

UWC integrator of the year competition

Practice Test 1

Evaluate the following integrals

1. $\int \frac{dx}{(\tan x) \ln(\sin x)}$

2. $\int \cos(\ln x) dx$

3. $\int \frac{\sqrt{x^3-1}}{x} dx$

4. $\int \frac{x^2}{1+x^4} dx$

1. $\int_0^1 \ln(\sqrt{1-x} + \sqrt{1+x}) dx$ Hint: Use $x = \sin 2\theta$