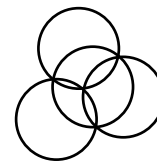


6. INDEFINITE INTEGRALS

by Răzvan Gelca



f1. Find the antiderivatives of $f(x) = \sin \sqrt{2x}$.

f2. Compute

$$\int \frac{x + \sin x - \cos x - 1}{x + e^x + \sin x} dx$$

f3. Compute

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

f4. Compute

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

f5. Compute

$$\int \frac{\sin x}{\sin x + \cos x} dx \text{ and } \int \frac{\cos x}{\sin x + \cos x} dx$$

f6. Compute

$$\int (1 + 2x^2)e^{x^2} dx$$

f7. Compute

$$\int (x^6 + x^3) \sqrt[3]{x^3 + 2} dx$$