

Practice Problems

Compute each of the following definite integrals.

1.
$$\int_1^7 x^2 dx$$

6.
$$\int_{-1}^1 \frac{1}{x^2} dx$$

11.
$$\int_{-5}^5 \frac{1}{x} dx$$

2.
$$\int_1^7 \frac{1}{x^2} dx$$

7.
$$\int_{-10}^{10} x - x^3 + 6x^5 dx$$

12.
$$\int_0^{\ln 8} (e^x - e^{-x}) dx$$

3.
$$\int_1^{10} \frac{1}{x} dx$$

8.
$$\int_0^{36} \frac{1}{2} \sqrt{x} dx$$

13.
$$\int_{-1}^1 2^{x+1} dx$$

4.
$$\int_{-3}^3 x^3 - x dx$$

9.
$$\int_0^{10} e^{-x} dx$$

5.
$$\int_{-2}^2 3x^2 - 5 dx$$

10.
$$\int_0^2 e^{-3x} dx$$

14.
$$\int_{10}^N \frac{1}{x^2} dx$$

Practice Problems - Answers

- 1) 114 2) $\frac{6}{7}$ 3) $\ln 10$ 4) 0 5) -4 6) undefined 7) 0 8) 72 9) $1 - e^{-10}$
- 10) $\frac{1}{3} - \frac{1}{3}e^{-6} \cong 0.3325071$ 11) undefined 12) $\frac{49}{8}$ 13) $\frac{3}{\ln 2}$ 14) $\frac{1}{10} - \frac{1}{N}$

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