

NEW FORMULA 3.854.1

The original formula is

$$\int_0^{\infty} (\cos(ax^2) - \sin(ax^2)) \frac{dx}{x^4 + b^4} = \frac{\pi e^{-ab^2}}{2b^3\sqrt{2}}$$

the change of variables $x = bt$ and replacing ab^2 by a (and going back to x as the integration variable) gives the new formula

$$\int_0^{\infty} (\cos(ax^2) - \sin(ax^2)) \frac{dx}{x^4 + 1} = \frac{\pi e^{-a}}{2\sqrt{2}}$$