

Properties of Definite Integrals

p. 354 - 364 (5.2)

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$$1. \int 0 \, dx = C$$

$$2. \int k \, dx = kx + C$$

$$3. \int (kf(x)) \, dx = k \int (f(x)) \, dx$$

$$4. \int x^n \, dx = \frac{x^{(n+1)}}{n+1} + C, n \neq -1 \text{ (called the power rule)}$$

$$5. \int [f(x) \pm g(x)] \, dx = \int (f(x)) \, dx \pm \int (g(x)) \, dx$$

$$1. \int (-6x^3) \, dx$$

$$2. \int ((x^2 - 10x^4) \, dx$$

$$3. \int \frac{\sqrt{x}}{4} \, dx$$

$$4. \int \frac{x^2 + 3}{x^2} \, dx$$