

(1) $\frac{1}{x^2} = x^{-2}$ ، $\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$

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(2) $\frac{d}{dx} \ln x = \frac{1}{x}$ ، $\frac{d}{dx} \ln x^2 = \frac{1}{x^2} \cdot 2x = \frac{2}{x}$

(3) $\frac{d}{dx} \ln x = \frac{1}{x}$ ، $\frac{d}{dx} \ln \frac{1}{x} = \frac{1}{\frac{1}{x}} \cdot \left(-\frac{1}{x^2}\right) = -\frac{1}{x}$

(4) $\frac{d}{dx} \ln x = \frac{1}{x}$ ، $\frac{d}{dx} \ln \sqrt{x} = \frac{1}{\sqrt{x}} \cdot \frac{1}{2\sqrt{x}} = \frac{1}{2x}$

(5) $\frac{d}{dx} \ln x = \frac{1}{x}$ ، $\frac{d}{dx} \ln x^2 = \frac{1}{x^2} \cdot 2x = \frac{2}{x}$

(6) $\frac{d}{dx} \ln x = \frac{1}{x}$ ، $\frac{d}{dx} \ln \frac{1}{x} = \frac{1}{\frac{1}{x}} \cdot \left(-\frac{1}{x^2}\right) = -\frac{1}{x}$

بروقت

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ. (اگر تم اس کی سہولت سے)۔ $\frac{d}{dx} \ln x = \frac{1}{x}$ (اگر تم اس کی سہولت سے)۔