

Calculus Practice: First Fundamental Theorem of Calculus 4b**Evaluate each definite integral.**

1) $\int_1^4 4(2x - 6)^{\frac{1}{3}} dx$

2) $\int_{-3}^{-2} 4(2x + 6)^{\frac{1}{3}} dx$

3) $\int_{-5}^{-1} 2(2x + 4)^{\frac{1}{3}} dx$

4) $\int_{-3}^{-2} (2x + 2)^{\frac{1}{3}} dx$

5) $\int_2^3 5(2x - 4)^{\frac{1}{3}} dx$

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

7) $\int_{-3}^{-2} -4(x - 2)^{\frac{1}{3}} dx$

8) $\int_{-2}^0 5(2x + 2)^{\frac{1}{3}} dx$

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

10) $\int_3^6 2(2x + 4)^{\frac{1}{3}} dx$

$$11) \int_3^4 -\frac{2}{(2x-2)^2} dx$$

$$12) \int_{-2}^1 -2e^{x-1} dx$$

$$13) \int_{-1}^0 -\frac{2}{x+3} dx$$

$$14) \int_{-1}^0 \frac{1}{2x+6} dx$$

$$15) \int_{-6}^{-3} 3e^{x+3} dx$$

$$16) \int_{-5}^{-2} -\frac{3}{2x+2} dx$$

$$17) \int_{-5}^{-2} \frac{3}{x+1} dx$$

$$18) \int_{-6}^{-5} \frac{5}{x+3} dx$$

$$19) \int_{-2}^1 -\frac{3}{(x-2)^2} dx$$

$$20) \int_{-6}^{-5} -\frac{1}{(2x+6)^3} dx$$

Calculus Practice: First Fundamental Theorem of Calculus 4b

Evaluate each definite integral.

1) $\int_1^4 4(2x-6)^{\frac{1}{3}} dx$

$$3\sqrt[3]{2} - 6\sqrt[3]{4} \approx -5.745$$

2) $\int_{-3}^{-2} 4(2x+6)^{\frac{1}{3}} dx$

$$3\sqrt[3]{2} \approx 3.78$$

3) $\int_{-5}^{-1} 2(2x+4)^{\frac{1}{3}} dx$

$$\frac{3\sqrt[3]{2} - 9\sqrt[3]{6}}{2} \approx -6.287$$

4) $\int_{-3}^{-2} (2x+2)^{\frac{1}{3}} dx$

$$\frac{3\sqrt[3]{2} - 6\sqrt[3]{4}}{4} \approx -1.436$$

5) $\int_2^3 5(2x-4)^{\frac{1}{3}} dx$

$$\frac{15\sqrt[3]{2}}{4} \approx 4.725$$

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

$$\frac{3\sqrt[3]{2} - 9\sqrt[3]{6}}{4} \approx -3.144$$

7) $\int_{-3}^{-2} -4(x-2)^{\frac{1}{3}} dx$

$$-12\sqrt[3]{4} + 15\sqrt[3]{5} \approx 6.601$$

8) $\int_{-2}^0 5(2x+2)^{\frac{1}{3}} dx$

$$0$$

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

$$\frac{-18\sqrt[3]{2} + 45\sqrt[3]{5}}{4} \approx 13.568$$

10) $\int_3^6 2(2x+4)^{\frac{1}{3}} dx$

$$\frac{48\sqrt[3]{2} - 15\sqrt[3]{10}}{2} \approx 14.08$$

$$11) \int_3^4 -\frac{2}{(2x-2)^2} dx$$

$$-\frac{1}{12} \approx -0.083$$

$$12) \int_{-2}^1 -2e^{x-1} dx$$

$$\frac{-2e^3 + 2}{e^3} \approx -1.9$$

$$13) \int_{-1}^0 -\frac{2}{x+3} dx$$

$$-2 \ln 3 + 2 \ln 2 \approx -0.811$$

$$14) \int_{-1}^0 \frac{1}{2x+6} dx$$

$$\frac{\ln 6 - \ln 4}{2} \approx 0.203$$

$$15) \int_{-6}^{-3} 3e^{x+3} dx$$

$$\frac{3e^3 - 3}{e^3} \approx 2.851$$

$$16) \int_{-5}^{-2} -\frac{3}{2x+2} dx$$

$$\frac{-3 \ln 2 + 3 \ln 8}{2} \approx 2.079$$

$$17) \int_{-5}^{-2} \frac{3}{x+1} dx$$

$$-3 \ln 4 \approx -4.159$$

$$18) \int_{-6}^{-5} \frac{5}{x+3} dx$$

$$5 \ln 2 - 5 \ln 3 \approx -2.027$$

$$19) \int_{-2}^1 -\frac{3}{(x-2)^2} dx$$

$$-\frac{9}{4} = -2.25$$

$$20) \int_{-6}^{-5} -\frac{1}{(2x+6)^3} dx$$

$$\frac{5}{576} \approx 0.009$$