

$$\int \frac{1}{x^2 + 1} dx$$

Solution

Using the differentiation rule for $\tan^{-1} x$, we have

$$\int \frac{1}{x^2 + 1} dx = \tan^{-1} x + C$$

which can also be presented

$$\int \frac{1}{x^2 + 1} dx = \arctan(x) + C$$