

CLASS IX

LESSON PLAN

CHAPTER – HERONS FORMULA

Topic	Area of a triangle and a quadrilateral
Prerequisite knowledge	- To find the area of a triangle if one of its base and the corresponding height is given - A quadrilateral can be divided into two triangles by drawing any one of its diagonal
Assessment of qualifying knowledge	- Group Discussion - Asking questions to students one by one
Objective	- To find the area of a triangular hoarding - To find the area of a quadrilateral - To use this knowledge in any practical life situations
Transaction Methodology (the teacher can use the mentioned technique wherever applicable and can use any other too)	- Demonstration Method - Lecture Method
Classroom Interaction Procedure How do we find the area of a triangle How to find the area of a triangle if its height is not given For example – Find the area of a triangle whose sides are 8cm, 13cm and 11cm What is the perimeter of this triangle? Let us denote this perimeter by 2s Then area = $\sqrt{s(s-a)(s-b)(s-c)}$ where s is the semi perimeter and a = 8, b = 13, c = 11 Now find the area of this triangle How will you find the area of a quadrilateral whose all the sides and one diagonal is given?	Expected Probable Responses $\text{Area} = \frac{1}{2} \times \text{base} \times \text{height}$ $\text{Perimeter} = 8 + 13 + 11 = 32\text{cm}$ $\text{Area} = \sqrt{16(16-8)(16-13)(16-11)}$ $= \sqrt{16 \times 8 \times 3 \times 5} = 8\sqrt{30} \text{ cm}^2$ Draw the given diagonal, we will get two triangles and then we will find the area of each of the two triangles and add the two areas.
Practice Questions - Find the area of a triangle two sides of which are 18cm and 10cm and the perimeter is 42cm. - Find the area of a rhombus whose each side is 30m and its longer diagonal is 48m	
Learning Outcomes	- The students will be able to recognize Herons formula - Find the area of triangles and quadrilaterals using this formula