

Class – X

Lesson Plan

Topic: Similar Triangles

Brief Description of the lesson: In this chapter, students will study about condition of Similar Triangles, basic proportionality theorem, Criteria for Similarity of Triangles, Pythagoras Theorem and Area Theorem.

UN Sustainable Goals to be achieved (if any): Quality Education

Objectives: (put Bloom's level)

I - Specific Objectives

Students will be able to:

1. Define Similarity and its Criteria.(K)
2. Differentiate between congruency and similarity. (U)
3. State and prove Basic Proportionality theorem.(U)
4. State and prove Pythagoras theorem and its converse (AN)
5. State and prove Area Theorem(U)
6. Solve question based on the application of the above mentioned theorem.(AP)

II - Behavioral Objectives:

Students will be able to Visualize and apply Reasoning.

Students will be able to develop Decision making and different approaches for solving problem.

Process / Activities

Activity (to introduce the lesson)

From given figure students will be asked to recollect the figure with identical shapes and also with exact shape and size .**To explain the difference between congruency and similarity**



Activity (to support learning)

Draw two triangles ABC and DEF such that $AB = 2 \text{ cm}$, $\angle A = 50^\circ$, $AC = 4 \text{ cm}$, $DE = 3 \text{ cm}$, $\angle D = 50^\circ$ and $DF = 6 \text{ cm}$. Are the two triangles similar? If yes then justify the answer.

Skills (as per subject)

- Problem solving
- Critical Thinking
- Reasoning
- Visualisation

Activity / Assignment (to assess learning)

Verification of Basic Proportionality Theorem for the three (acute, obtuse and right angle) triangles.

Expected Learning Outcome:

Students would be able to:

1. Define Similarity and its Criteria

2. Differentiate between congruency and similarity.
3. State and prove Basic Proportionality theorem
4. State and prove Pythagoras theorem and its converse
5. State and prove Area Theorem
6. Solve question based on the application of the above mentioned theorem.
7. Develop Reasoning, Visualizing & Decision making (Activity)
8. Appreciate different approaches of solving problem.

Assessment: (SOLO)

Two marks for each correct solution.

1. A ladder is placed against a wall such that its foot is at a distance of 2.5 m from the wall and its top reaches a window 6 m above the ground. Find the length of the ladder. **(Pre)**
2. Fill in the blanks using the correct word given in brackets: **(Unstructured)**
 - (i) All circles are. (Congruent, similar)
 - (ii) All squares are..... (Similar, congruent)
 - (iii) All..... triangles are similar. (Isosceles, equilateral)
3. Give two different examples of pair of (i) similar figures. (ii) Non-similar figures. **(Relational)**
4. Diagonals AC and BD of a trapezium ABCD with $AB \parallel DC$ intersect each other at the point O. Using a similarity criterion for two triangles, show that $OA/OC = OB/OD$. **(Multistructural)**
5. An airplane leaves an airport and flies due north at a speed of 1000 km per hour. At the same time, another airplane leaves the same airport and flies due west at a speed of 1200 km/ hour. How far apart will be the two planes after one and half hours? **(Extended)**