

Integration Practice

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

$$\int (2t + 7)^{72} \, dt$$

$$\int (t + 2)\sqrt{2 + 3t} \, dt$$

$$\int y \ln(y) \, dy$$

$$\int \frac{x^3 + 7x^2 + 10x + 1}{x^2 + 7x + 10} \, dx$$

$$\int \frac{x + 1}{6x + x^2} \, dx$$

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

hint: First break into smaller more manageable fractions, then evaluate separately.

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

$$\int \frac{x^3 \sin(x)}{x \sin(x)} \, dx$$

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

$$\int x^2(1 + 2x^3)^2 \, dx$$

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

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

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

hint: Integrate by parts twice to make a copy of the integral on the right hand side.

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

$$\int \frac{1}{x^2 + 4x + 5} \, dx$$