$$\int \frac{dx}{x^4+1}.$$

$$\frac{1}{x^4+1} = \frac{1}{(x^2-\sqrt{2}x+1)(x^2+\sqrt{2}x+1)} = \frac{1}{4}\cdot\frac{-\sqrt{2}x+2}{x^2-\sqrt{2}x+1} + \frac{1}{4}\cdot\frac{\sqrt{2}x+2}{x^2+\sqrt{2}x+1}$$

$$\int \frac{dx}{x^4+1} = \frac{-1}{2}\int \frac{\sqrt{2}x-2}{(\sqrt{2}x-1)^2+1}\,dx + \frac{1}{2}\int \frac{\sqrt{2}x+2}{(\sqrt{2}x+1)^2+1}\,dx = \frac{-\sqrt{2}}{4}\int \frac{u-1}{u^2+1}\,du + \frac{\sqrt{2}}{4}\int \frac{v+1}{v^2+1}\,dv =$$

$$= \boxed{\frac{-\sqrt{2}}{8}\log[(\sqrt{2}x-1)^2+1] + \frac{\sqrt{2}}{8}\log[(\sqrt{2}x+1)^2+1] + \frac{\sqrt{2}}{4}\arctan(\sqrt{2}x-1) + \frac{\sqrt{2}}{4}\arctan(\sqrt{2}x+1) + c}$$

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