

U Practice

Evaluate the following integrals.

1. $\int_0^{\sqrt{2}} \frac{v}{\sqrt[3]{3v^2+2}} dv$

2. $\int \frac{3}{1+9x^2} dx$. *Hint: recall that $\frac{d}{du} \arctan u = \frac{1}{1+u^2}$.*

3. $\int t^3 \sqrt{t^2+1} dt$

4. $\int \frac{\ln x}{x} dx$

5. $\int \frac{1}{x} e^{\sin(\ln x)} \cos(\ln x) dx$