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)

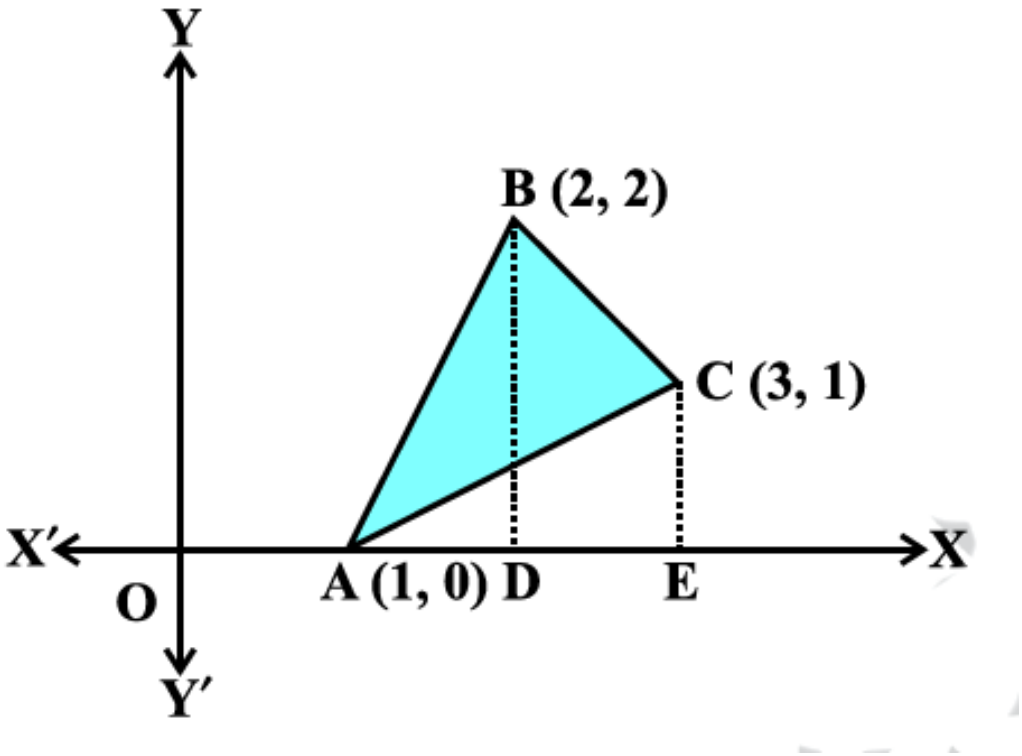

Figure 1:

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)