Saitechinfo NEET JEE Academy

43, Haridoss Main Rd, CH-99. Ph:9444929163

INTEGRAL APPLICATIONS WORKSHEET

Class 12 - Mathematics

1. Using integration, find the area of the region bounded by the line x - y + 2 = 0, the curve x = $\sqrt{y}$ and Y-axis. **[5]**
2. Find the area of the region $\left\{(x,y) : \frac{x^2}{a^2} + \frac{y^2}{b^2} \leq 1 \leq \frac{x}{a} + \frac{y}{b}\right\}$ **[5]**
3. Find the area of the smaller region bounded by the ellipse $\frac{x^2}{9} + \frac{y^2}{4} = 1$ and the line $\frac{x}{3} + \frac{y}{2} = 1$. **[5]**
4. Find the area of the region enclosed by the parabola $y^2 = x$ and the line x + y = 2. **[5]**
5. Find the area of the region bounded by the ellipse $\frac{x^2}{16} + \frac{y^2}{9} = 1$ **[5]**
6. Find the area of the region bounded by the curve $y = x^2$ and the line y = 4. **[5]**
7. Find the area between the curves y = x and $y = x^2$. **[5]**
8. Find the area bounded by the curve $y = 4 - x^2$ and the lines y = 0, y = 3. **[5]**
9. Find the area enclosed by the parabola $4y = 3x^2$ and the line 2y = 3x + 12 **[5]**

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