2014 Integration Bee

UCSD Math Club

May 14, 2014

$$\int x^2 \log(x)\, dx$$

$$\int \sqrt{2x + 3}\, dx$$

$$\int \frac{x+1}{x^2+x-2} \, dx$$

$$\int \frac{(x+1)(x+2)(x+3)}{x} \, dx$$

$$\int x^2 \left(e^{x^3-1} - x^2 \right) \, dx$$

$$\int x^2 \sin(x)\, dx$$

$$\int \frac{x}{x-1}\, dx$$

$$\int \frac{e^x}{e^{2x} + 1} \, dx$$

$$\int \sin(x)\cos^2(x)\, dx$$

$$\int \frac{\cos(\log(x))}{x}\,dx$$

$$\int \frac{2x^3}{x^2 - 1} \, dx$$

$$\int x\sqrt{x+3}\,dx$$

$$\int \frac{\sec^2(x)}{e^{2\tan(x)}}\, dx$$

$$\int \sin^2(x)\, dx$$

$$\int \frac{1}{x^4 - x^2} \, dx$$

$$\int e^x (\sin(x) + \cos(x)) \, dx$$

$$\int 2x \arctan(x)\, dx$$

$$\int \frac{e^x - e^{-x}}{e^x + e^{-x}}\, dx$$

$$\int x \log\left(x^2\right)\, dx$$

$$\int \left(\cos^2(x) - \sin^2(x) \right) \, dx$$

$$\int (6x^2 + 2) \left(2x^3 + 2x\right)^2 \, dx$$

$$\int \log(x)^2 \, dx$$

$$\int \frac{x+1}{(x+2)(x+3)(x+4)} \, dx$$

$$\int x^3 e^{2x}\, dx$$

$$\int \frac{1}{x^4 - 1} \, dx$$

$$\int \frac{\sqrt{\sqrt{x}+1}}{\sqrt{x}}\, dx$$

$$\int \frac{x}{x^3 - 2x^2 - x + 2} \, dx$$

$$\int \frac{1}{e^x + 1} \, dx$$

$$\int \frac{1}{x \log(x) \log(\log(x))} \, dx$$

$$\int e^{\sqrt{x}} \, dx$$

$$\int \frac{\log(x^2)}{x}\, dx$$

$$\int \frac{2x + 6}{x^2 + 3x + 2} \, dx$$

$$\int \left(\cos(x) + 2\sin(2x) \right) \sin(x)\, dx$$

$$\int e^{3x} \sqrt{e^{3x} - 5} \, dx$$

$$\int \frac{1}{\sqrt{x} - x} \, dx$$

$$\int \frac{\log(x) + 1}{x \log(x)} \, dx$$

$$\int \left(2\log(x) + (\log(x))^2 \right) \, dx$$

$$\int x^5 e^{x^2} \, dx$$

$$\int x^2 \log\left(x^2\right)\,dx$$

$$\int \frac{1}{\cos(x)\sin(x)}\, dx$$