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Related problems for Finding area of Triangles and Inequalities Based

SUBJECT : MATHEMATICS
CHAPTER NUMBER:8
CHAPTER NAME :APPLICATION OF INTEGRALS

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Problems on Area of Triangle

Using integration find the area of the region bounded by the triangle whose vertices are (-1,0), (1,3), and (3,2).

Problem on Inequalities Based

Find the area of the region represented by $\{(x, y): x^2 \leq y \leq |x|\}$.

Example

Find the area of the region $\{(x, y): y^2 \leq 4x,\ 4x^2 + 4y^2 \leq 9\}$.

Example

Using integration find $\{(x, y): |x| \leq y \leq \sqrt{4 - x^2}\}$.

Example

Find the area of the region $\{(x, y): x^2 + y^2 \leq 4, x + y \geq 2\}$.

Assignments

1. Using integration find the area of the region bounded by the lines $2x + y = 4,\ 3x - 2y = 6$ and $x - 3y + 5 = 0$.

2. Using method of integration find the area of the triangle ABC, coordinates of whose vertices are $A(2,0), B(4,5)$ and $C(6,3)$.

3. Find the area of the region bounded by curves $y = x^2 + 2, y = x, x = 0$ and $x = 3$.

4. Exercise 8.2 from NCERT book.

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THANKING YOU

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