

201-203-RE - Supplement A - Definite Integrals and Areas

Approximate the following integrals using the Right-End Point method with the given n . Round your answers to 4 decimals.

(1) $\int_1^4 \frac{2}{4x^2 + 9} dx \quad n = 6$

(10) $\int_0^{12} \frac{5}{\ln(x+2)} dx \quad n = 6$

(2) $\int_1^3 (\ln(x) + 3)^2 dx \quad n = 4$

(11) $\int_0^8 \cos(x^2 + x) dx \quad n = 4$

(3) $\int_2^4 \frac{6}{\sqrt{1 + \ln(x)}} dx \quad n = 4$

(12) $\int_1^{13} \frac{x^2 + 1}{x^3 + 1} dx \quad n = 4$

(4) $\int_{-2}^2 (x^3 + 6)^{2/3} dx \quad n = 4$

(13) $\int_0^4 e^{\cos(3x)} dx \quad n = 4$

(5) $\int_2^6 \frac{10}{\sqrt{x^2 + 4}} dx \quad n = 4$

(14) $\int_0^6 \sin\left(\frac{x^3}{3}\right) dx \quad n = 6$

(6) $\int_1^9 \sqrt[5]{x^2 + 3x} dx \quad n = 8$

(15) $\int_0^1 \sqrt{\cos(x)} dx \quad n = 4$

(7) $\int_4^{10} \sqrt[3]{x^2 + 5} dx \quad n = 6$

(16) $\int_1^5 \cos(e^{1-x}) dx \quad n = 4$

(8) $\int_2^7 \frac{e^{3-x}}{\ln(x)} dx \quad n = 4$

(17) $\int_0^4 e^{\sin(x)} dx \quad n = 4$

(9) $\int_0^3 \sqrt{x^2 + 2x} dx \quad n = 6$

(18) $\int_{-1}^2 \sqrt{1 + e^x} dx \quad n = 6$

(19) Given the following graph of f , find:

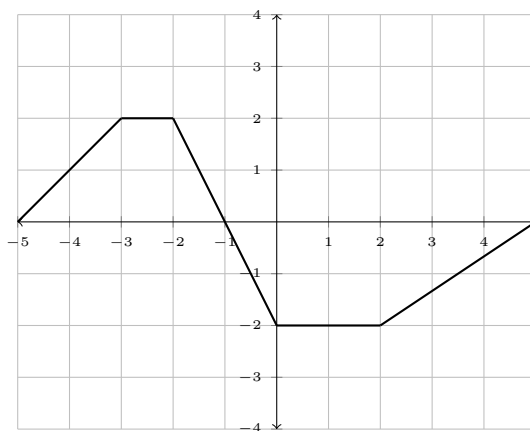
(a) $\int_{-5}^{-3} f(x) dx$

(d) $\int_{-1}^2 f(x) dx$

(b) $\int_{-5}^{-1} f(x) dx$

(e) $\int_{-5}^5 f(x) dx$

(c) $\int_{-3}^1 f(x) dx$



(20) Given the following graph of f , find:

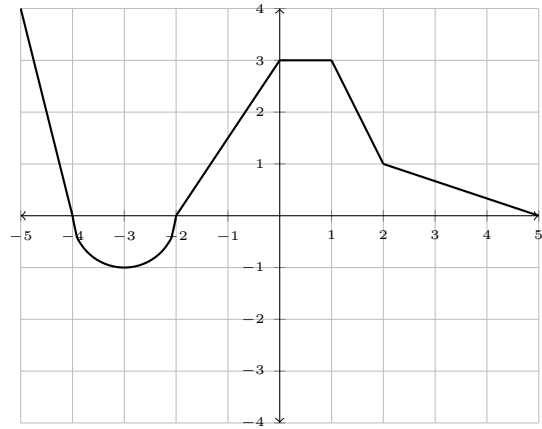
(a) $\int_{-5}^{-2} f(x) dx$

(d) $\int_{-2}^2 f(x) dx$

(b) $\int_{-3}^0 f(x) dx$

(e) $\int_{-5}^5 f(x) dx$

(c) $\int_{-1}^1 f(x) dx$



(21) Given the following graph of f , find:

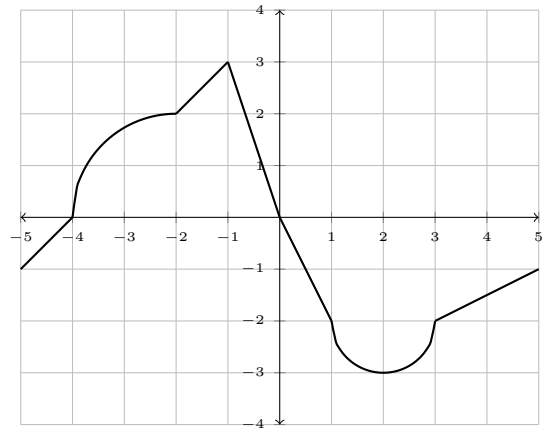
(a) $\int_{-5}^{-2} f(x) dx$

(d) $\int_0^5 f(x) dx$

(b) $\int_0^{-4} f(x) dx$

(e) $\int_{-5}^5 f(x) dx$

(c) $\int_{-1}^1 f(x) dx$



(22) Given the following graph of f , find:

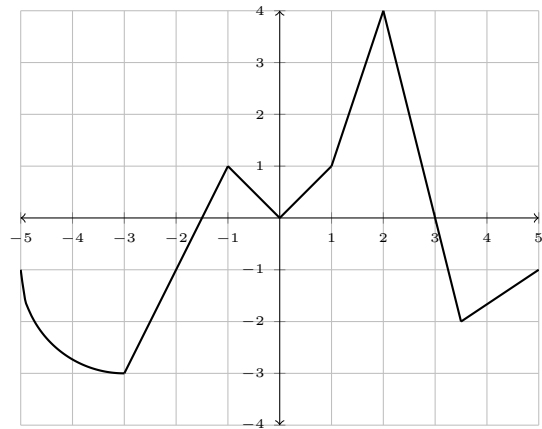
(a) $\int_{-3}^{-5} f(x) dx$

(d) $\int_2^5 f(x) dx$

(b) $\int_{-5}^0 f(x) dx$

(e) $\int_{-5}^5 f(x) dx$

(c) $\int_0^2 f(x) dx$



(23) Given the following graph of f , find:

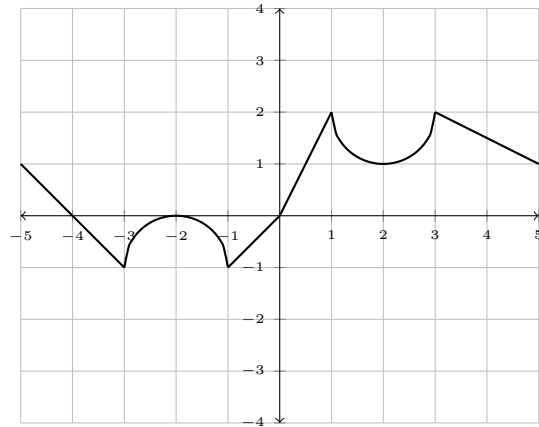
(a) $\int_{-5}^{-1} f(x) dx$

(d) $\int_0^5 f(x) dx$

(b) $\int_1^{-3} f(x) dx$

(e) $\int_{-5}^5 f(x) dx$

(c) $\int_{-1}^3 f(x) dx$



(24) Given the following graph of f , find:

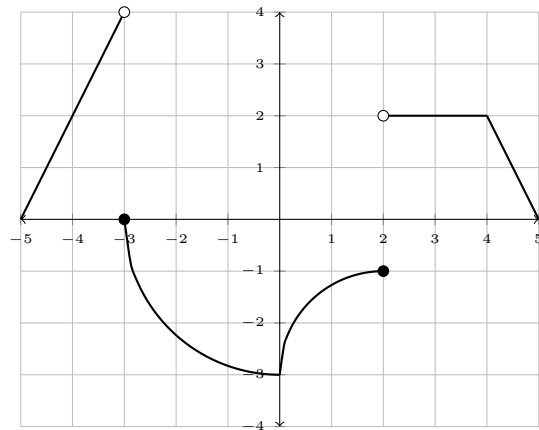
(a) $\int_{-5}^0 f(x) dx$

(d) $\int_2^2 f(x) dx$

(b) $\int_{-3}^2 f(x) dx$

(e) $\int_{-5}^5 f(x) dx$

(c) $\int_0^3 f(x) dx$



ANSWERS:

(1) 0.1781 (4) 15.6940 (7) 23.5685 (10) 29.7600 (13) 5.7111 (16) 3.9225

(2) 28.6862 (5) 8.4477 (8) 1.0688 (11) 0.0020 (14) 1.3266 (17) 6.4231

(3) 8.1789 (6) 16.9650 (9) 7.5984 (12) 1.7554 (15) 0.8779 (18) 5.7376

(19) (a) 2 (b) 5 (c) 0 (d) -5 (e) -3

(20) (a) $2 - \frac{\pi}{2}$ (b) $3 - \frac{\pi}{4}$ (c) $\frac{21}{4}$ (d) 8 (e) $\frac{23}{2} - \frac{\pi}{2}$

(21) (a) $\pi - \frac{1}{2}$ (b) $-\pi - 4$ (c) $\frac{1}{2}$ (d) $-8 - \frac{\pi}{2}$ (e) $\frac{\pi}{2} - \frac{9}{2}$

(22) (a) $2 + \pi$ (b) $-\pi - \frac{7}{2}$ (c) 3 (d) $-\frac{3}{4}$ (e) $-\pi\frac{5}{4}$

(23) (a) $\frac{\pi}{2} - 2$ (b) $\frac{3}{2} - \frac{\pi}{2}$ (c) $\frac{9}{2} - \frac{\pi}{2}$ (d) $8 - \frac{\pi}{2}$ (e) $\frac{11}{2}$

(24) (a) $4 - \frac{9\pi}{4}$ (b) $-6 - \frac{5\pi}{4}$ (c) $\pi - 4$ (d) 0 (e) $3 - \frac{5\pi}{4}$