

1. Find $F''(\sqrt{3})$ when $F(x) = \int_{\sqrt{3}}^x \tan^{-1} x dx$.

2. Evaluate $\lim_{x \rightarrow 0} (1 + 5x)^{\frac{-3}{x}}$

3. Express the integral $\int_{-1}^2 |x(x-1)| dx$ without "Absolute Value Sign". (Do not Evaluate it)

4. Evaluate: $\int \frac{x}{3+x^4} dx$