

Practice Problems

Compute each of the following definite integrals.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Practice Problems - Answers

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

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