

ACTIVITY NO - 7

Subject	Mathematics
Class	X
Chapter/Unit	Co-ordinate Geometry
Topic	Area of a Triangle
Time	30 minutes
Nature of Activity	Individual

What will I learn (Learning Outcome)?

Calculating the area of triangle when the co-ordinates of the vertices of a triangle are given.

Skills: Applying, Analyzing and Creating

What I have to do?

To calculate the area of triangle when the co-ordinates of the vertices of a triangle are given.

What do I require?

Graph sheet, geometry box

What do I need to know?

Plotting of points on a Cartesian plane, Area of Trapezium.

➤ Teacher's Activity

Teacher will revise the concept of plotting of points on the Cartesian plane and Area of Trapezium with the students.

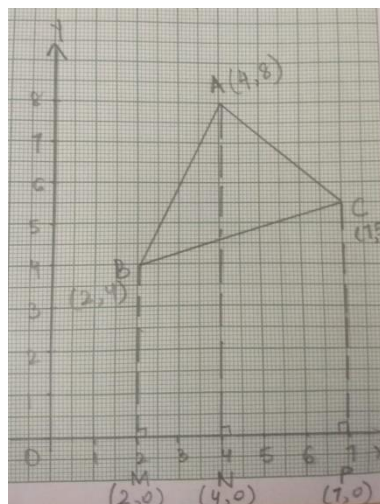
How will I proceed?

➤ Student's Activity

- 1) Draw the Cartesian plane and plot the co-ordinates of ΔABC .
- 2) Draw the perpendiculars AN, BM and CP from the three vertices to the X-axis .
- 3) Calculate the length of the perpendiculars AN, BM and CP.
- 4) Apply the formula of area of Trapezium to find the area of trapezia ABMN, ACPN and BCPM.

What have I observed?

- 1) Area of trapezium ABMN = $\frac{1}{2} \times 2(4 + 8) = 12 \text{ sq. units}$.
- 2) Area of trapezium ACPN = _____
- 3) Area of trapezium BCPM = _____
- 4) Area of ΔABC = Area of trapezium ABMN + Area of trapezium ACPN – Area of trapezium BCPM
= _____ + _____ – _____
= _____ sq. units



What have I learnt?

Area of $\Delta ABC = \underline{\hspace{2cm}}$ sq. units found out geometrically.

What am I curious to learn?

Calculate the area of Δ formed by joining the points P(6,7), Q(3,4) and R(1,2).

Let me evaluate myself

1) Find the area of the triangle formed by the points A(a,0), B(0,0) and C(0,b).

2) A(6,1), B(8,2) and C(9,4) are the three vertices of the parallelogram ABCD. If E is the mid-point of DC, find the area of ΔADE .

1) Let A(6,0), B(5,-2) and C(-2,-1) be the vertices of a ΔABC . Find the centroid P of the triangle ABC. Also find $\frac{\text{area of } \Delta BPC}{\text{area of } \Delta BAC}$.
