

Calculus Practice: First Fundamental Theorem of Calculus 2b

Evaluate each definite integral.

1) $\int_{-2}^1 5x^{\frac{1}{3}} dx$

2) $\int_0^3 4x^{\frac{1}{3}} dx$

3) $\int_1^4 3x^{\frac{1}{3}} dx$

4) $\int_{-5}^{-1} -x^{\frac{1}{3}} dx$

5) $\int_2^5 4x^{\frac{1}{3}} dx$

6) $\int_{-6}^{-3} -x^{\frac{1}{3}} dx$

7) $\int_0^4 x^{\frac{1}{3}} dx$

8) $\int_{-6}^{-1} 3x^{\frac{1}{3}} dx$

9) $\int_{-5}^{-2} -\frac{4}{x^3} dx$

10) $\int_{-4}^{-2} \frac{4}{x^2} dx$

$$11) \int_{-4}^{-2} -\frac{3}{x^3} dx$$

$$12) \int_2^5 \frac{2}{x} dx$$

$$13) \int_{-4}^{-2} -\frac{4}{x^2} dx$$

$$14) \int_{-4}^{-2} \frac{1}{x} dx$$

$$15) \int_{-2}^1 e^x dx$$

$$16) \int_{-1}^1 2e^x dx$$

$$17) \int_{-2}^0 -2e^x dx$$

$$18) \int_{-2}^0 2e^x dx$$

$$19) \int_{-2}^0 3e^x dx$$

$$20) \int_{-1}^0 -e^x dx$$

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Evaluate each definite integral.

1) $\int_{-2}^1 5x^{\frac{1}{3}} dx$

$$\frac{15 - 30\sqrt[3]{2}}{4} \approx -5.699$$

2) $\int_0^3 4x^{\frac{1}{3}} dx$

$$9\sqrt[3]{3} \approx 12.98$$

3) $\int_1^4 3x^{\frac{1}{3}} dx$

$$\frac{36\sqrt[3]{4} - 9}{4} \approx 12.037$$

4) $\int_{-5}^{-1} -x^{\frac{1}{3}} dx$

$$\frac{-3 + 15\sqrt[3]{5}}{4} \approx 5.662$$

5) $\int_2^5 4x^{\frac{1}{3}} dx$

$$15\sqrt[3]{5} - 6\sqrt[3]{2} \approx 18.09$$

6) $\int_{-6}^{-3} -x^{\frac{1}{3}} dx$

$$\frac{-9\sqrt[3]{3} + 18\sqrt[3]{6}}{4} \approx 4.932$$

7) $\int_0^4 x^{\frac{1}{3}} dx$

$$3\sqrt[3]{4} \approx 4.762$$

8) $\int_{-6}^{-1} 3x^{\frac{1}{3}} dx$

$$\frac{9 - 54\sqrt[3]{6}}{4} \approx -22.281$$

9) $\int_{-5}^{-2} -\frac{4}{x^3} dx$

$$\frac{21}{50} = 0.42$$

10) $\int_{-4}^{-2} \frac{4}{x^2} dx$

$$1$$

$$11) \int_{-4}^{-2} -\frac{3}{x^3} dx$$
$$\frac{9}{32} \approx 0.281$$

$$12) \int_2^5 \frac{2}{x} dx$$
$$2 \ln 5 - 2 \ln 2 \approx 1.833$$

$$13) \int_{-4}^{-2} -\frac{4}{x^2} dx$$
$$-1$$

$$14) \int_{-4}^{-2} \frac{1}{x} dx$$
$$\ln 2 - \ln 4 \approx -0.693$$

$$15) \int_{-2}^1 e^x dx$$
$$\frac{e^3 - 1}{e^2} \approx 2.583$$

$$16) \int_{-1}^1 2e^x dx$$
$$\frac{2e^2 - 2}{e} \approx 4.701$$

$$17) \int_{-2}^0 -2e^x dx$$
$$\frac{-2e^2 + 2}{e^2} \approx -1.729$$

$$18) \int_{-2}^0 2e^x dx$$
$$\frac{2e^2 - 2}{e^2} \approx 1.729$$

$$19) \int_{-2}^0 3e^x dx$$
$$\frac{3e^2 - 3}{e^2} \approx 2.594$$

$$20) \int_{-1}^0 -e^x dx$$
$$\frac{-e + 1}{e} \approx -0.632$$