

Problem 1

Find $\int_0^{\sqrt{\frac{\pi}{2}}} x \sin(x^2) dx$

Problem 2

Find $\int_{\sqrt{\frac{\pi}{3}}}^{\sqrt{\frac{3\pi}{4}}} \frac{\cos(x^2)2x}{\sin^2(x^2)} dx$

Problem 3

Find $\int_0^1 (x^2 + 2x)^{50}(x + 1) dx$

Problem 4

Find $\int_{(\frac{\pi}{3})^2}^{(\frac{2\pi}{3})^2} \frac{\sin(\sqrt{x})}{\sqrt{x}} dx$

Problem 5

Find $\int_0^1 \frac{dx}{(2 + \sqrt{x})^4}$. Finding the anti-derivative is hard.