

MCS22 Homework 35

Evaluate each definite integral.

$$1. \int_0^1 2x(x^2 + 1)^2 dx$$

$$2. \int_2^3 x\sqrt{x^2 + 1} dx$$

$$3. \int_{-1}^0 x^3(1 - 2x^4)^3 dx$$

$$4. \int_0^{\frac{\pi}{2}} \sin^2 x \cos x dx$$

$$5. \int_{-3}^0 (x^2 + 2x - 2) dx$$

$$6. \int_1^4 e^{8x} dx$$

$$7. \int_0^2 (-3x + 4)e^{-3x^2 + 8x} dx$$

$$8. \int_0^1 \frac{x + 1}{x^2 + 2x + 3} dx$$