Area of a Traingle

1 10^{th} Maths - Chapter 7

All problems are from Exercise 7.3

1. Find the area of the triangle whose vertices are :

   (a) ((2, 3), (–1, 0), (2, – 4)

   (b) (–5, –1), (3, –5), (5, 2)

2. In each of the following, find the value of 'k', for which the points are collinear.

   (a) (7, –2), (5, 1), (3, k)

   (b) (8, 1), (k, – 4), (2, –5)

3. Find the area of the triangle formed by joining the mid-points of the sides of the triangle whose vertices are (0, –1), (2, 1) and (0, 3). Find the ratio of this area to the area of the given triangle.

4. Find the area of the quadrilateral whose vertices, taken in order, are (– 4, – 2), (– 3, – 5), (3, – 2) and (2, 3).

5. You have studied in Class IX, (Chapter 9, Example 3), that a median of a triangle divides it into two triangles of equal areas. Verify this result for $\triangle ABC$ whose vertices are $\vec{A}(4, -6), \vec{B}(3, -2),$ and $\vec{C}(5, 2)$.

2 12^{th} Maths - Chapter 8

1. Using integration find the area of region bounded by the triangle whose vertices are (1, 0), (2, 2) and (3, 1) as shown in Figure 1. (Ref : Example 9)

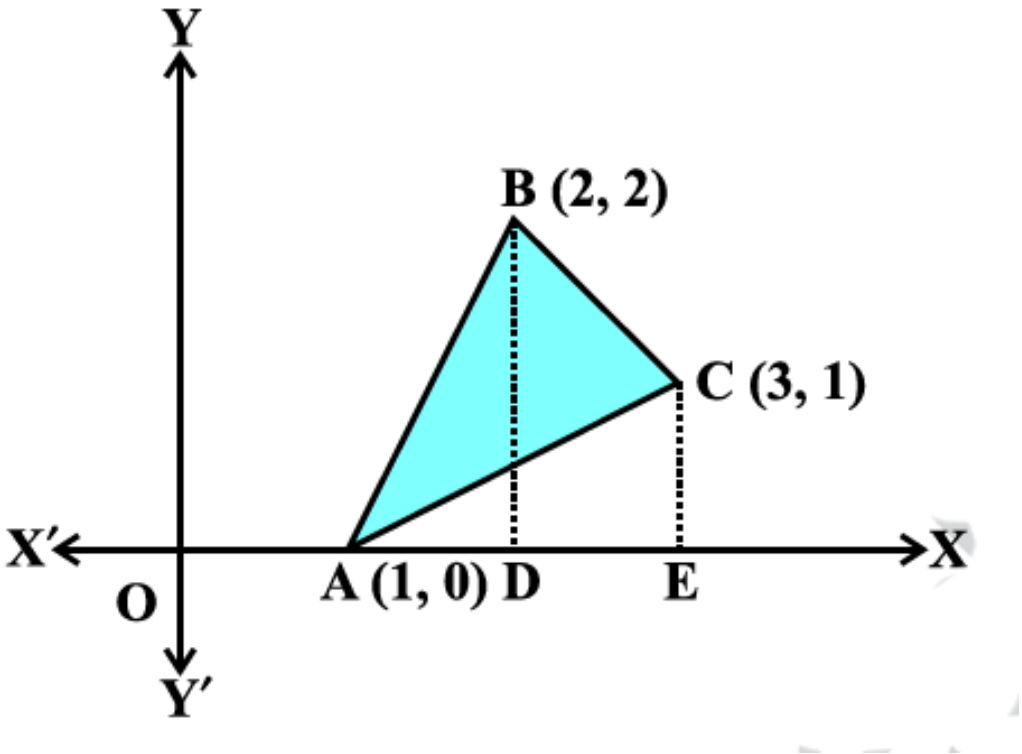

Figure 1: Area of a Triangle

2. Using integration find the area of region bounded by the triangle whose vertices are (– 1, 0), (1, 3) and (3, 2). (Ref : Problem 4 in Ex 8.2)

3. Using the method of integration find the area of the $\triangle$ ABC, coordinates of whose vertices are $\vec{A}(2,0), \vec{B}(4,5),$ and $\vec{C}(6,3)$. (Ref: Problem 13 in Misc Exercise on Chapter 8)