ACADEMIC WORLD SCHOOL™
BEMETARA

SUMMER VACATION ASSIGNMENT

SESSION 2024-25

CLASS: IX

General Instructions:

1. Write in a clear and legible handwriting.
2. Complete all the homework in a separate subject Summer Vacation Homework Notebook.
3. **DO NOT COPY AND PASTE FROM THE INTERNET**. (Assignment will be rejected)
4. In case of reference from the internet, you may:
   A. Read the content from the internet, if you wish and paraphrase (Rewrite in your own words)
   B. Mention the source of your information by providing the link from the internet for the verification by the teachers.
5. Marks awarded will be counted in the final scores at the end of the session.
6. The Summer Vacation HW will be submitted immediately upon arrival to school after Summer Vacation.
7. For any assignment related query do post your question on E-Mail Id of respective subject teacher. List of Subject Teacher's E-Mail ID attached.

Note for the Parents:

Parents are requested to guide his/her wards to complete their assignments honestly and submit by the due date.

ACADEMIC WORLD SCHOOL™
BEMETARA

SUMMER VACATION ASSIGNMENT
SESSION 2024-25
CLASS: IX
SUBJECT: ARTIFICIAL INTELLIGENCE

1. Write a letter to FUTURE SELF.
   (Refer the format that given in the book page no 25, part B unit 1)
2. Have you heard about google teachable machine? Train the AI model by using google teachable machine. You can use Images as a dataset. You can use your own image also. Create minimum 3 classes. Print out the final page that showing the output result.
3. "Ahmedabad is a Smart City but Raipur is not". How? Justify this quoted sentence with various AI technologies and tools which are used in Ahmedabad to make it as a smart city.

Note: Do all Questions on AI notebook Except Q.2.

For Q.2 You have to submit the printout of google teachable page that is showing the output.

ACADEMIC WORLD SCHOOL™
BEMETARA

SUMMER VACATION ASSIGNMENT

SESSION 2024-25
CLASS: IX
SUBJECT : ENGLISH LANGUAGE AND LITERATURE (184)

Summer Assignment Questions :

1. Suppose you are Margie. Write a diary entry dated 17th May 2157 about Tommy's real book that he found in his attic in 150-200 words.
2. What is the role of a teacher in the life of a student? How is a human teacher better than a mechanical teacher? Give your opinion on the basis of the lesson 'The Fun They Had' in 120-150 words.
3. "The Choice we make has far-reaching consequences" How can you make the right choices in life? Justify the above statement in the context of the poem 'The Road not taken' in 120-150 words.
4. Prepare a detailed Report on English Poet Robert Frost by adding his writings, his style and any other prominent feature followed by him while writing.
5. I went to Trade Fair with my friends on 15th May. We all were happy and excited, suddenly……….Complete the story in your own words. Relate your story to the theme of the story 'The Lost Child' in 200-250 words. Also give a suitable title.
6. Write any one of the following proverb in your own words. You should also add pictures to make it creative.
   • 'The pen is mightier than the sword'
   • 'No pain No gain'
   • 'All's well that ends well'
7. Read any one novel of your choice and write the review. The review is to be written in 250-300 words keeping in mind the given aspects.
   About the writer
   Summary
   Favorite Character
   Analysis
8. Write the bio-sketch with the help of the given clues. Complete the bio-sketch of Sachin Ramesh Tendulkar in 100-120 words.
   (Birth: Mumbai, Maharashtra, India 1973, known as Little Master and Master Blaster.

Achievements : One of the greatest batsman in the history of cricket, highest run scorer in both Test matches and One Day International.

Honours: Padma Vibhushan Award, India's highest civilian award, Rajiv Gandhi Khel Ratna Award, India's highest sporting honour)

9. Write an e-mail in about 100-120 words to your friend describing how you are utilizing your holidays.

Note: **The Summer holiday assignment is to be prepared in a Project File and submission is mandatory on the reopening of the school after vacation.**

ACADEMIC WORLD SCHOOL™
BEMETARA

SUMMER VACATION ASSIGNMENT
SESSION 2024-25
CLASS: IX
SUBJECT – SCIENCE

SECTION- A

Art Integrated Project (Attempt any one)

1. Prepare a Colourful Scrap book on Traditional Musical Instruments & Dance forms of Kerala and Chhattisgarh (To mention scientific principles involved in these instruments)

- **Task to be accomplished:**

1. Design of out- look of a scrap book.
2. Collect the Pictures & Name of Traditional Musical Instruments & Dance forms of both the States.
3. Basic Principles involves in different Musical Instruments Integrated with Dance.
4. Historical background, Cultural & Traditional Ethics about these Instruments and Dance forms
5. Area and Origin belong to these Musical Instruments & Dance.
6. Write your view how these Musical Instruments and Dance forms influence our Cultural Heritage & the Life of Peoples of both the states.
7. Conclusion

OR

2. Study of Biodiversity and Ecosystem of Kerala and Chhattisgarh using paintings, chart paper and drawing on following factors:
   a) Ecosystem and its components.
   b) Wild life Sanctuary, National park, Animals Conservation and Rehabilitation centres.
   c) Endangered species
   d) Flora and Fauna

e) Food chain

f) Explain how the climatic factors and other geographical factors influence the density of \ plants and animals in ecosystems

- **Task to be accomplished:**

1. Collect Information about the various ecosystems of both the states.
2. Geographical Location of wild life Sanctuary and National parks are to be find out.
3. Gather data and information about Flora and Fauna.
4. Endangered, Vulnerable and extinct species to be collected.
5. Information about the climatic factors that affect on ecosystem to be mentioned.

SECTION- B

Complete the tasks given below –

BIOLOGY

1: Describe an activity to demonstrate Endosmosis and Exosmosis. Draw diagrams to Support the activities. **[Do it in your Biology C.W. Copy]**

2: Prepare a plant cell model by using a thick chart paper or ply board or a cardboard. Tag the cell organelles in it. [Submit to your sub teacher]

CHEMISTRY

3) Prepare particle models of Three States of Matter using Card boards and other Materials. Do not use Thermocol. [Submit to your sub teacher]

PHYSICS

4) Make a measuring scale of 1.5 metre length using a card board and measure the Followings: [Submit to your sub teacher]
   a) Length of your drawing room,
   b) Total surface area of your NCERT science book.
   c) Volume of your school tiffin box.

SECTION- C

- Complete the Write up of your Lab Manuals of Physics, Chemistry, Biology Experiment no: 1, 2, 5, 6, 8, 9

ACADEMIC WORLD SCHOOL™
BEMETARA

SUMMER VACATION ASSIGNMENT

SESSION 2024-25

CLASS: IX

SUBJECT : SOCIAL SCIENCE

General Instructions:

1. Write in neat handwriting.
2. Complete the project work on project file only. instructions given by the respective Subject Teachers.
3. Map work is to be done in geography notebook only.
4. You may use color and graphics to decorate your work.
5. Assignment, Project, Videos must be uploaded in the given Google Form link/any other mode instructed by your Subject Teacher.
6. Do not copy and paste from the internet. (Assignment will be rejected)
7. In case of reference from the internet, you may:
   A. Read the content from the internet, if you wish and paraphrase (rewrite in your own words)
   B. Mention the source of your information by providing the link from the internet for the verification by the Teachers.
8. Marks to be awarded that will count in final scores at the end of the session.

Note for the Parents –

Parents are requested to guide his/her wards to complete their assignments honestly and by the due date.

GEOGRAPHY

Q.1. Make a project on Disaster Management.

The project work must contain :- Index, acknowledgment, certificate, Information, creative solutions, strategies the order of solutions,

Q.2. Do all the map work questions given in chapter of your geography book.

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ACADEMIC WORLD SCHOOL™
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SUMMER VACATION ASSIGNMENT

SESSION 2024-25
CLASS: IX
SUBJECT : MATHEMATICS

To be done in Maths lab manual.

Activity 1: To construct a square-root spiral and make the structure of flower, shell, snail, feathers of bird out of it.

Activity 2: To verify experimentally that the parallelograms on the same base and Between same parallels are equal in area

Activity 3: To Verify the algebraic identity: $(a+b+c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ac$

Activity 4: To verify experimentally the different criteria for congruency of triangles using triangle cut-outs.

To be done in project file.

Activity 4: To write significance of circle, triangle, parallel lines in design, culture, arts, literature and history.

To be done in notebook (Each task 3 times)

1. Write and learn by heart Tables from 1 to 20.

2. Write and learn by heart squares of the numbers from 1 to 25.

3. Write and learn by heart cubes of the numbers from 1 to 15.

4. Write and learn by heart the mensuration formulae of 3-D shapes like cube, cuboid, cone, cylinder, sphere and hemi-sphere.

ACADEMIC WORLD SCHOOL™
BEMETARA

SUMMER VACATION ASSIGNMENT

SESSION 2024-25
CLASS: IX, X , XI, & XII
SUBJECT : HINDI

कक्षा 9 – पोर्टफोलियो परियोजना

कक्षा 10 – पोर्टफोलियो परियोजना

कक्षा – 11 वीं और 12 वीं

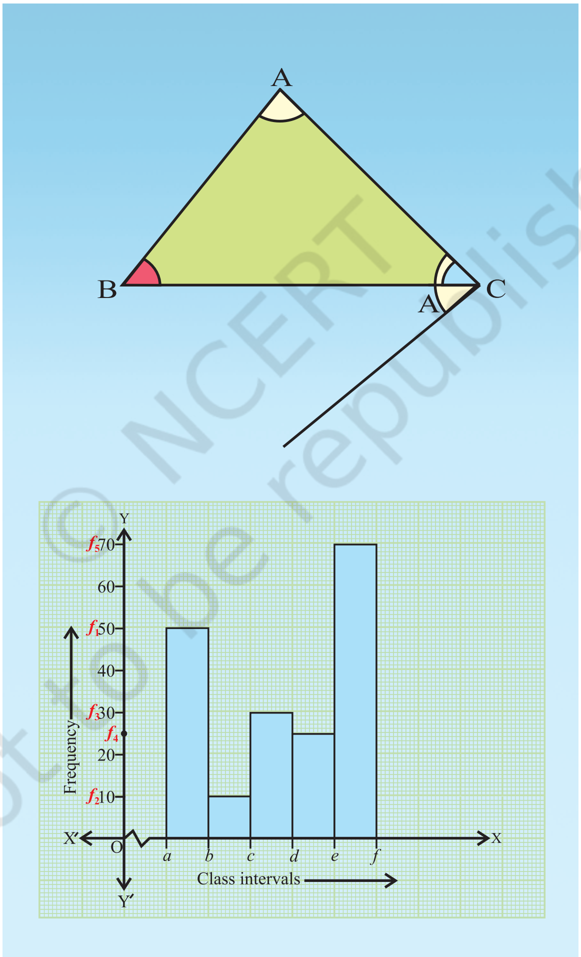
कक्षा – 11
(क) ग्रामीण जीवन का चित्रण करने वाली कविता एवं कहानी लिखिए।
(ख) ग्रीष्म ऋतु के माह मे हम अपने स्वस्थ्य का ख्याल कैसे रखे ? विस्तार से लिखें।
(ग) अपने पाठयपुस्तक से 5 कवि / कवयित्रि और 5 लेखक/लेखिका का संछिप्त जीवन परिचय लिखिए।
(घ) एक अच्छे समाचार लेखक और संवाददाता (समाचार बोलने वाला) बनने के लिए कौन-कौन सी विशेषताएँ होनी चाहिए।

कक्षा – 12
(क) शहरी एवं ग्रामीण जीवन का चित्रण करने वाली कविता एवं कहानी लिखिए।
(ख) ग्रीष्म ऋतु, वर्षा ऋतु और शीत ऋतु का लाभ बताते हुए तीनों ऋतु की विशेषताओं का वर्णन अपने शब्दों में कीजिए।
(ग) अपने पाठ्यपुस्तक से 5 कवि/कवयित्रि और 5 लेखक/लेखिका का संछिप्त जीवन परिचय लिखिए।
(घ) छायावाद के स्तम्भ चारों कवियों की विशेषताएँ लिखिए।

गणेश चंद्रवंशी हिंदी विभागाध्यक्ष

Activities for

Class IX



Mathematics is one of the most important cultural components of every modern society. Its influence an other cultural elements has been so fundamental and wide-spread as to warrant the statement that her "most modern" ways of life would hardly have been possilbly without mathematics. Appeal to such obvious examples as electronics radio, television, computing machines, and space travel, to substantiate this statement is unnecessary : the elementary art of calculating is evidence enough. Imagine trying to get through three day without using numbers in some fashion or other!

– R.L. Wilder

Activity 1

Objective

To construct a square-root spiral.

Material Required

Coloured threads, adhesive, drawing pins, nails, geometry box, sketch pens, marker, a piece of plywood.

Method of Construction

1. Take a piece of plywood with dimensions 30 cm × 30 cm.
2. Taking 2 cm = 1 unit, draw a line segment AB of length one unit.
3. Construct a perpendicular BX at the line segment AB using set squares (or compasses).
4. From BX, cut off BC = 1 unit. Join AC.
5. Using blue coloured thread (of length equal to AC) and adhesive, fix the thread along AC.
6. With AC as base and using set squares (or compasses), draw CY perpendicular to AC.
7. From CY, cut-off CD = 1 unit and join AD.

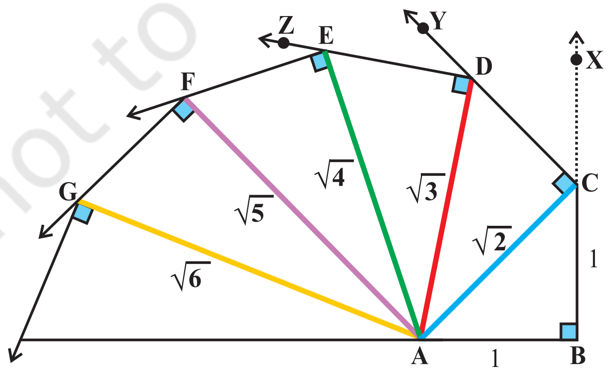


Fig. 1

8. Fix orange coloured thread (of length equal to AD) along AD with adhesive.
9. With AD as base and using set squares (or compasses), draw DZ perpendicular to AD.
10. From DZ, cut off DE = 1 unit and join AE.
11. Fix green coloured thread (of length equal to AE) along AE with adhesive [see Fig. 1].

    Repeat the above process for a sufficient number of times. This is called "a square root spiral".

Demonstration

1. From the figure, $AC^2 = AB^2 + BC^2 = 12 + 12 = 2$ or $AC = \sqrt{2}$.

   $AD^2 = AC^2 + CD^2 = 2 + 1 = 3$ or $AD = \sqrt{3}$.

2. Similarly, we get the other lengths AE, AF, AG, ... as $\sqrt{4}$ or 2, $\sqrt{5}$, $\sqrt{6}$ ....

Observation

On actual measurement

AC = ... , AD = ... , AE = ... , AF = ... , AG = ...

$\sqrt{2}$ = AC = ... (approx.),

$\sqrt{3}$ = AD = ... (approx.),

$\sqrt{4}$ = AE = ... (approx.),

$\sqrt{5}$ = AF = ... (approx.)

Application

Through this activity, existence of irrational numbers can be illustrated.

Activity 2

Objective

To represent some irrational numbers on the number line.

Material Required

Two cuboidal wooden strips, thread, nails, hammer, two photo copies of a scale, a screw with nut, glue, cutter.

Method of Construction

1. Make a straight slit on the top of one of the wooden strips. Fix another wooden strip on the slit perpendicular to the former strip with a screw at the bottom so that it can move freely along the slit [see Fig.1].
2. Paste one photocopy of the scale on each of these two strips as shown in Fig. 1.
3. Fix nails at a distance of 1 unit each, starting from 0, on both the strips as shown in the figure.
4. Tie a thread at the nail at 0 on the horizontal strip.

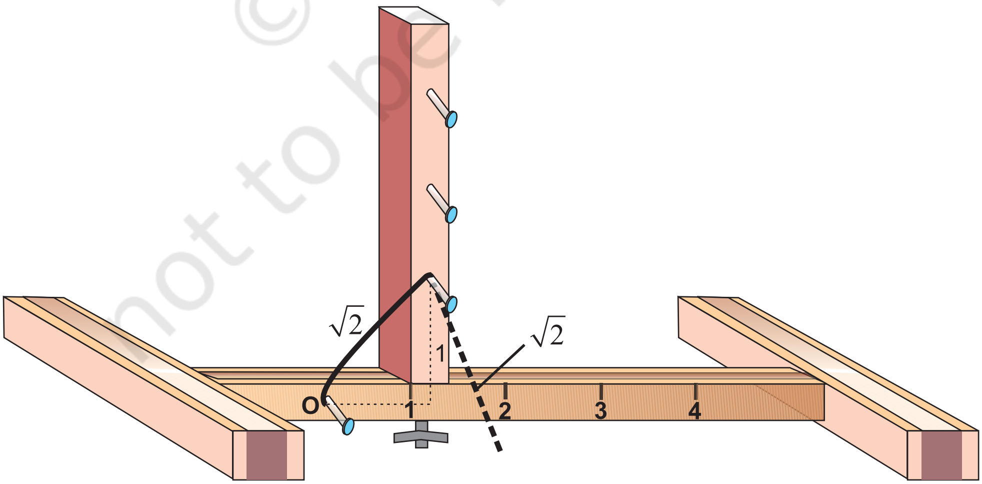


Fig. 1

DEMONSTRATION

1. Take 1 unit on the horizontal scale and fix the perpendicular wooden strip at 1 by the screw at the bottom.
2. Tie the other end of the thread to unit '1' on the perpendicular strip.
3. Remove the thread from unit '1' on the perpendicular strip and place it on the horizontal strip to represent $\sqrt{2}$ on the horizontal strip [see Fig. 1].

   Similarly, to represent $\sqrt{3}$, fix the perpendicular wooden strip at $\sqrt{2}$ and repeat the process as above. To represent $\sqrt{a}$, $a > 1$, fix the perpendicular scale at $\sqrt{a-1}$ and proceed as above to get $\sqrt{a}$.

OBSERVATION

On actual measurement:

$a - 1 =$ .... $\sqrt{a} =$ ....

APPLICATION

The activity may help in representing some irrational numbers such as $\sqrt{2}$, $\sqrt{3}$, $\sqrt{4}$, $\sqrt{5}$, $\sqrt{6}$, $\sqrt{7}$, ... on the number line.

NOTE

You may also find $\sqrt{a}$ such as $\sqrt{13}$ by fixing the perpendicular strip at 3 on the horizontal strip and tying the other end of thread at 2 on the vertical strip.

Activity 3

OBJECTIVE

To verify the algebraic identity :

$(a + b)^2 = a^2 + 2ab + b^2$

MATERIAL REQUIRED

Drawing sheet, cardboard, cello-tape, coloured papers, cutter and ruler.

METHOD OF CONSTRUCTION

1. Cut out a square of side length a units from a drawing sheet/cardboard and name it as square ABCD [see Fig. 1].
2. Cut out another square of length b units from a drawing sheet/cardboard and name it as square CHGF [see Fig. 2].

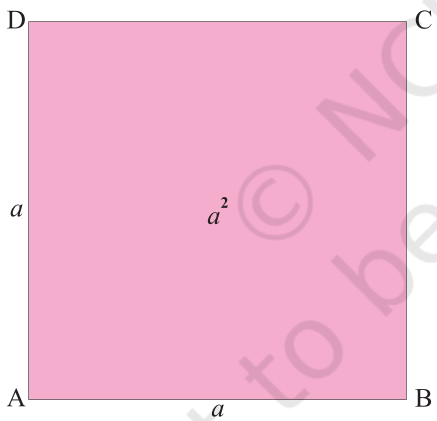


Fig. 1

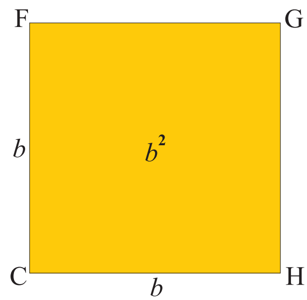


Fig. 2

3. Cut out a rectangle of length a units and breadth b units from a drawing sheet/cardbaord and name it as a rectangle DCFE [see Fig. 3].
4. Cut out another rectangle of length b units and breadth a units from a drawing sheet/cardboard and name it as a rectangle BIHC [see Fig. 4].

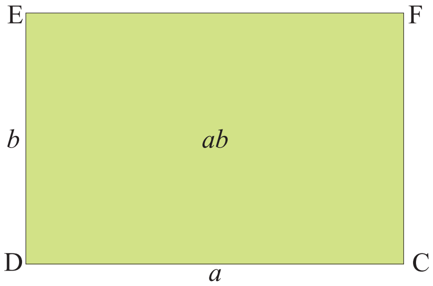


Fig. 3

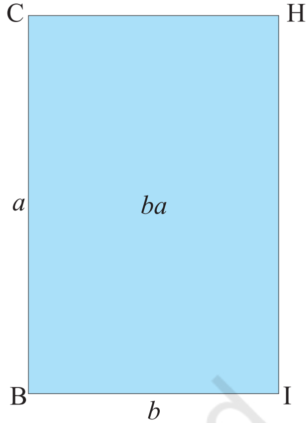


Fig. 4

5. Total area of these four cut-out figures

   = Area of square ABCD + Area of square CHGF + Area of rectangle DCFE + Area of rectangle BIHC

   $= a^2 + b^2 + ab + ba = a^2 + b^2 + 2ab.$

6. Join the four quadrilaterals using cello-tape as shown in Fig. 5.

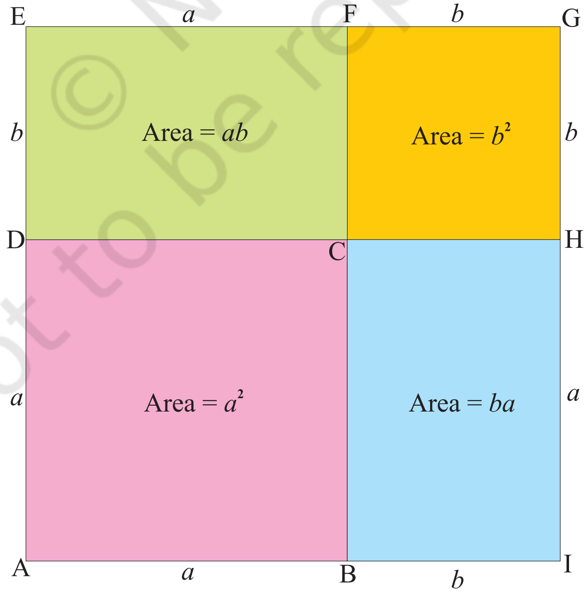


Fig. 5

Clearly, AIGE is a square of side $(a + b)$. Therefore, its area is $(a + b)^2$. The combined area of the constituent units $= a^2 + b^2 + ab + ab = a^2 + b^2 + 2ab$.

Hence, the algebraic identity $(a + b)^2 = a^2 + 2ab + b^2$

Here, area is in square units.

Observation

On actual measurement:

a = ..., b = ... $(a+b)$ = ...,

So, a^2 = ... b^2 = ..., ab = ...

$(a+b)^2$ = ..., $2ab$ = ...

Therefore, $(a+b)^2 = a^2 + 2ab + b^2$.

The identity may be verified by taking different values of a and b.

Application

The identity may be used for

1. calculating the square of a number expressed as the sum of two convenient numbers.
2. simplifications/factorisation of some algebraic expressions.

Activity 4

Objective

To verify the algebraic identity :

$(a - b)^2 = a^2 - 2ab + b^2$

Material Required

Drawing sheets, cardboard, coloured papers, scissors, ruler and adhesive.

Method of Construction

1. Cut out a square ABCD of side a units from a drawing sheet/cardboard [see Fig. 1].
2. Cut out a square EBHI of side b units ($b < a$) from a drawing sheet/cardboard [see Fig. 2].
3. Cut out a rectangle GDCJ of length a units and breadth b units from a drawing sheet/cardboard [see Fig. 3].
4. Cut out a rectangle IFJH of length a units and breadth b units from a drawing sheet/cardboard [see Fig. 4].

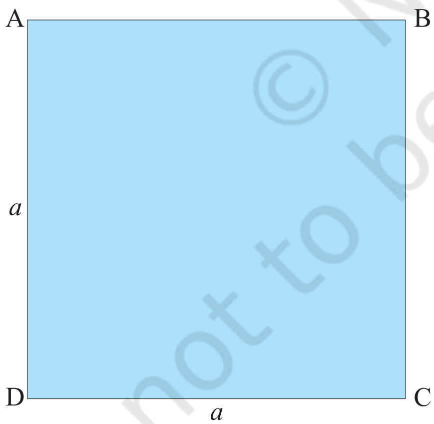


Fig. 1

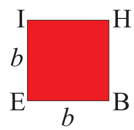


Fig. 2

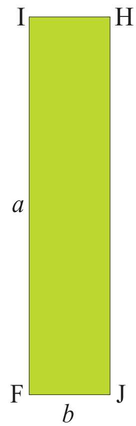


Fig. 4

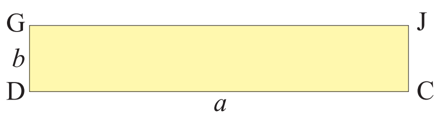


Fig. 3

5. Arrange these cut outs as shown in Fig. 5.

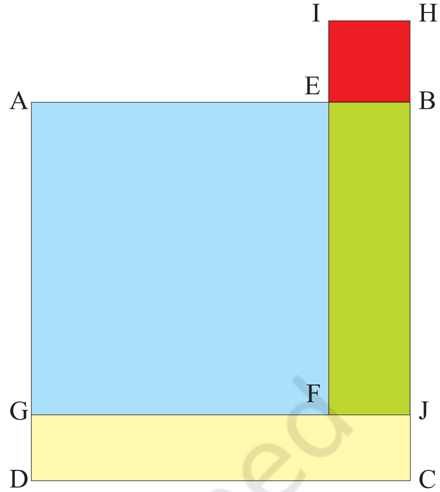


Fig. 5

Demonstration

According to figure 1, 2, 3, and 4, Area of square ABCD = a^2, Area of square EBHI = b^2

Area of rectangle GDCJ = ab, Area of rectangle IFJH = ab

From Fig. 5, area of square AGFE = AG × GF
= $(a - b)(a - b) = (a - b)^2$

Now, area of square AGFE = Area of square ABCD + Area of square EBHI

– Area of rectangle IFJH – Area of rectangle GDCJ

$= a^2 + b^2 - ab - ab$

$= a^2 - 2ab + b^2$

Here, area is in square units.

Observation

On actual measurement:

a = ..., b = ..., $(a - b)$ = ...,

So, a^2 = ..., b^2 = ..., $(a - b)^2$ = ...,

ab = ..., $2ab$ = ...

Therefore, $(a - b)^2 = a^2 - 2ab + b^2$

Application

The identity may be used for

1. calculating the square of a number expressed as a difference of two convenient numbers.
2. simplifying/factorisation of some algebraic expressions.

Activity 5

OBJECTIVE

To verify the algebraic identity :

$a^2 - b^2 = (a + b)(a - b)$

MATERIAL REQUIRED

Drawing sheets, cardboard, coloured papers, scissors, sketch pen, ruler, transparent sheet and adhesive.

METHOD OF CONSTRUCTION

1. Take a cardboard of a convenient size and paste a coloured paper on it.
2. Cut out one square ABCD of side a units from a drawing sheet [see Fig. 1].
3. Cut out one square AEFG of side b units ($b < a$) from another drawing sheet [see Fig. 2].

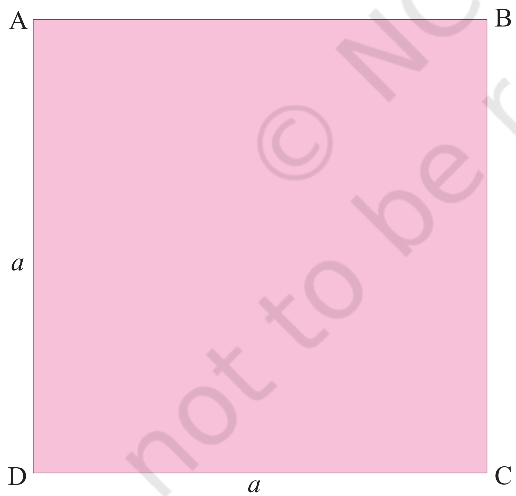


Fig. 1

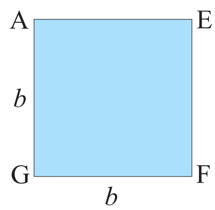


Fig. 2

4. Arrange these squares as shown in Fig. 3.
5. Join F to C using sketch pen. Cut out trapeziums congruent to EBCF and GFCD using a transparent sheet and name them as EBCF and GFCD, respectively [see Fig. 4 and Fig. 5].

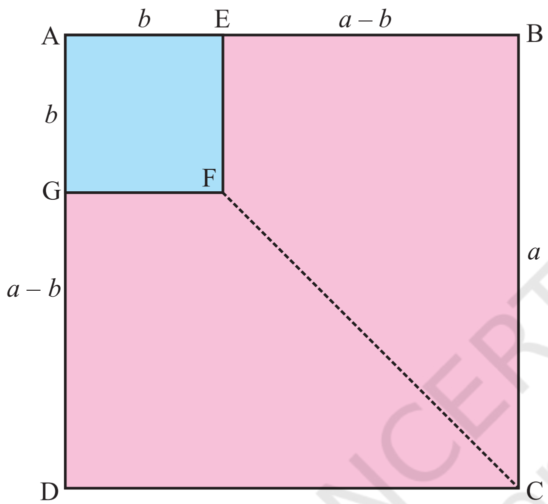


Fig. 3

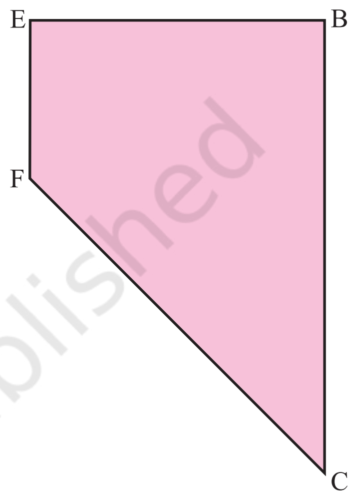


Fig. 4

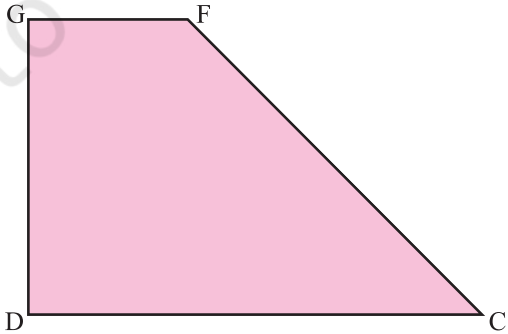


Fig. 5

6. Arrange these trapeziums as shown in Fig. 6.

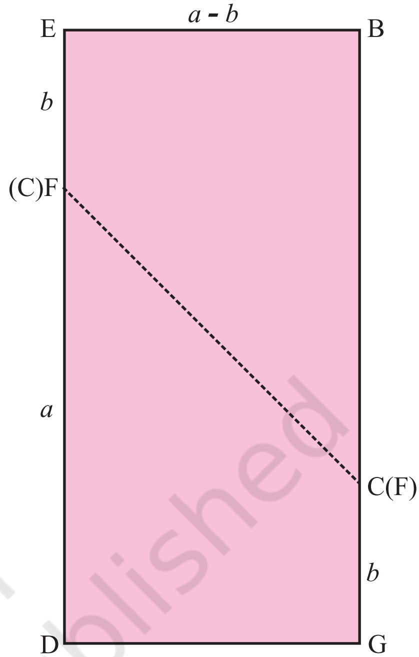


Fig. 6

Demonstration

Area of square ABCD = a^2

Area of square AEFG = b^2

In Fig. 3,

Area of square ABCD – Area of square AEFG

= Area of trapezium EBCF + Area of trapezium GFCD

= Area of rectangle EBGD [Fig. 6].

= ED × DG

Thus, $a^2 - b^2 = (a+b)\ (a-b)$

Here, area is in square units.

Observation

On actual measurement:

a = ..., b = ..., $(a+b)$ = ...,

So, a^2 = ..., b^2 = ..., $(a-b)$ = ...,

$a^2 - b^2$ = ..., $(a+b)\ (a-b)$ = ...,

Therefore, $a^2 - b^2 = (a+b)\ (a-b)$

Application

The identity may be used for

1. difference of two squares
2. some products involving two numbers
3. simplification and factorisation of algebraic expressions.

Activity 6

Objective

To verify the algebraic identity :

$(a+b+c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$

Material Required

Hardboard, adhesive, coloured papers, white paper.

Method of Construction

1. Take a hardboard of a convenient size and paste a white paper on it.
2. Cut out a square of side a units from a coloured paper [see Fig. 1].
3. Cut out a square of side b units from a coloured paper [see Fig. 2].
4. Cut out a square of side c units from a coloured paper [see Fig. 3].
5. Cut out two rectangles of dimensions $a \times b$, two rectangles of dimensions $b \times c$ and two rectangles of dimensions $c \times a$ square units from a coloured paper [see Fig. 4].

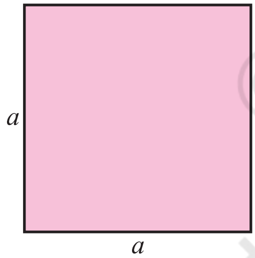


Fig. 1

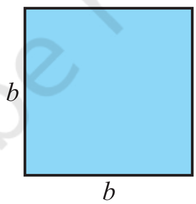


Fig. 2

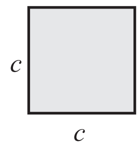


Fig. 3

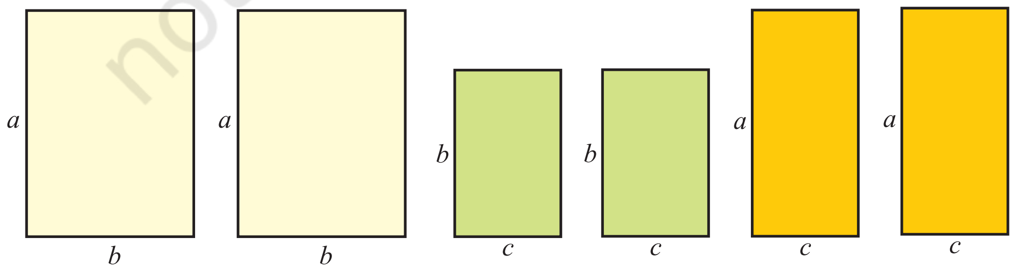


Fig. 4

6. Arrange the squares and rectangles on the hardboard as shown in Fig. 5.

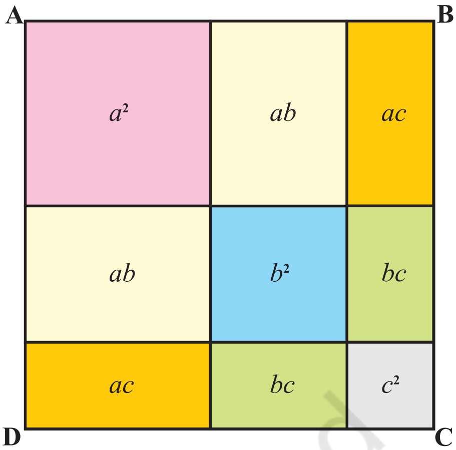


Fig. 5

DEMONSTRATION

From the arrangement of squares and rectangles in Fig. 5, a square ABCD is obtained whose side is $(a+b+c)$ units.

Area of square ABCD = $(a+b+c)^2$.

Therefore, $(a+b+c)^2$ = sum of all the squares and rectangles shown in Fig. 1 to Fig. 4.

$= a^2 + ab + ac + ab + b^2 + bc + ac + bc + c^2$

$= a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$

Here, area is in square units.

OBSERVATION

On actual measurement:

a = ..., b = ..., c = ...,

So, a^2 = ..., b^2 = ..., c^2= ...., ab= ....,

bc= ...., ca = ..., $2ab$ = ..., $2bc$ = ...,

$2ca$= ...., $a+b+c$ = ..., $(a+b+c)^2$ = ...,

Therefore, $(a+b+c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$

APPLICATION

The identity may be used for

1. simiplification/factorisation of algebraic expressions
2. calculating the square of a number expressed as a sum of three convenient numbers.

Activity 7

Objective

To verify the algebraic identity :

$(a+b)^3 = a^3 + b^3 + 3a^2b + 3ab^2$

Material Required

Acrylic sheet, coloured papers, glazed papers, saw, sketch pen, adhesive, Cello-tape.

Method of Construction

1. Make a cube of side a units and one more cube of side b units ($b < a$), using acrylic sheet and cello-tape/adhesive [see Fig. 1 and Fig. 2].
2. Similarly, make three cuboids of dimensions $a \times a \times b$ and three cuboids of dimensions $a \times b \times b$ [see Fig. 3 and Fig. 4].

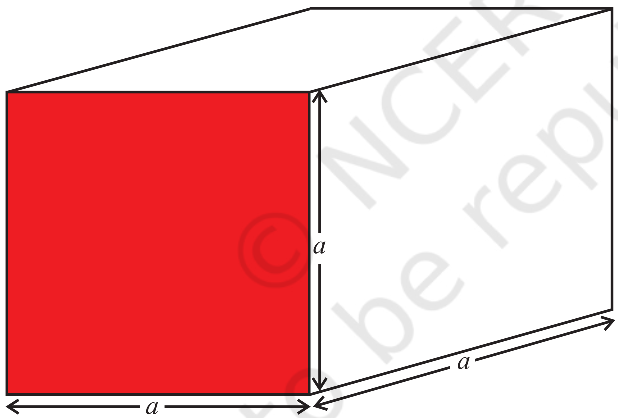


Fig. 1

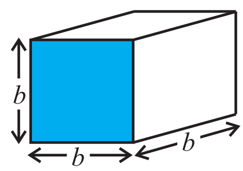


Fig. 2

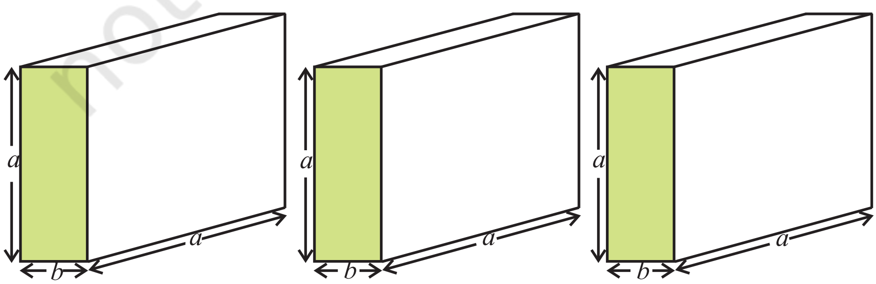


Fig. 3

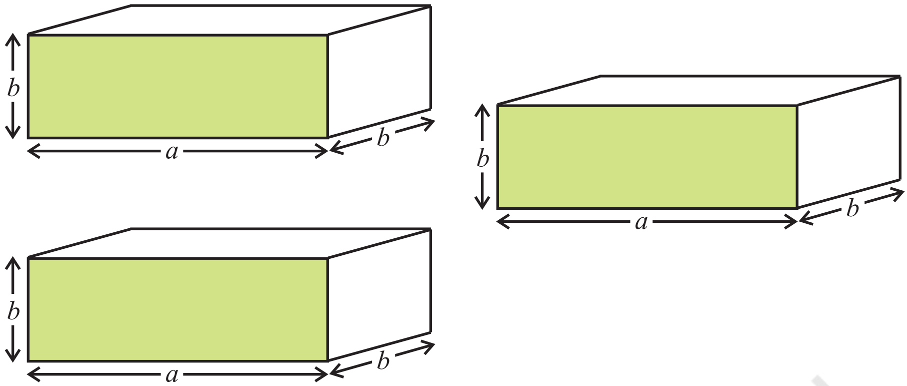


Fig. 4

3. Arrange the cubes and cuboids as shown in Fig. 5.

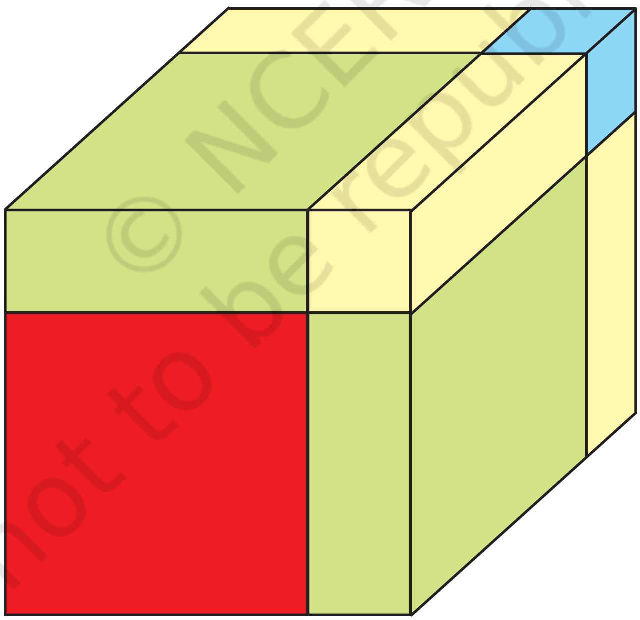


Fig. 5

Demonstration

Volume of the cube of side $a = a \times a \times a = a^3$, volume of the cube of side $b = b^3$

Volume of the cuboid of dimensions $a \times a \times b = a^2b$, volume of three such cuboids $= 3a^2b$

Volume of the cuboid of dimensions $a \times b \times b = ab^2$, volume of three such cuboids $= 3ab^2$

Solid figure obtained in Fig. 5 is a cube of side $(a + b)$

Its volume $= (a + b)^3$

Therefore, $(a+b)^3 = a^3 + b^3 + 3a^2b + 3ab^2$

Here, volume is in cubic units.

Observation

On actual measurement:

a = ..., b = ..., a^3 = ...,

So, a^3 = ..., b^3 = ..., a^2b = ..., $3a^2b$ = ...,

ab^2 = ..., $3ab^2$ = ..., $(a+b)^3$ = ...,

Therefore, $(a+b)^3 = a^3 + b^3 + 3a^2b + 3ab^2$

Application

The identity may be used for

1. calculating cube of a number expressed as the sum of two convenient numbers
2. simplification and factorisation of algebraic expressions.

Activity 8

Objective

To verify the algebraic identity

$(a - b)^3 = a^3 - b^3 - 3(a - b)ab$

Material Required

Acrylic sheet, coloured papers, saw, sketch pens, adhesive, Cello-tape.

Method of Construction

1. Make a cube of side $(a - b)$ units $(a > b)$using acrylic sheet and cellotape/ adhesive [see Fig. 1].
2. Make three cuboids each of dimensions $(a–b) \times a \times b$ and one cube of side b units using acrylic sheet and cellotape [see Fig. 2 and Fig. 3].
3. Arrange the cubes and cuboids as shown in Fig. 4.

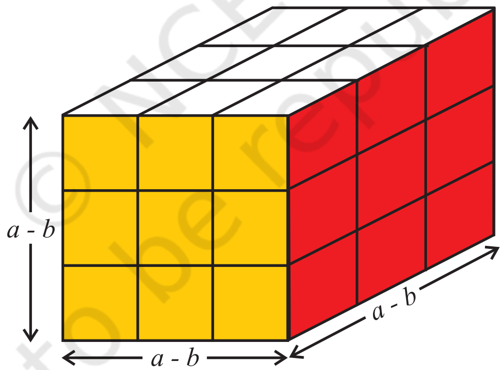


Fig. 1

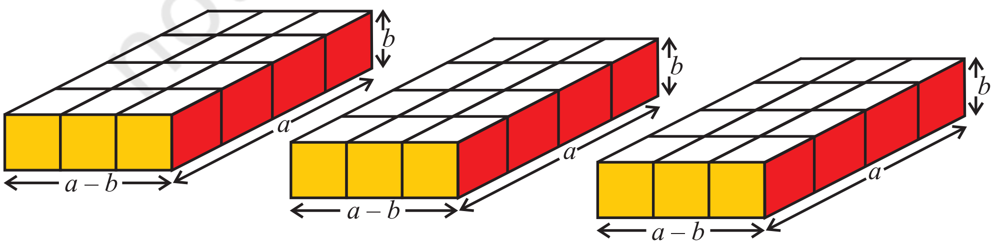


Fig. 2

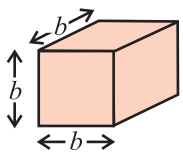


Fig. 3

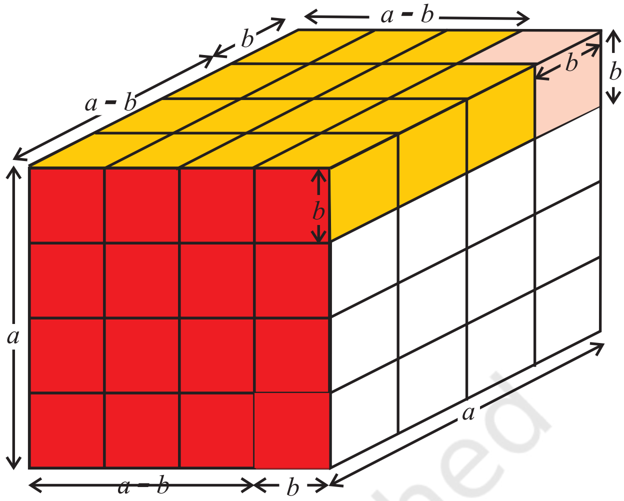


Fig. 4

DEMONSTRATION

Volume of the cube of side $(a-b)$ units in Fig. 1 = $(a-b)^3$

Volume of a cuboid in Fig. 2 = $(a-b)\,ab$

Volume of three cuboids in Fig. 2 = $3\,(a-b)\,ab$

Volume of the cube of side b in Fig. 3 = b^3

Volume of the solid in Fig. 4 = $(a-b)^3 + (a-b)\,ab + (a-b)\,ab + (a-b)\,ab + b^3$

$= (a-b)^3 + 3(a-b)\,ab + b^3$ (1)

Also, the solid obtained in Fig. 4 is a cube of side a

Therefore, its volume = a^3 (2)

From (1) and (2),

$(a-b)^3 + 3(a-b)\,ab + b^3 = a^3$

or $(a-b)^3 = a^3 - b^3 - 3ab\,(a-b)$.

Here, volume is in cubic units.

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Observation

On actual measurement:

a = ..., b = ..., $a–b$ = ...,

So, a^3 = ..., ab = ...,

b^3 = ..., $ab(a–b)$ = ...,

$3ab\ (a–b)$ = ..., $(a–b)^3$ = ...,

Therefore, $(a–b)^3 = a^3 - b^3 - 3ab(a–b)$

Application

The identity may be used for

1. calculating cube of a number expressed as a difference of two convenient numbers
2. simplification and factorisation of algebraic expressions.

Note

This identity can also be expressed as :

$(a - b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$.

Activity 9

Objective

To verify the algebraic identity :

$a^3 + b^3 = (a + b)\ (a^2 - ab + b^2)$

Material Required

Acrylic sheet, glazed papers, saw, adhesive, cellotape, coloured papers, sketch pen, etc.

Method of Construction

1. Make a cube of side *a* units and another cube of side *b* units as shown in Fig. 1 and Fig. 2 by using acrylic sheet and cellotape/adhesive.
2. Make a cuboid of dimensions $a \times a \times b$ [see Fig. 3].
3. Make a cuboid of dimensions $a \times b \times b$ [see Fig. 4].
4. Arrange these cubes and cuboids as shown in Fig. 5.

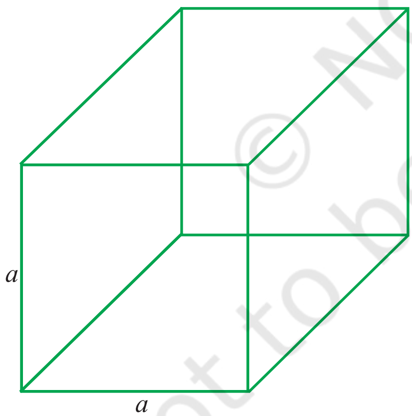

Fig. 1

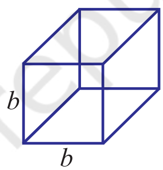

Fig. 2

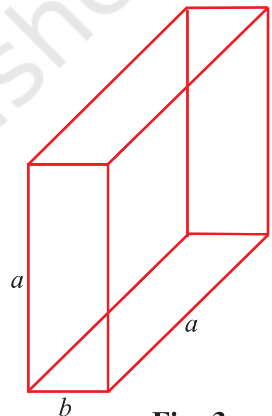

Fig. 3

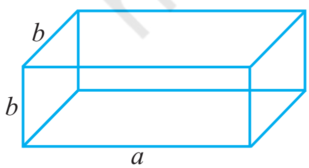

Fig. 4

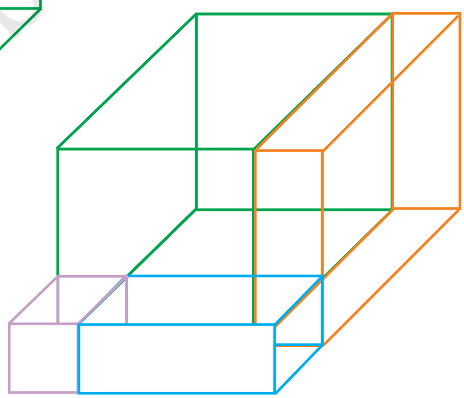

Fig. 5

Demonstration

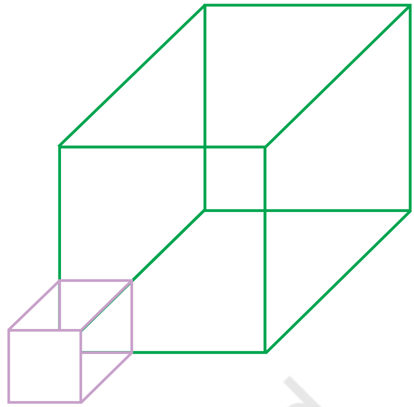

Fig. 6

Volume of cube in Fig. 1 = a^3

Volume of cube in Fig. 2 = b^3

Volume of cuboid in Fig. 3 = a^2b

Volume of cuboid in Fig. 4 = ab^2

Volume of solid in Fig. 5 = $a^3+b^3+a^2b+ab^2$ $= (a+b)(a^2+b^2)$

Removing cuboids of volumes a^2b and ab^2, i.e., $ab\ (a+b)$ from solid obtained in Fig. 5, we get the solid in Fig. 6.

Volume of solid in Fig. 6 = $a^3 + b^3$.

Therefore, $a^3+b^3 = (a+b)(a^2+b^2) - ab(a+b)$

$= (a+b)(a^2+b^2-ab)$

Here, volumes are in cubic units.

Observation

On actual measurement:

a = ..., b = ...,

So, a^3 = ..., b^3 = ..., $(a+b)$ = ..., $(a+b)a^2$ = ...,

$(a+b)\,b^2$ = ..., a^2b = ..., ab^2 = ...,

$ab\,(a+b)$ = ...,

Therefore, $a^3+b^3 = (a+b)(a^2+b^2-ab)$.

Application

The identity may be used in simplification and factorisation of algebraic expressions.

Activity 10

Objective

To verify the algebraic identity :

$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

Material Required

Acrylic sheet, sketch pen, glazed papers, scissors, adhesive, cellotape, coloured papers, cutter.

Method of Construction

1. Make a cuboid of dimensions $(a–b) \times a \times a$ $(b < a)$, using acrylic sheet and cellotape/adhesive as shown in Fig. 1.
2. Make another cuboid of dimensions $(a–b) \times a \times b$, using acrylic sheet and cellotape/adhesive as shown in Fig. 2.
3. Make one more cuboid of dimensions $(a–b) \times b \times b$ as shown in Fig. 3.
4. Make a cube of dimensions $b \times b \times b$ using acrylic sheet as shown in Fig. 4.

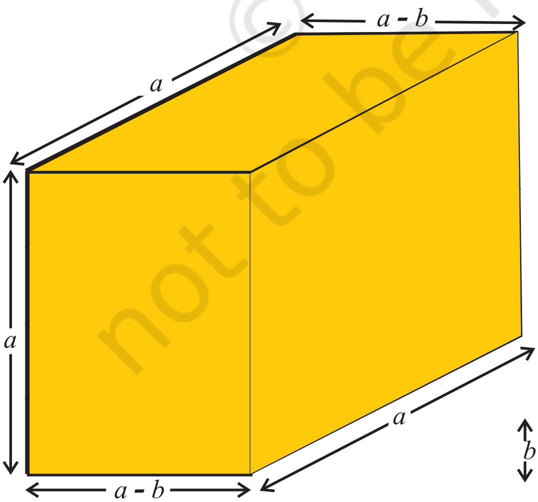

Fig. 1

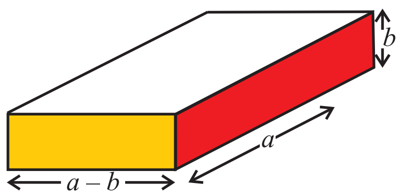

Fig. 2

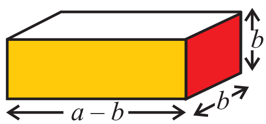

Fig. 3

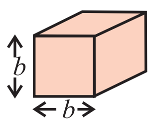

Fig. 4

5. Arrange the cubes and cuboids made above in Steps (1), (2), (3) and (4) to obtain a solid as shown in Fig. 5, which is a cube of volume a^3 cubic units.

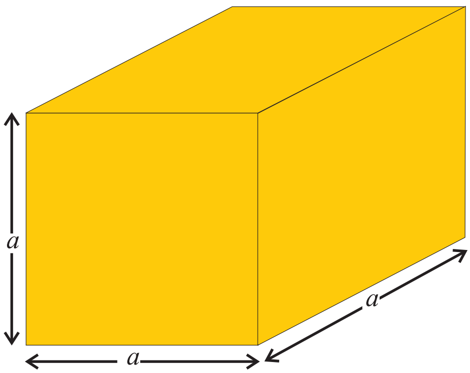

Fig. 5

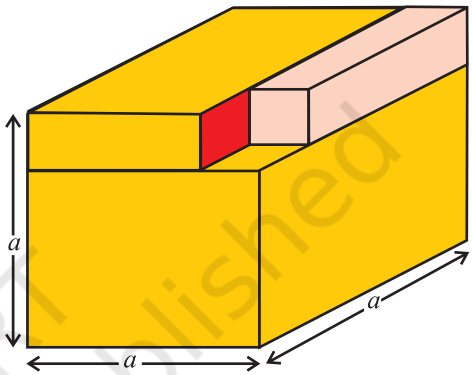

Fig. 6

Demonstration

Volume of cuboid in Fig. 1 = $(a–b) \times a \times a$ cubic units.

Volume of cuboid in Fig. 2 = $(a–b) \times a \times b$ cubic units.

Volume of cuboid in Fig. 3 = $(a–b) \times b \times b$ cubic units.

Volume of cube in Fig. 4 = b^3 cubic units.

Volume of solid in Fig. 5 = a^3 cubic units.

Removing a cube of size b^3 cubic units from the solid in Fig. 5, we obtain a solid as shown in Fig. 6.

Volume of solid in Fig. 6 = $(a–b)\ a^2 + (a–b)\ ab + (a–b)\ b^2$

$$= (a–b)\ (a^2 + ab + b^2)$$

Therefore, $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

OBSERVATION

On actual measurement:

a = ..., b = ...,

So, a^3 = ..., b^3 = ..., $(a–b)$ = ..., ab = ...,

a^2 = ..., b^2 = ...,

Therefore, $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$.

APPLICATION

The identity may be used in simplification/factorisation of algebraic expressions.

Activity 11

Objective

To find the values of abscissae and ordinates of various points given in a cartesian plane.

Material Required

Cardboard, white paper, graph paper with various given points, geometry box, pen/pencil.

Method of Construction

1. Take a cardboard of a convenient size and paste a white paper on it.
2. Paste the given graph paper alongwith various points drawn on it [see Fig. 1].
3. Look at the graph paper and the points whose abcissae and ordinates are to be found.

Demonstration

To find abscissa and ordinate of a point, say A, draw perpendiculars AM and AN from A to x-axis and y-axis, respectively. Then abscissa of A is OM and ordinate of A is ON. Here, OM = 2 and AM = ON = 9. The point A is in first quadrant. Coordinates of A are (2, 9).

Observation

Point	Abscissa	Ordinate	Quadrant	Coordinates
B				
C				
...				
...				
...				
...				

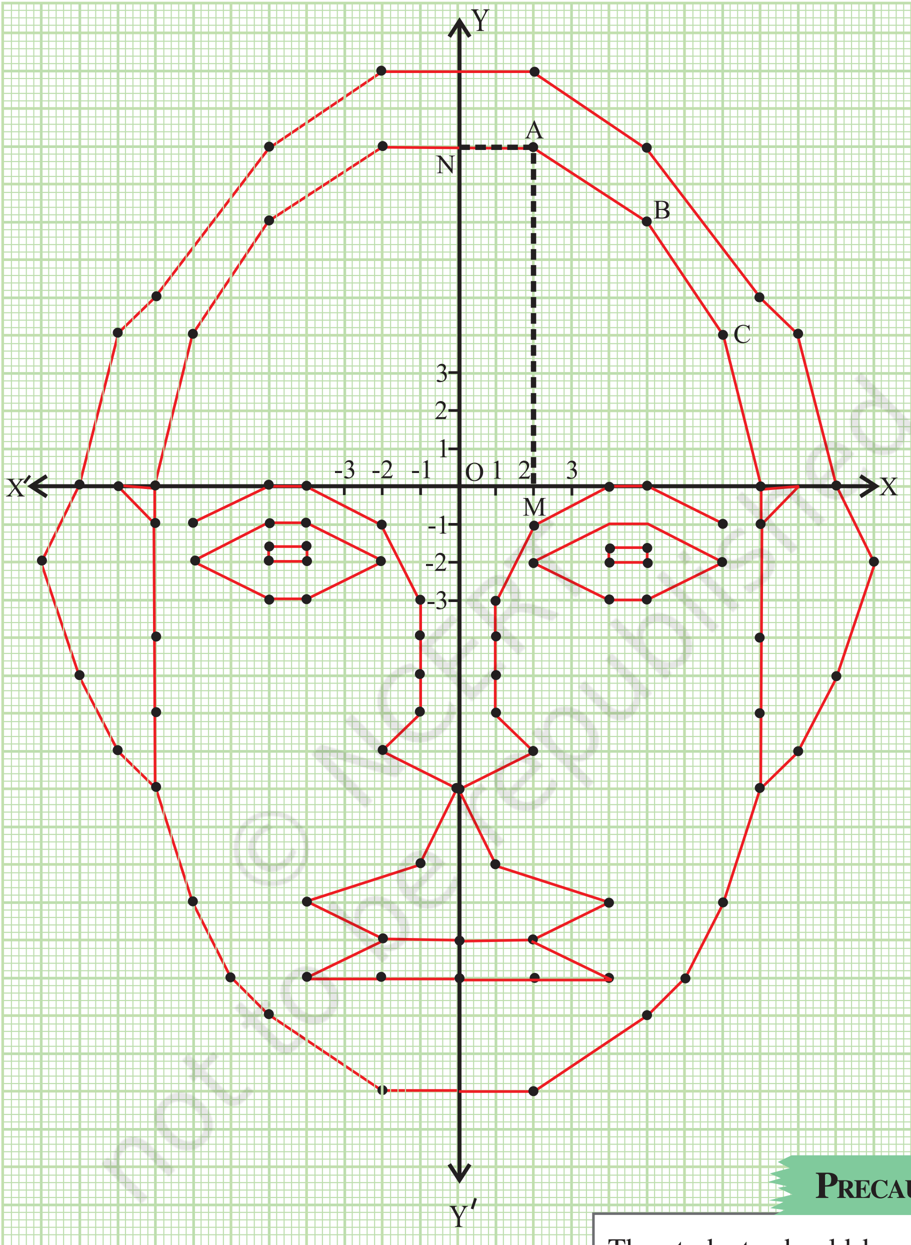

Fig. 1

Application

This activity is helpful in locating the position of a particular city/place or country on map.

Precaution

The students should be careful while reading the coordinates, otherwise the location of the object will differ.

Activity 12

Objective

To find a hidden picture by plotting and joining the various points with given coordinates in a plane.

Material Required

Cardboard, white paper, cutter, adhesive, graph paper/squared paper, geometry box, pencil.

Method of Construction

1. Take a cardboard of a convenient size and paste a white paper on it.
2. Take a graph paper and paste it on the white paper.
3. Draw two rectangular axes X′OX and Y′OY as shown in Fig. 1.
4. Plot the points A, B, C, ... with given coordinates (a, b), (c, d), (e, f), ..., respectively as shown in Fig. 2.
5. Join the points in a given order say A→B→C→D→.....→A [see Fig. 3].

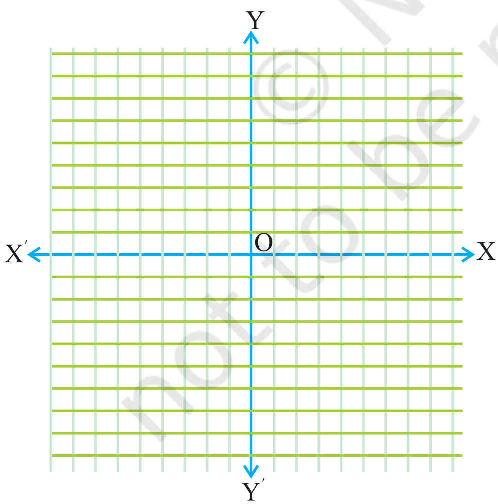

Fig. 1

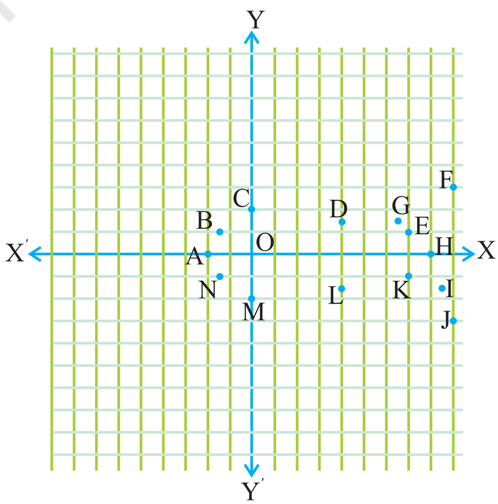

Fig. 2

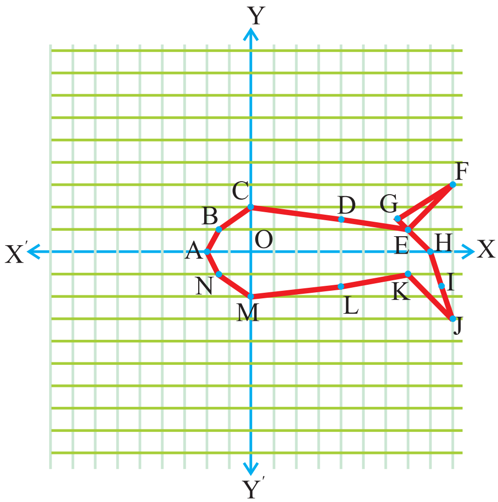

Fig. 3

Demonstration

By joining the points as per given instructions, a 'hidden' picture of an 'aeroplane' is formed.

Observation

In Fig. 3:

Coordinates of points A, B, C, D, ...

are ...., ..., ..., ..., ..., ..., ...

Hidden picture is of ________________.

Application

This activity is useful in understanding the plotting of points in a cartesian plane which in turn may be useful in preparing the road maps, seating plan in the classroom, etc.

Activity 13

Objective

To verify experimentally that if two lines intersect, then

(i) the vertically opposite angles are equal

(ii) the sum of two adjacent angles is 180º

(iii) the sum of all the four angles is 360º.

Material Required

Two transparent strips marked as AB and CD, a full protractor, a nail, cardboard, white paper, etc.

Method of Construction

1. Take a cardboard of a convenient size and paste a white paper on it.
2. Paste a full protractor (0° to 360º) on the cardboard, as shown in Fig. 1.
3. Mark the centre of the protractor as O.
4. Make a hole in the middle of each transparent strip containing two intersecting lines.
5. Now fix both the strips at O by putting a nail as shown in Fig. 1.

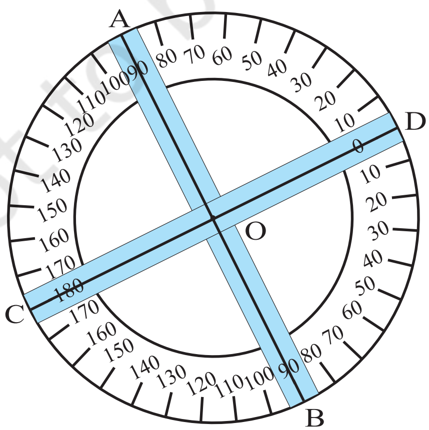

Fig. 1

DEMONSTRATION

1. Observe the adjacent angles and the vertically opposite angles formed in different positions of the strips.
2. Compare vertically opposite angles formed by the two lines in the strips in different positions.
3. Check the relationship between the vertically opposite angles.
4. Check that the vertically opposite angles $\angle AOD$, $\angle COB$, $\angle COA$ and $\angle BOD$ are equal.
5. Compare the pairs of adjacent angles and check that $\angle COA + \angle DOA = 180°$, etc.
6. Find the sum of all the four angles formed at the point O and see that the sum is equal to 360º.

OBSERVATION

On actual measurement of angles in one position of the strips :

1. $\angle AOD$ = ..., $\angle AOC$ = ...

   $\angle COB$ = ..., $\angle BOD$ = ...

Therefore, $\angle AOD = \angle COB$ and $\angle AOC$ = ... (vertically opposite angles).

2. $\angle AOC + \angle AOD$ = ..., $\angle AOC + \angle BOC$ = ...,

   $\angle COB + \angle BOD$ = ...

   $\angle AOD + \angle BOD$ = ... (Linear pairs).

3. $\angle AOD + \angle AOC + \angle COB + \angle BOD$ = ... (angles formed at a point).

APPLICATION

These properties are used in solving many geometrical problems.

Activity 14

Objective

To verify experimentally the different criteria for congruency of triangles using triangle cut-outs.

Material Required

Cardboard, scissors, cutter, white paper, geometry box, pencil/sketch pens, coloured glazed papers.

Method of Construction

1. Take a cardboard of a convenient size and paste a white paper on it.
2. Make a pair of triangles ABC and DEF in which $AB = DE$, $BC = EF$, $AC = DF$ on a glazed paper and cut them out [see Fig. 1].
3. Make a pair of triangles GHI, JKL in which $GH = JK$, $GI = JL$, $\angle G = \angle J$ on a glazed paper and cut them out [see Fig. 2].

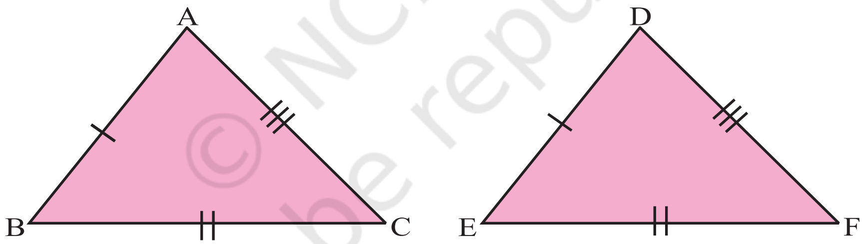

Fig. 1

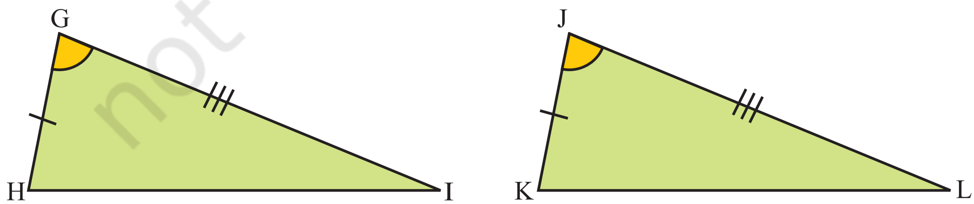

Fig. 2

4. Make a pair of triangles PQR, STU in which QR = TU, ∠Q = ∠T, ∠R = ∠U on a glazed paper and cut them out [see Fig. 3].
5. Make two right triangles XYZ, LMN in which hypotenuse YZ = hypotenuse MN and XZ = LN on a glazed paper and cut them out [see Fig. 4].

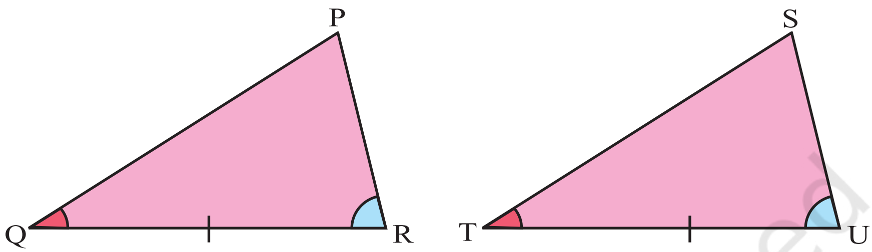

Fig. 3

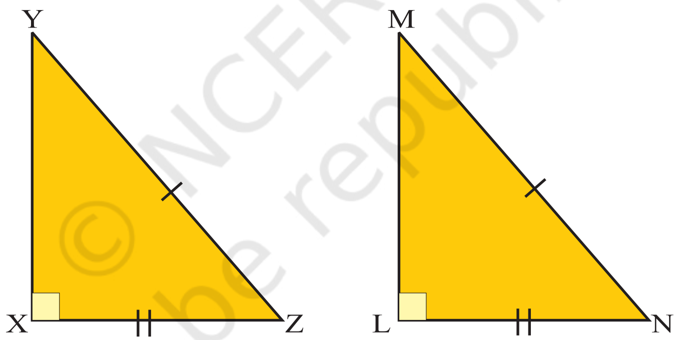

Fig. 4

Demonstration

1. Superpose DABC on DDEF and see whether one triangle covers the other triangle or not by suitable arrangement. See that ΔABC covers ΔDEF completely only under the correspondence A↔D, B↔E, C→F. So, ΔABC ≅ ΔDEF, if AB = DE, BC = EF and AC = DF.

   This is SSS criterion for congruency.

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2. Similarly, establish $\Delta GHI \cong \Delta JKL$ if GH = JK. $\angle G = \angle J$ and GI = JL. This is SAS criterion for congruency.
3. Establish $\Delta PQR \cong \Delta STU$, if QR = TU, $\angle Q = \angle T$ and $\angle R = \angle U$.

   This is ASA criterion for congruency.
4. In the same way, $\Delta STU \cong \Delta LMN$, if hypotenuse YZ = hypotenuse MN and XZ = LN.

   This is RHS criterion for right triangles.

Observation

On actual measurement :

In ΔABC and ΔDEF,

AB = DE = ..., BC = EF = ...,

AC = DF = ..., $\angle A$ = ...,

$\angle D$ = ..., $\angle B$ = ..., $\angle E$ = ...,

$\angle C$ = ..., $\angle F$ = ...

Therefore, $\Delta ABC \cong \Delta DEF$.

2. In ΔGHI and ΔJKL,

GH = JK = ..., GI = JL = ..., HI = ...,

KL= ...., $\angle G$ = ..., $\angle J$ = ...,

$\angle H$ = ..., $\angle K$ = ..., $\angle I$ = ...,

$\angle L$ = ...

Therefore, $\Delta GHI \cong \Delta JKL$.

3. In ΔPQR and ΔSTU,

QR = TU = ..., PQ = ..., ST = ...,

PR = ..., SU = ..., $\angle S$ = ...,

$\angle Q = \angle T$ = ..., $\angle R = \angle U$ = ..., $\angle P$ = ...

Therefore, $\Delta PQR \cong \Delta STU$.

4. In ΔXYZ and ΔLMN, hypotenuse YZ = hypotenuse MN = ...

XZ = LN = ..., XY = ...,

LM = ..., $\angle X = \angle L = 90°$

$\angle Y$ = ..., $\angle M$ = ..., $\angle Z$ = ...,

$\angle N$ = ...,

Therefore, $\Delta XYZ \cong \Delta LMN$.

Application

These criteria are useful in solving a number of problems in geometry.

These criteria are also useful in solving some practical problems such as finding width of a river without crossing it.

Activity 15

Objective

To verify that the sum of the angles of a triangle is 180º.

Material Required

Hardboard sheet, glazed papers, sketch pens/pencils, adhesive, cutter, tracing paper, drawing sheet, geometry box.

Method of Construction

1. Take a hardboard sheet of a convenient size and paste a white paper on it.
2. Cut out a triangle from a drawing sheet, and paste it on the hardboard and name it as ΔABC.
3. Mark its three angles as shown in Fig. 1
4. Cut out the angles respectively equal to ∠A, ∠B and ∠C from a drawing sheet using tracing paper [see Fig. 2].

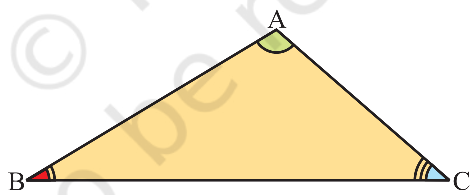

Fig. 1

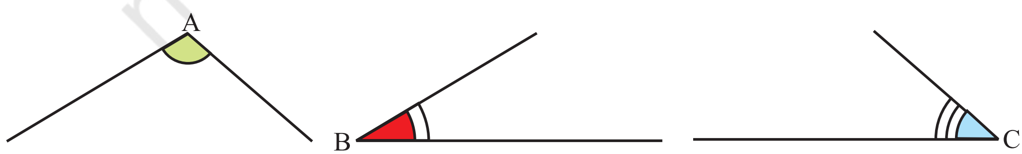

Fig. 2

5. Draw a line on the hardboard and arrange the cut-outs of three angles at a point O as shown in Fig. 3.

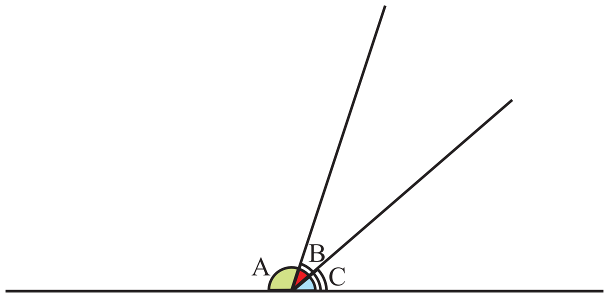

Fig. 3

DEMONSTRATION

The three cut-outs of the three angles A, B and C placed adjacent to each other at a point form a line forming a straight angle = 180°. It shows that sum of the three angles of a triangle is 180º. Therefore, $\angle A + \angle B + \angle C = 180°$.

OBSERVATION

Measure of $\angle A$ = -------------------.

Measure of $\angle B$ = -------------------.

Measure of $\angle C$ = -------------------.

Sum ($\angle A + \angle B + \angle C$) = -------------------.

APPLICATION

This result may be used in a number of geometrical problems such as to find the sum of the angles of a quadrilateral, pentagon, etc.

Activity 16

OBJECTIVE

To verify exterior angle property of a triangle.

MATERIAL REQUIRED

Hardboard sheet, adhesive, glazed papers, sketch pens/pencils, drawing sheet, geometry box, tracing paper, cutter, etc.

METHOD OF CONSTRUCTION

1. Take a hardboard sheet of a convenient size and paste a white paper on it.
2. Cut out a triangle from a drawing sheet/glazed paper and name it as ΔABC and paste it on the hardboard, as shown in Fig. 1.
3. Produce the side BC of the triangle to a point D as shown in Fig. 2.

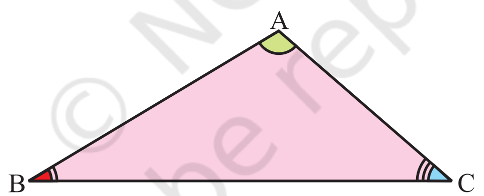

Fig. 1

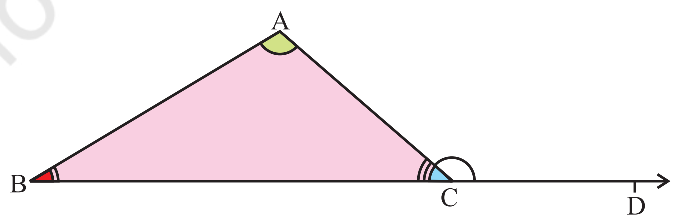

Fig. 2

4. Cut out the angles from the drawing sheet equal to ∠A and ∠B using a tracing paper [see Fig. 3].
5. Arrange the two cutout angles as shown in Fig. 4.

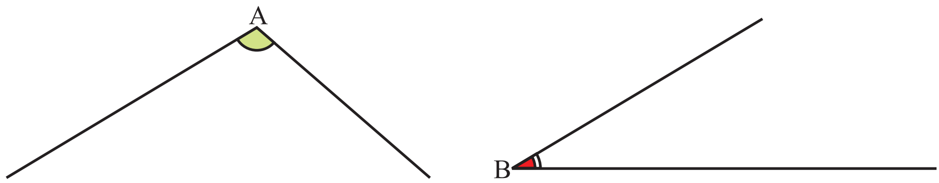

Fig. 3

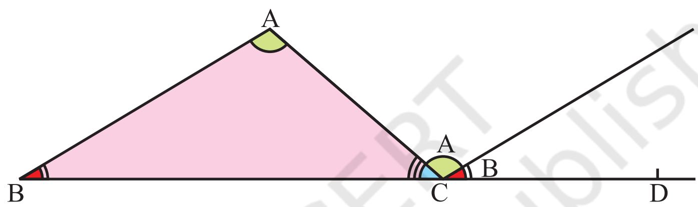

Fig. 4

DEMONSTRATION

∠ACD is an exterior angle.

∠A and ∠B are its two interior opposite angles.

∠A and ∠B in Fig. 4 are adjacent angles.

From the Fig. 4, ∠ACD = ∠A + ∠B.

OBSERVATION

Measure of ∠A= ___________, Measure of ∠B = ___________, Sum (∠A + ∠B) = ________, Measure of ∠ACD = _______.

Therefore, ∠ACD = ∠A + ∠B.

APPLICATION

This property is useful in solving many geometrical problems.

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Activity 17

Objective

To verify experimentally that the sum of the angles of a quadrilateral is 360º.

Material Required

Cardboard, white paper, coloured drawing sheet, cutter, adhesive, geometry box, sketch pens, tracing paper.

Method of Construction

1. Take a rectangular cardboard piece of a convenient size and paste a white paper on it.
2. Cut out a quadrilateral ABCD from a drawing sheet and paste it on the cardboard [see Fig. 1].
3. Make cut-outs of all the four angles of the quadrilateral with the help of a tracing paper [see Fig. 2]

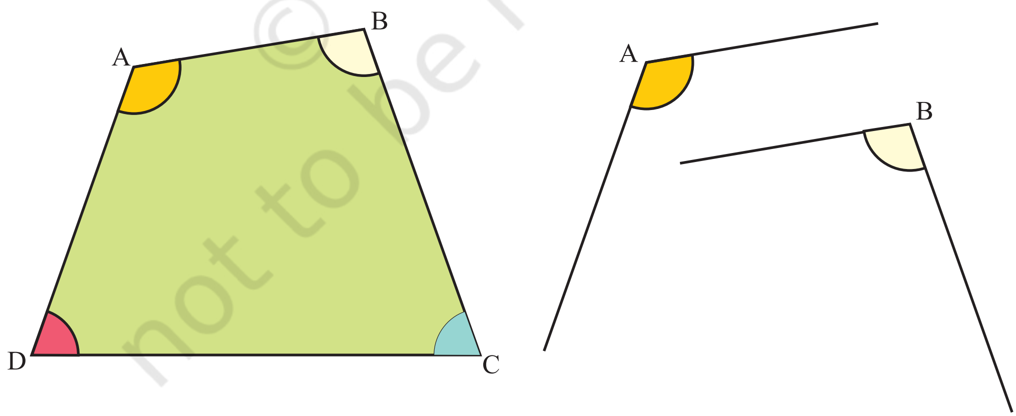

Fig. 1

Fig. 2

4. Arrange the four cut-out angles at a point O as shown in Fig. 3.

Demonstration

1. The vertex of each cut-out angle coincides at the point O.
2. Such arrangement of cut-outs shows that the sum of the angles of a quadrilateral forms a complete angle and hence is equal to 360º.

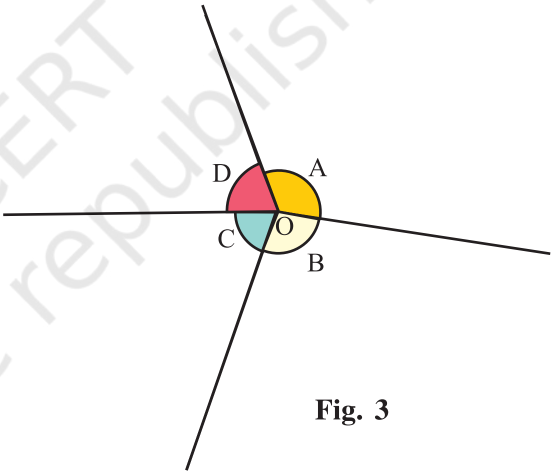

Fig. 3

Observation

Measure of $\angle A$ = ----------.

Measure of $\angle B$ = ----------.

Measure of $\angle C$ = ----------.

Measure of $\angle D$ = ----------.

Sum [$\angle A + \angle B + \angle C + \angle D$] = -------------.

Application

This property can be used in solving problems relating to special types of quadrilaterals, such as trapeziums, parallelograms, rhombuses, etc.

Activity 18

Objective

To verify experimentally that in a triangle, the longer side has the greater angle opposite to it.

Material Required

Coloured paper, scissors, tracing paper, geometry box, cardboard sheet, sketch pens.

Method of Construction

1. Take a piece of cardboard of a convenient size and paste a white paper on it.
2. Cut out a ΔABC from a coloured paper and paste it on the cardboard [see Fig. 1].
3. Measure the lengths of the sides of ΔABC.
4. Colour all the angles of the triangle ABC as shown in Fig. 2.
5. Make the cut-out of the angle opposite to the longest side using a tracing paper [see Fig. 3].

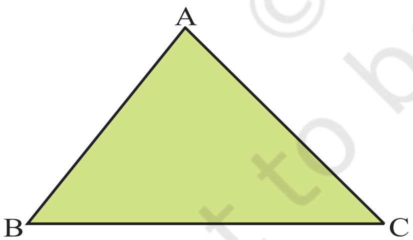

Fig. 1

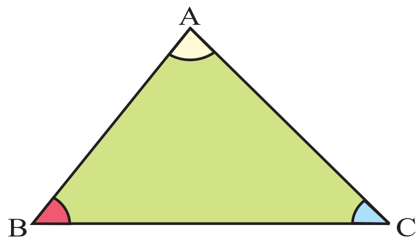

Fig. 2

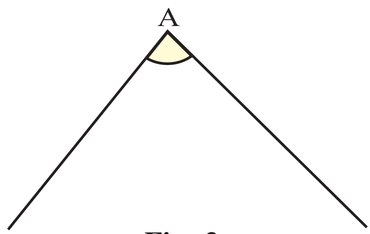

Fig. 3

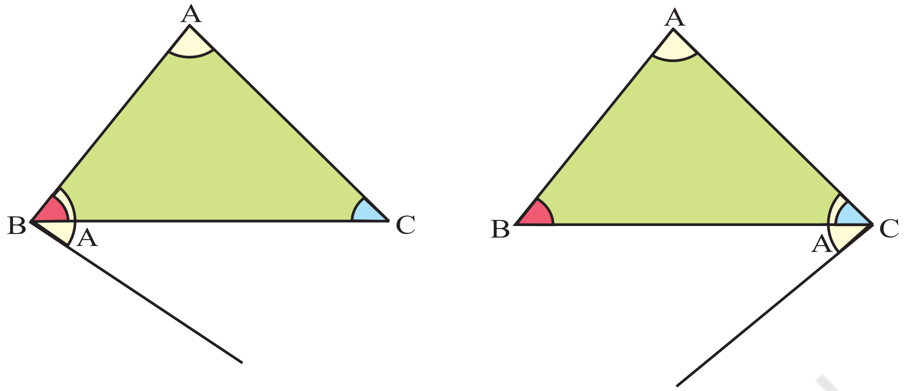

Fig. 4

Demonstration

Take the cut-out angle and compare it with other two angles as shown in Fig. 4.

$\angle A$ is greater than both $\angle B$ and $\angle C$.

i.e., the angle opposite the longer side is greater than the angle opposite the other side.

Observation

Length of side AB = ...

Length of side BC = ...

Length of side CA = ...

Measure of the angle opposite to longest side = ...

Measure of the other two angles = ... and ....

The angle opposite the .... side is .... than either of the other two angles.

Application

The result may be used in solving different geometrical problems.

Activity 19

Objective

To verify experimentally that the parallelograms on the same base and between same parallels are equal in area.

Material Required

A piece of plywood, two wooden strips, nails, elastic strings, graph paper.

Method of Construction

1. Take a rectangular piece of plywood of convenient size and paste a graph paper on it.
2. Fix two horizontal wooden strips on it parallel to each other [see Fig. 1].

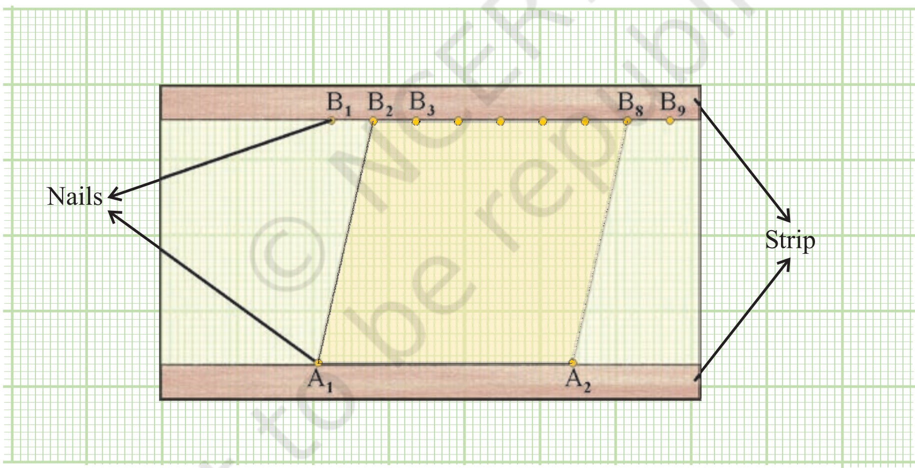

Fig. 1

3. Fix two nails A_1 and A_2 on one of the strips [see Fig. 1].
4. Fix nails at equal distances on the other strip as shown in the figure.

Demonstration

1. Put a string along A_1, A_2, B_8, B_2 which forms a parallelogram $A_1A_2B_8B_2$. By counting number of squares, find the area of this parallelogram.

2. Keeping same base A_1A_2, make another parallelogram $A_1A_2B_9B_3$ and find the area of this parallelogram by counting the squares.
3. Area of parallelogram in Step 1 = Area of parallelogram in Step 2.

OBSERVATION

Number of squares in 1st parallelogram = --------------.

Number of squares in 2nd parallelogram = -------------------.

Number of squares in 1st parallelogram = Number of squares in 2nd parallelogram.

Area of 1st parallelogram = --------- of 2nd parallelogram

APPLICATION

This result helps in solving various geometrical problems. It also helps in deriving the formula for the area of a paralleogram.

NOTE

In finding the area of a parallelogram, by counting squares, find the number of complete squares, half squares, more than half squares. Less than half squares may be ignored.

Activity 20

Objective

To verify that the triangles on the same base and between the same parallels are equal in area.

Material Required

A piece of plywood, graph paper, pair of wooden strips, colour box , scissors, cutter, adhesive, geometry box.

Method of Construction

1. Cut a rectangular plywood of a convenient size.
2. Paste a graph paper on it.
3. Fix any two horizontal wooden strips on it which are parallel to each other.
4. Fix two points A and B on the paper along the first strip (base strip).
5. Fix a pin at a point, say at C, on the second strip.
6. Join C to A and B as shown in Fig. 1.

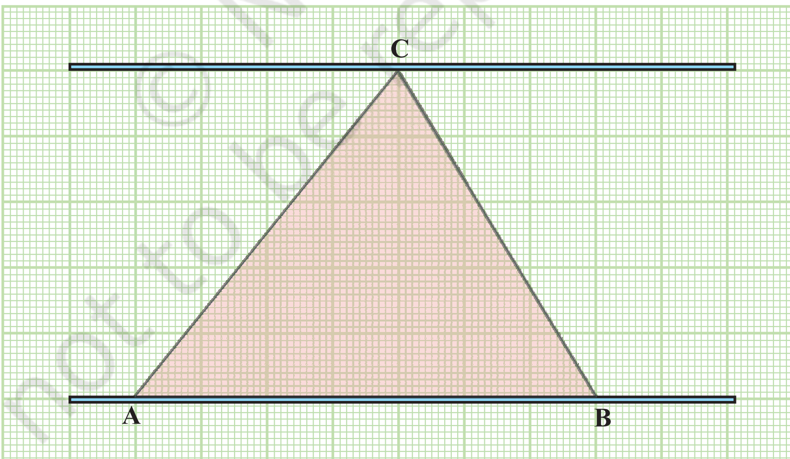

Fig. 1

7. Take any other two points on the second strip say C′ and C″ [see Fig. 2].
8. Join C′A, C′B, C″A and C″B to form two more triangles.

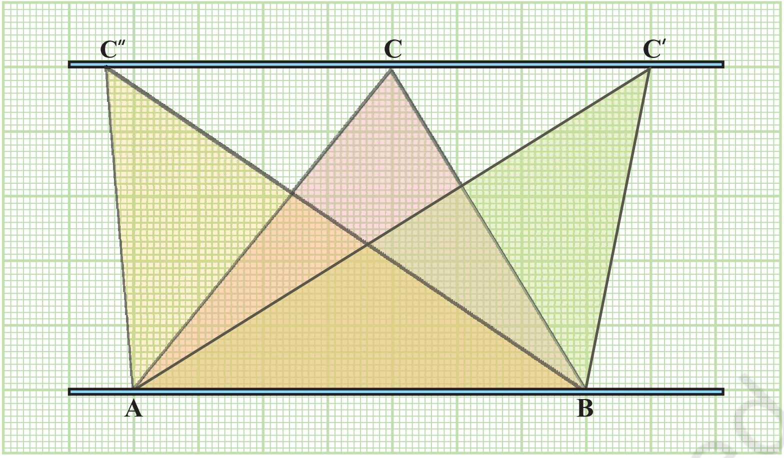

Fig. 2

DEMONSTRATION

1. Count the number of squares contained in each of the above triangles, taking half square as $\frac{1}{2}$ and more than half as 1 square, leaving those squares which contain less than $\frac{1}{2}$ squares.
2. See that the area of all these triangles is the same. This shows that triangles on the same base and between the same parallels are equal in area.

OBSERVATION

1. The number of squares in triangle ABC =.........., Area of ΔABC = ... units
2. The number of squares in triangle ABC′ =......., Area of D ABC′ = ... units
3. The number of squares in triangle ABC″ =....... , Area of D ABC″ = ... units

   Therefore, area (ΔABC) = ar(ABC′) = ar(ABC″).

APPLICATION

This result helps in solving various geometric problems. It also helps in finding the formula for area of a triangle.

ACADEMIC WORLD SCHOOL™
BEMETARA

शिक्षा सत्र : 2024-25

कक्षा : IX,X

विषय : हिंदी

पोर्टफोलियो

विद्यार्थी फोटो

विद्यार्थी का नाम -------------------------- **शिक्षक का नाम**

कक्षा,वर्ग ----------------

1- विद्यार्थी की सूचना

- छात्र / छत्रा का नाम : --
- जन्म तिथि :---
- उम्र :---
- कक्षा व वर्ग :---
- अनुक्रमांक संख्या :---
- विद्यालय का नाम :---
- विद्यालय में प्रवेश संख्या :---
- विद्यालय में प्रवेश वर्ष :---
- विद्यार्थी की ऊँचाई :---
- विद्यार्थी का वजन :---
- रक्त समूह :---
- आधार संख्या :---

2-पारिवारिक सूचना

- माता का नाम : ---
- पेशा : ---
- संपर्क मो. न. : ---
- पिता का नाम : ---
- पेशा : ---
- संपर्क मो. न. : ---
- भाई-बहन की संख्या : ---
- घर का पता : ---
  ____
- परिवार के सदस्यों की संख्या:--

3- छात्र / छात्रा के अपने जवाब

1. आपको किन चीजों से ज्यादा लगाव है?

   उत्तर- --

2. आपका प्रिय खेल कौन-सा है?

   उत्तर- --

3. आपको किस चीज से ज्यादा डर लगता है?

   उत्तर- --

4. अपने घनिष्ठ मित्र का नाम लिखिए-

   उत्तर- --

5. आपको अपने मित्र के कौन-से गुण अच्छे लगते हैं?

   उत्तर- --

6. आपके प्रिय महापुरुष कौन है?

   उत्तर- --

7. आप भविष्य में क्या बनना चाहते हैं?

   उत्तर- --

8. अपने पसंदीदा पुस्तक के नाम लिखिए-

   उत्तर- --

9. आपका शौक क्या है?

   उत्तर- --

10. छुट्टियों में आप कहाँ जाना चाहते हैं?

    उत्तर- --

4- आप अपने बारे में एक अनुच्छेद लिखिए-

5- हाल ही में पढे एक पुस्तक के बारे में लिखिए-

6-भगत सिंह, नेताजी सुभाषचंद्र बोस,अब्दुलकलम, भीमराव आँबेडकर, महावीर स्वामी,गुरुनानक देव जी या महात्मा बुद्ध में से किसी एक का चित्र लगाकर उनके बारे में 150 शब्दों में लिखिए-

7- हिंदी के दस लेखक या दस कवियों के नाम और उनकी दो-दो रचनाएँ लिखिए-

कवि / लेखक का नाम	रचना / लेख
1. ____________________	____________________
2. ____________________	____________________
3. ____________________	____________________
4. ____________________	____________________
5. ____________________	____________________
6. ____________________	____________________
7. ____________________	____________________
8. ____________________	____________________
9. ____________________	____________________
10. ____________________	____________________

8- भारत के 10 दर्शनीय स्थल और उसके राज्यों के नाम लिखिए-

स्थान का नाम		राज्य का नाम
1.	____________________	____________________
2.	____________________	____________________
3.	____________________	____________________
4.	____________________	____________________
5.	____________________	____________________
6.	____________________	____________________
7.	____________________	____________________
8.	____________________	____________________
9.	____________________	____________________
10.	____________________	____________________

9- किसी दर्शनीय स्थल में घूमने गए थे,उसका वर्णन लगभग 200 शब्दों में कीजिये-

10- आने वाले बीस वर्षों में हमारा भारत देश विकास के किस ऊँचाईयों तक पहुँच सकता है? कल्पना करते हुए 200 शब्दों में अपने विचार लिखिए-

11- एक सुविचार लिखिए-

छात्र / छात्रा का हस्ताक्षर: ---------------------------

नाम : ---------------------------

दिनांक: ---------------------------

शिक्षक/ शिक्षिका का हस्ताक्षर: --------------------------

नाम : ---------------------------

दिनांक: ---------------------------

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