

Find y such that

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$$\Rightarrow \int \frac{1}{y^2 + 1} dy = \int \frac{x^2 + x}{x} dx$$

$$\arctan y + C = \frac{x^2}{2} + x$$

$$\arctan y = \frac{x^2}{2} + x - C$$

$$y = \tan \left(\frac{x^2}{2} + x - C \right)$$