

Evaluate the following integrals

1. $\int \frac{1}{\sqrt{1-x}} dx$ ($u = 1 - x$)

2. $\int_1^3 \frac{x}{1+x^2} dx$

3. $\int_2^5 \frac{1}{x \ln(x)} dx$

4. $\int x(x^2 + 3)^{96} dx$

5. $\int 7e^{4x} dx$

6. $\int \frac{\sin(\sqrt{x})}{\sqrt{x}} dx$ ($u = \sqrt{x}$)

7. $\int \sec(x) \tan(x) dx$

8. $\int_0^{\frac{\pi}{4}} \tan(x) (\sec(x))^2 dx$

9. $\int \frac{x}{(1+x^2)^2} dx$

10. $\int \tan(x) dx$ ($\tan(x) = \frac{\sin(x)}{\cos(x)}$)