MATHS

BOOKS - MBD MATHS (ODIA ENGLISH)

AREA UNDER PLANE CURVES (APPLICATION OF DEFINITE INTEGRALS)

Question Bank

1. Find the area bounded by

$$y = e^x, y = 0, x = 4, x = 2$$

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2. Find the area bounded by

$$y = x^2, y = 0, x = 1$$

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3. Find the area bounded by

$$xy = a^2, y = 0, x = \alpha, x = \beta (\beta > \alpha > 0)$$

4. Find the area bounded by

$$y = \sin x, y = 0, x = \frac{\pi}{2}$$

5. Find the area enclosed by

$$y = e^x, \, x = 0, \, y = 2, \, y = 3$$

6. Find the area enclosed by

$$y^2 = x, \, x = 0, \, y = 1$$

7. Find the area enclosed by

$$xy = a^2, \; x = 0, \; y = \alpha, \; y = \beta \, (\beta > \alpha > 0)$$

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8. Find the area enclosed by

$$y^2 = x^3, \; x = 0, \; y = 1$$

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9. Determine the area within the ellipse

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1.$$

10. Find the area of the circle

$$x^2 + y^2 = 2ax.$$

11. Find the area of the portion of the parabola $y^2 = 4x$ bounded by the double ordinate through(3,0).

12. Determine the area of the region bounded by $y^2 = x^3$ and the double ordinate through (2,0).

13. Find the area of the regions into which the circle $x^2 + y^2 = 4$ is divided by the line $x + \sqrt{3}y = 2$.

14. Determine the area the of the region between the curves y=cos x and y=sin x, bounded by x =0.

15. Find the area enclosed bt the two paraboles $y^2 = 4$ ax and $x^2 = 4ay$.

16. Determine the area common to the parabola $y^2 = x$ and the circle $x^2 + y^2 = 2x$.