

Example 1. Find $\int \frac{1}{x^2 + a^2} dx$, for $a > 0$

Example 2. Find $\int \frac{1}{\sqrt{a^2 - x^2}} dx$, for $a > 0$

Example 3. Find $\int \frac{\sqrt{4 - x^2}}{x^2} dx$

Example 4. Find $\int \frac{1}{x^2 \sqrt{x^2 + 9}} dx$

Example 5. Find $\int \frac{1}{\sqrt{x^2 - 9}} dx$ or Find $\int \frac{1}{\sqrt{x^2 - a^2}} dx$

Example 6. Find the area enclosed by the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$

Example 7. Find $\int \sqrt{a^2 - x^2} dx$

Example 8. Find $\int \frac{1}{\sqrt{x^2 + a^2}} dx$

Example 9. Find $\int \frac{1}{x^2 - a^2} dx$

Example 10. Find $\int \frac{1}{x^2 - 2x + 5} dx$

Example 11. Find $\int \frac{1}{\sqrt{x^2 - 4x - 5}} dx$