

$y = x^2$ とおくと $dy/dx = 2x$. 置換積分

$$\begin{aligned} I &= \frac{1}{2} \int \frac{1}{\sqrt{y^2 + 1}} dy = \frac{1}{2} \log |y + \sqrt{y^2 + 1}| + C \\ &= \frac{1}{2} \log(x^2 + \sqrt{x^4 + 1}) + C \end{aligned}$$

公式 3.2 (9)