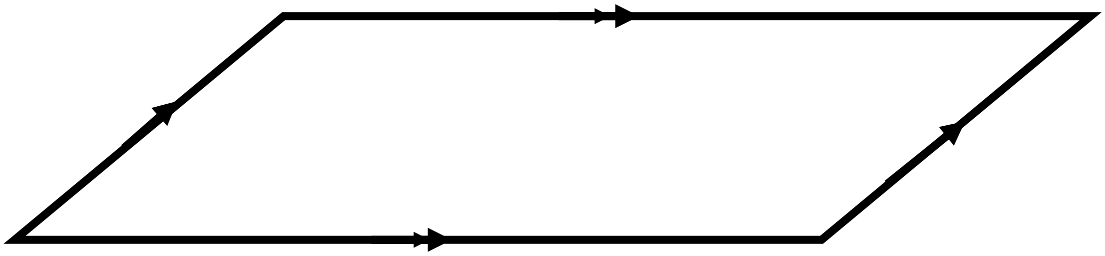
Kite



Rhombus

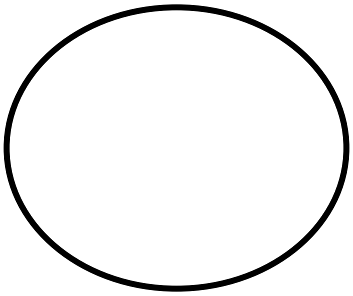


Paralellogram

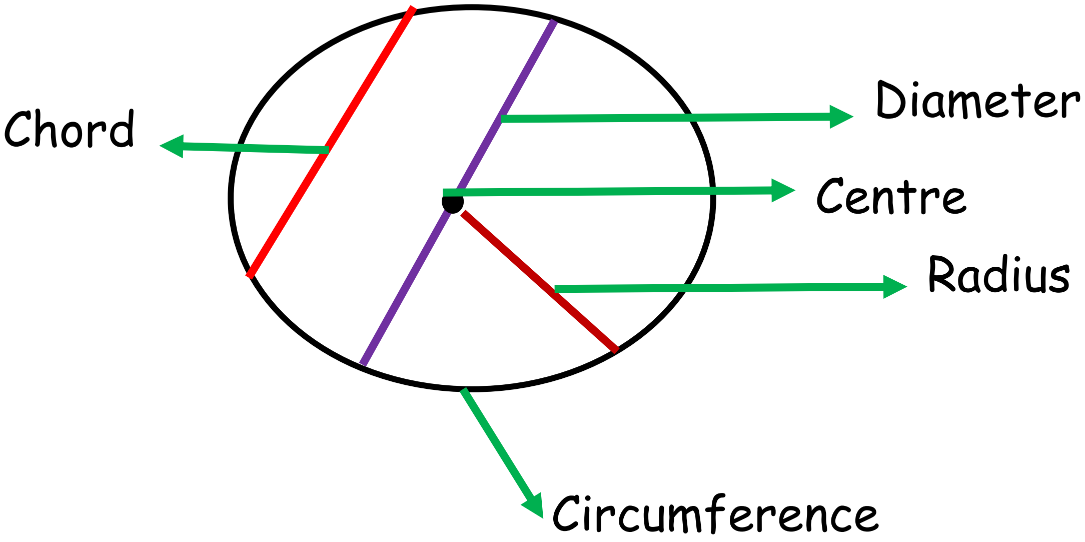


SUBTIOPIC; 2-DIMENTION FIGURES.

CONTENT; Circles.

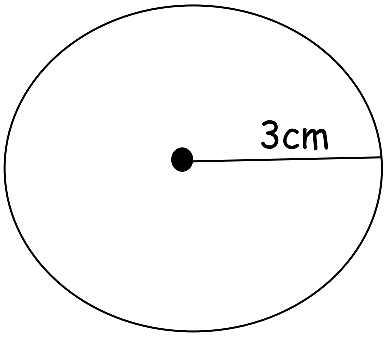


Parts of a circle.


Chord
Diameter
Centre
Radius
Circumference

Drawing circles using the given radius.

a) Draw a circle of radius 3cm.



Activity

Use the following radius to construct the circle.

a) 4cm b) 6cm

d) 5cm d) 3.5cm

e) 2cm.

SUBTOPIC; 2-DIMENTIONAL FIGURES.

CONTENT; Finding diameter and radius.

Example

Radius	2cm	6cm	7cm	9cm	10cm	13cm
Diameter	4cm	12cm	14cm	19cm	___	___

Diameter = r + r.

= 6cm + 6cm.

= 12cm.

Diameter = r + r.

= 7cm + 7cm.

= 14cm.

Diameter = r + r. Diameter = r + r.

= 9cm + 9cm. = 10cm + 10cm.

$\underline{\underline{= 18\text{cm.}}}$ $\underline{\underline{= 20\text{cm}}}$

Activity

Find the diameter given the following radius.

a) 5cm b) 12cm.
b) 6cm. d) 15cm.
c) 13cm f) 16cm

SUBTOPIC: 2-DIMENTION.

CONTENT; Finding radius given the diameter.

Examples

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

Find the radius of a circle with radius 12cm.

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

$= \frac{\overset{6}{\cancel{12}}}{\cancel{2}}$

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

Activity

Find the radius given the following diameter.

a) 8cm b) 10cm

c) 24cm d) 40cm

e) 44cm f) 70cm

g) 50cm h) 30cm

SUBTOPIC; 2-DIMENTION FIGURES.

CONTENT; Drawing and measuring angles.

- We use a protractor to measure and draw angles.
- It has the inner and the outer scale.

Examples

1. 50^0
2. 65^0
3. 35^0
4. 80^0
5. 95^0

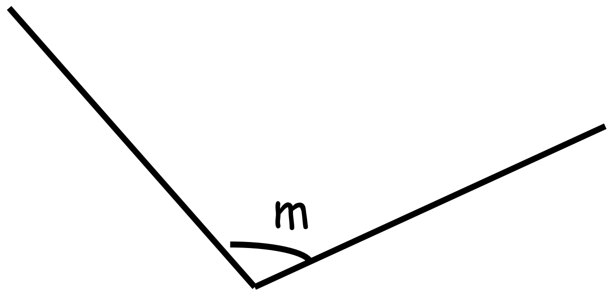
Activity

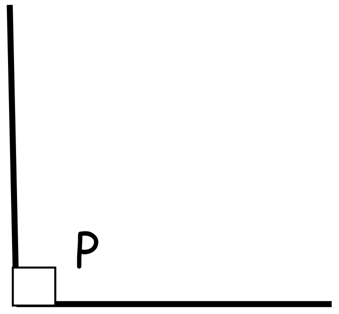
Draw the following angles using a protractor.

1. 55^0 2. 75^0
2. 83^0 4. 90^0
3. 125^0 6. 100^0

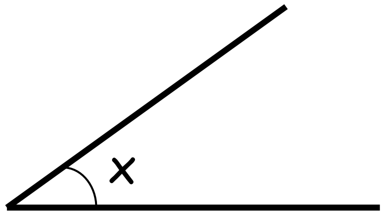
Measure the following angles.

1.





2.



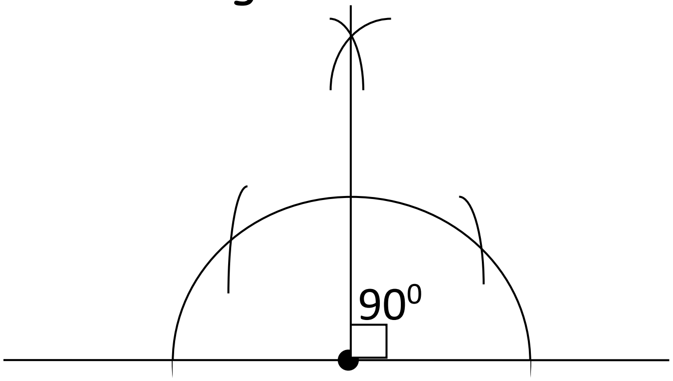
SUBTOPIC; 2-DIMENTIONAL FIGURES.

CONTENT; Constructing angles of 90^0 and 60^0.

Constructing an angle of 90^0.

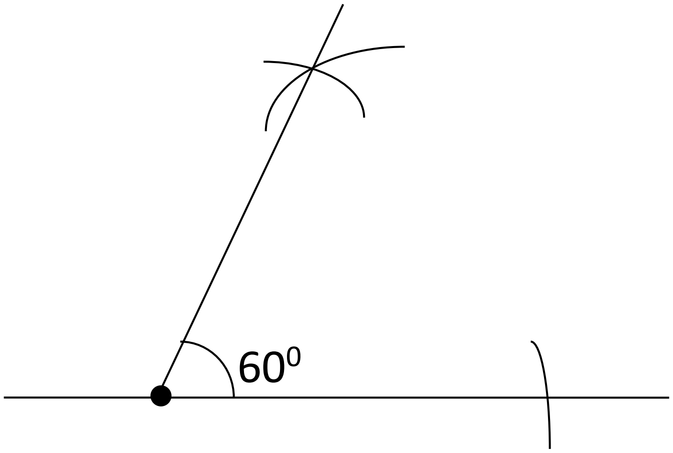
Steps taken

1. Using a ruler and a pencil,draw a straight line.
2. Mark a centre on the horizontal line.
3. Basing on the centre, draw a semi-circle on it mark two arcs intersecting either sides of the line.
4. Use the two points of intersection of the arcs and the line to draw two intersecting arcs above the straight line.
5. Connect the point to the intersection of the arcs to the center of the line.
6. Each smaller angle formed measures 90^0.



Contracting angle of 60^0 using a compass.

1. Draw a horizontal straight line and mark off its centre.
2. Draw a big arc interesting one side / either side of the line, basing at the centre.
3. Use the new point of intersection of the line and the arc to draw another smaller arc to intersect the first one.
4. Connect the points of intersection of the arcs to the centre of the straight line.



Activity

1.Using a ruler , a pair of compasses and a pencil only, Construct the following angles.

a) 90^0

b) 60^0

SUBTOPIC ; 2-DIMENTIONAL FIGURES.

CONTENT; Drawing squares.

When drawing ,we use a protractor, ruler and a sharp pencil.

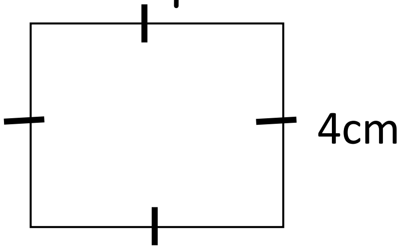
Steps taken.

1. Draw a well labeled sketch.
2. Measure the length accurately.
3. Label the two points correctly.
4. Draw an angle of 90^0 at each point using a protractor.
5. Mark off the same length from each point.
6. Join the four points and label them to form a square and label correctly.

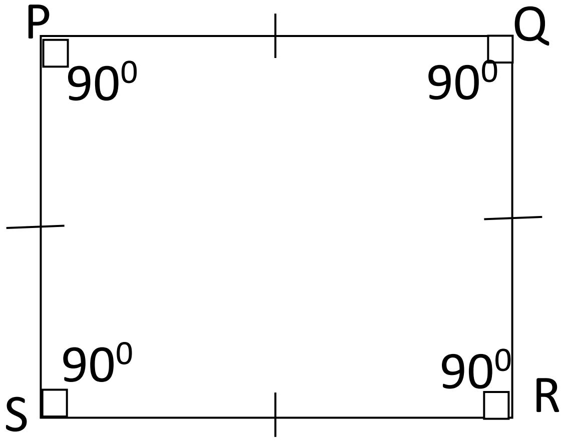
Example

Draw a square PQRS with length 4cm using aruler, a pencil and a protractor.

Sketch



Accurate diagram



Activity.

1. Draw a square ABCD with length of 6cm using a ruler, a pencil and a protractor.
2. Draw a square PQRS with side length of 7cm using a ruler, a pencil and a protractor.
3. Use a ruler, a pencil and a protractor to draw a square side length 3cm.

SUBTOPIC; 2-DIMENTION FIGURES.

CONTENT; Drawing a rectangle using a protractor.

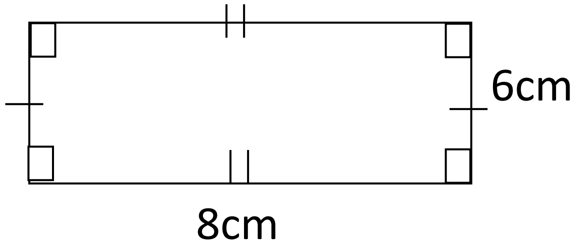
1. Draw a well labeled sketch.
2. Draw a straight line.
3. Use a ruler and measure the given length.

4. Label the two points respectively.
5. Draw an angle of 90^0 at each point.
6. Using a ruler, measure the width and mark it off.
7. Join the points using a ruler to form a rectangle and label it correctly.

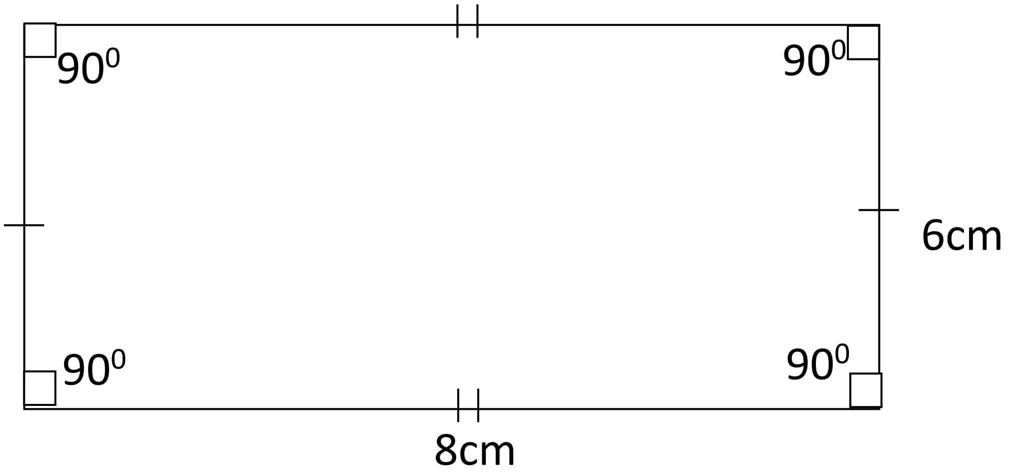
Examples

With the help of a ruler, a protractor and a pencil, draw a rectangle ABCD in which line AB = 8cm and line BC = 6cm.

Sketch



Accurate diagram



Activity

1. Using a ruler, pencil and a protractor draw a rectangle ABCD where AB=7cm and BC=3cm.

SUBTOPIC; 2-DIMENTIONAL FIGURES.

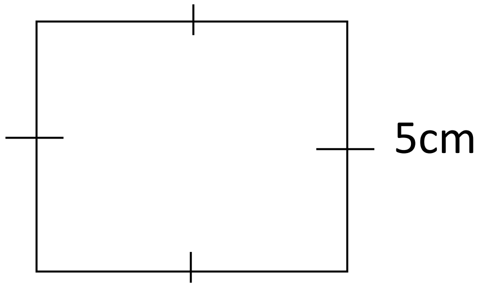
CONTENT; constructing squares.

Example.

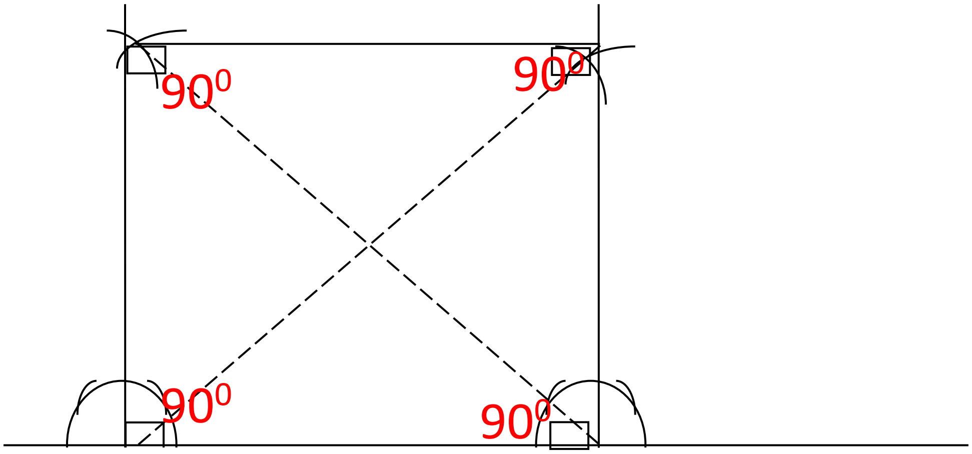
Using a pair of compasses, ruler and pencil only.

Construct a square PQRS of side 5cm.

Sketch.



Accurate diagram



Activity;

Using a ruler, pencil and a pair of compasses construct a square.

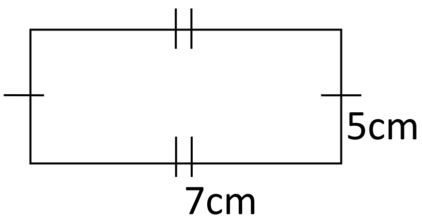
SUBTOPIC; 2-DIMENTIONAL FIGURES.

CONTENT; constructing rectangle.

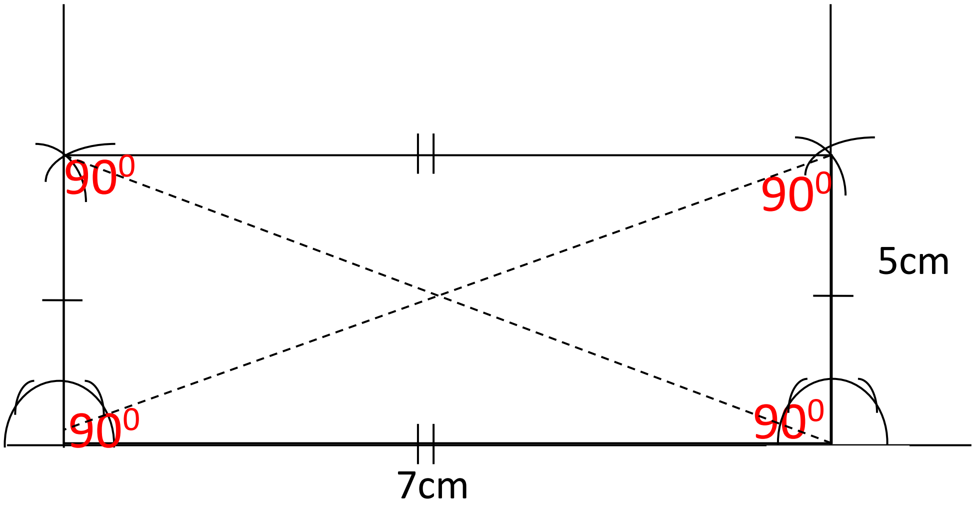
Example

Using a pair of compass, ruler and pencil, ruler and pencil only. Construct a rectangle of length 7cm and 5cm.

sketch



Accurate diagram



Activity.

Using a ruler, pencil and a pair of compasses construct a rectangle ABCD where AB = 8cm and BC= 4cm.

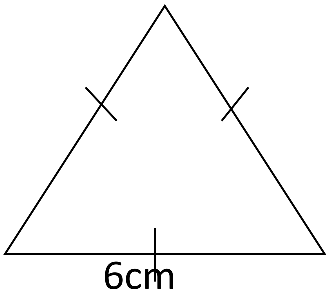
SUBTOPIC; 2-DIMENTIONAL FIGURES.

CONTENT; constructing an equilateral triangle.

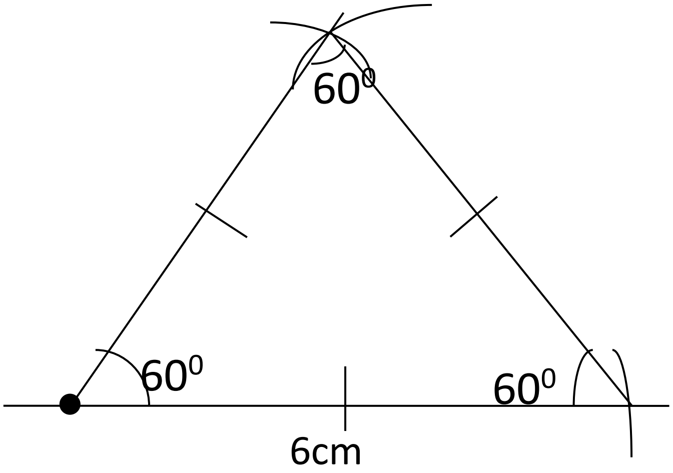
Example

Using a pair of compasses, pencil and a ruler only. Construct an equilateral triangle of sides 6cm.

sketch



Accurate diagram


60^0
60^0
60^0
6cm

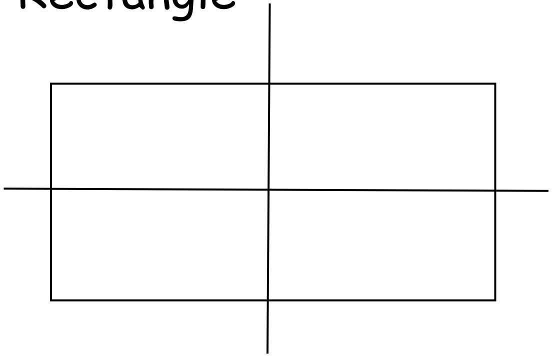
Accurate diagram

Using a pair of compasses, ruler and a pencil only, construct an equilateral triangle of sides 4cm.

SUBTOPIC; 2-DIMENTIONAL FIGURES.

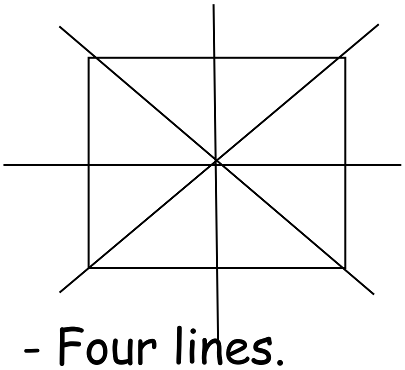
CONTENT; Lines of folding symmetry.

Rectangle



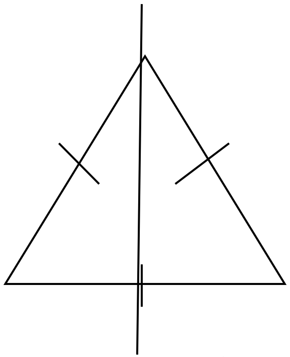
-Two lines.

square



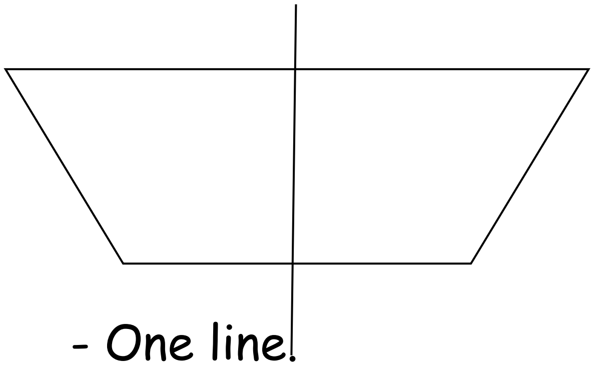
- Four lines.

Equilateral triangle



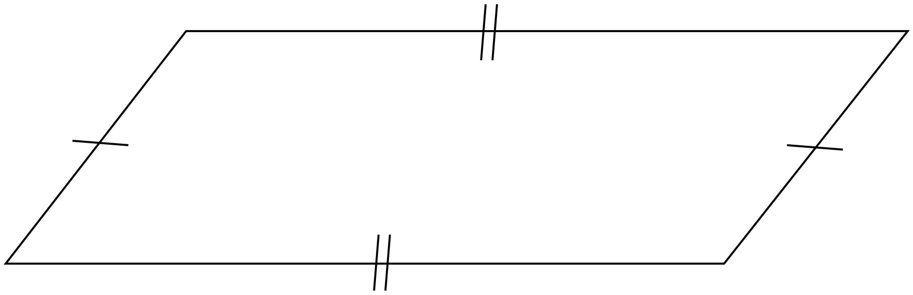
-Three lines.

Trapezium



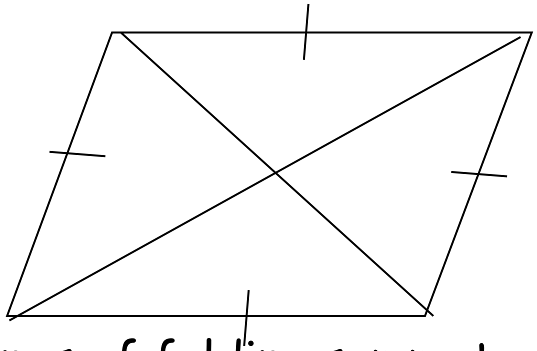
- One line.

Parallelogram



-No line of symmetry.

Rhombus



- Two lines of folding symmetry.

Activity

Draw these shapes and show the lines of symmetry.

1. Isosceles triangle.
2. Rectangle.
3. Square.
4. Trapezium.
5. Rhombus.
6. Parallelogram.

TOPIC 11: 3-DIMENTIONAL FIGURES>

SUBTOPIC; 3-DIMENTIONAL FIGURES.

CONTENT; SOLID OBJECTS.

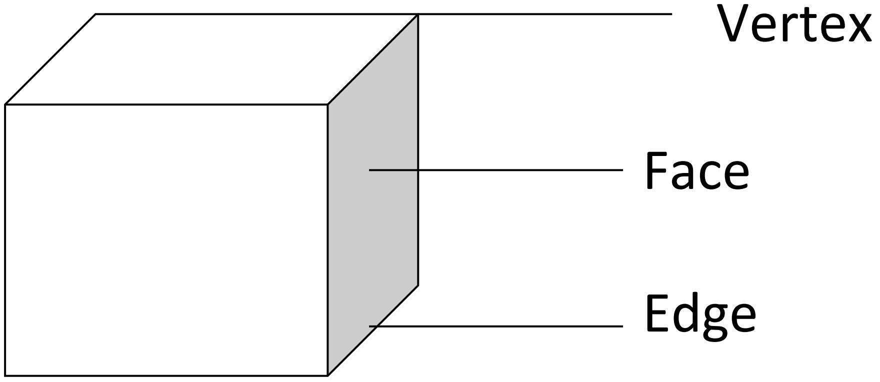
-Cone -cube -Cuboids - Cylinder

-Triangular prism - Triangle pyramid

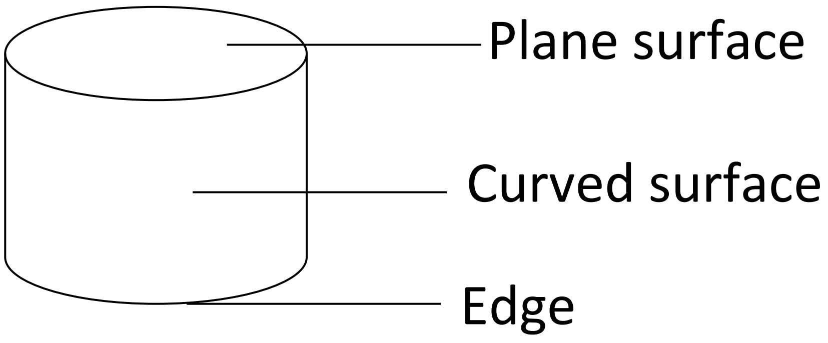
- Rectangular pyramid - square pyramid.

Naming parts of a solid figures

Cube


Vertex
Face
Edge

Cylinder


Plane surface
Curved surface
Edge

Activity

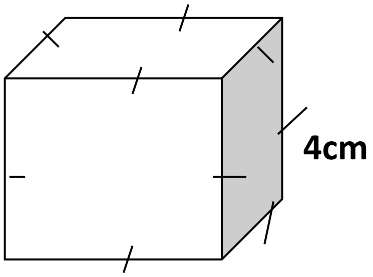
Draw and count	Number of faces	Number of vertices	Number of edges
Cube			
Cuboids			
Cone			
Cylinder			
Circle			

SUBTOPIC; 3-DIMENTIONAL FIGURES.

CONTENT; VOLUME OF CUBES

Examples.

Calculate the volume of the cube below.



V= s x s x s.

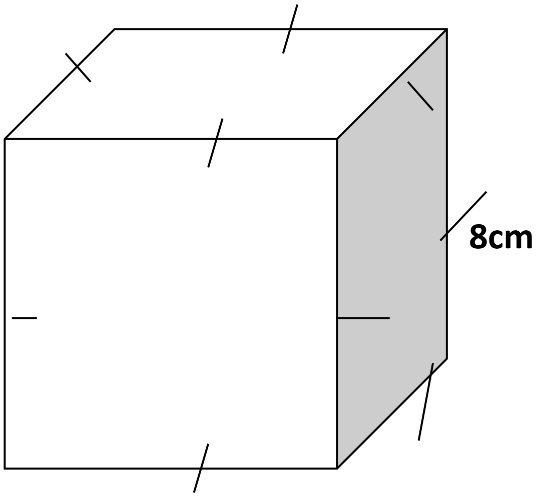
V= 4cm x 4cm x 4cm.

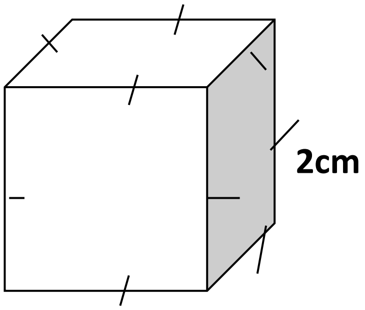
V= 16cm x 4cm.

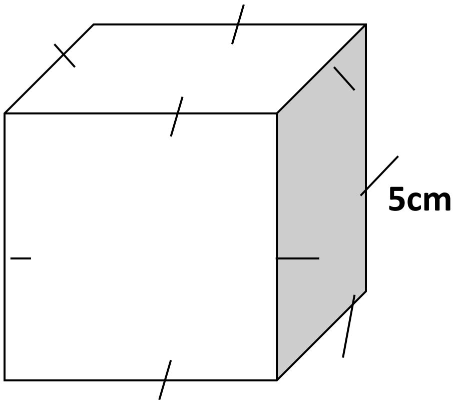
$\underline{V= 64cm^3}$

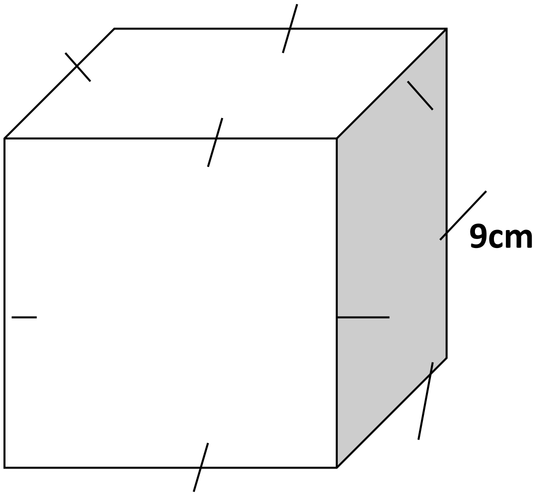
Activity

Calculate the volume of the following cubes.







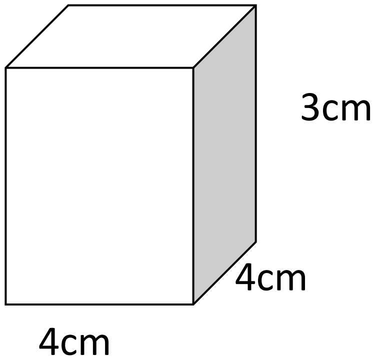


SUBTOPIC; 3-DIMENTIONAL FIGURES.

CONTENT; VOLUME OF CUBOIDS.

Examples.

Find the volume of the following cuboids.

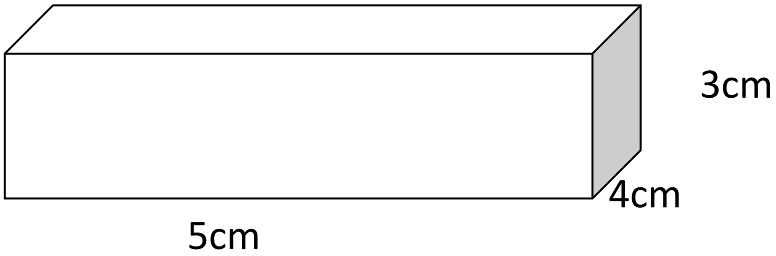


V= L X W X H.

V= 4cm x 4cm x 3cm.

V= 16cm x 3cm.

V= 48cm^3



V= L X W X H

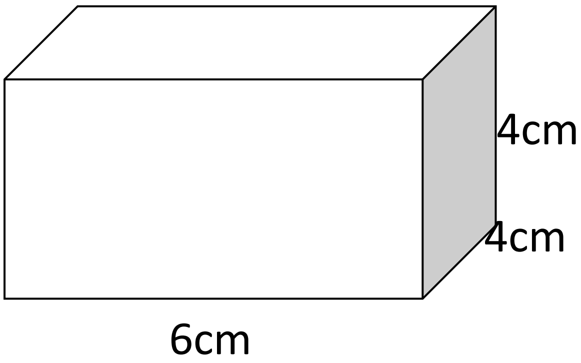
V= 5cm x 4cm x 3cm.

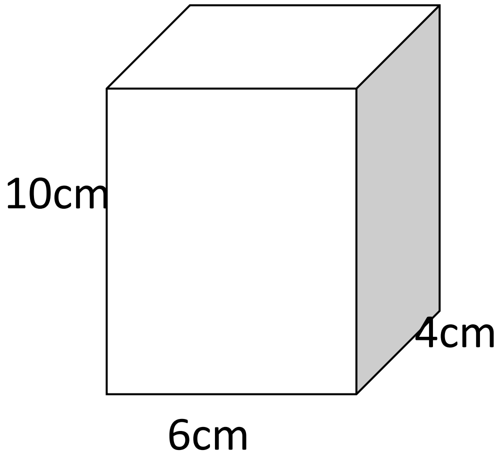
V= 20cm x 3cm

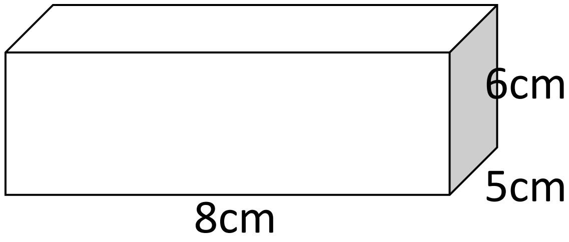
V= 60cm^2

Activity

Find the volume of these boxes.



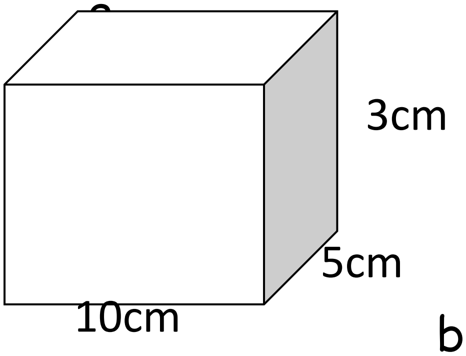

10cm
4cm
6cm



5. A cuboid measures 12cm by 5cm by 3cm. Find its volume.

6. A petrol tank measures 100cm long, 5cm wide and 3cm high. Calculate its volume.

7. Study the figure below and answer the questions.


3cm
5cm
10cm

a) Find number of; Edges ________

Vertices_______

Faces_______

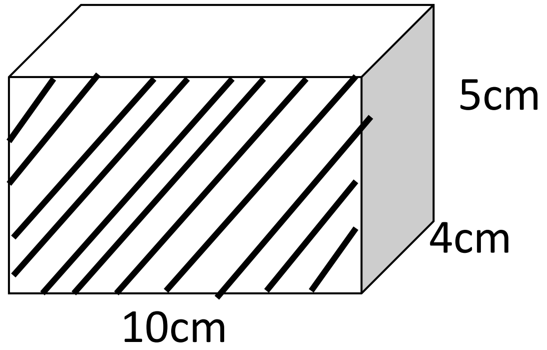
b) Calculate the volume.

SUBTOPIC; 3-DIMENTIONAL FIGURES.

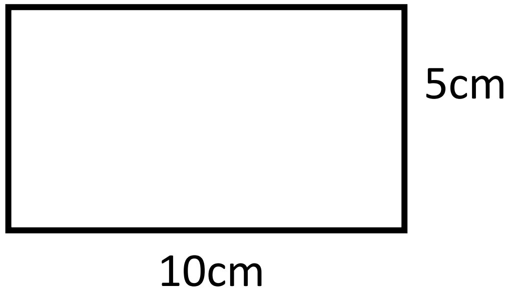
CONTENT; Area of cuboids and cubes.

Examples

Study the figure below and answer the questions that follow.



a) Find the area of the shaded part.



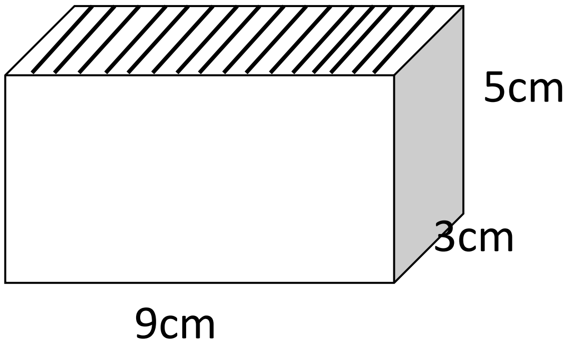
A= L x W.

A= 10cm x 5cm.

A= $50cm^2$

Activity

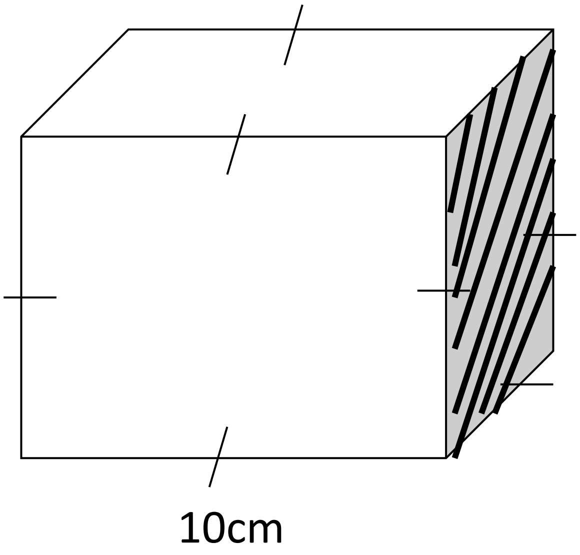
1. Study the figure below to answer the question that follows.



a) Calculate the volume of the cuboid.

b) Find the area of the shaded part.

2.Study the cuboid below and answer the questions.



a) Find the volume of the cube.

b) Calculate the area of the shaded part.