Dapuary

$$\int \ln (4 \times + 1) dx$$

Unterpropobarine no vactari:

$$\int U dv = UV - SV dU$$

Tad. inpoints:

$$\frac{d}{dx} \ln (f(x)) = \frac{f(w)}{f(x)}$$

3 a using representation:

$$\frac{d}{dx} \ln (g(x)) = \frac{f(w)}{f(x)}$$

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Tad. in  $\frac{d}{dx} = \frac{f(w)}{f(x)}$ 

$$\int \ln(4x^{2}+1) dx = x \ln(4x^{2}+1) - \int \frac{8x^{2}}{4x^{2}+1} dx = \frac{1}{2} \left( \frac{4x^{2}+1}{4x^{2}+1} - \frac{1}{2} \right) = \frac{1}{2} \left( \frac{4x^{2}+1}{4x^{2}+1} - \frac{1}{2} \right) = \frac{1}{2} \left( \frac{4x^{2}+1}{4x^{2}+1} - \frac{1}{2} \right) = \frac{1}{2} \left( \frac{1}{2} - \frac{1}{2} - \frac{1}{2} \right) = \frac{1}{2} \left( \frac{1}{2} - \frac{1}{2} - \frac{1}{2} - \frac{1}{2} \right) = \frac{1}{2} \left( \frac{1}{2} - \frac{1}{2$$

$$\frac{1}{2} \int_{0}^{2} dx = 2x$$

$$= 2 \times -9 \times (482)$$

$$= \int_{10}^{10} (4x^2 + 1) dx = x \ln(4x^2 + 1) - 2x + arcts(2x) + C$$

2) 
$$\int \frac{x^3}{(x^2+1)^2} dx = \int \frac{u-1}{u^2} \frac{du}{2} = \frac{1}{2} \int \frac{u-1}{u^2} du = \frac{1}{2} \int \frac{u}{u^2} du = \int \frac{1}{2} du = \int \frac{$$

$$U = \chi^{2} + \Lambda$$

$$d M = 2 \times d \times$$

$$d X = d M$$

$$\chi^{3} d X = \chi^{2} \times d X = (M - \Lambda) \cdot d M$$

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