Lesson 4.1.2

4-13. See below:

a. $= 3, \approx 2.94$

b. $= 53\frac{1}{3} \approx 53.3\overline{3}$

4-14. $\int_{-2}^{8} (9x-2)\,dx = 250$

4-15. See below:

a. –50; The area became negative.

b. The bounds are switched.

4-16. Since $\frac{b-a}{n} = -\frac{(a-b)}{n}$, then $\int_a^b f(x)\,dx = -\int_b^a f(x)\,dx$.

4-17. See below:

a. $\int_1^3 f(x)\,dx$

b. $\int_9^{10} f(x)\,dx$

c. $\int_e^d f(x)\,dx$

d. $\int_x^{x+h} f(t)\,dt$

e. Answers vary.

Review & Preview

4-18. All equal –4.5.

4-19. See below:

a. $-2x + C$

b. $3x^{1/2} + C$

c. $-x^3 + 3x^2 + C$

d. $(x + 3)^2 + C$

4-20. See below:

a. $18(x - 2)^2$

b. $2 \cos x$

c. $4x + 9$

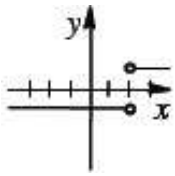
d. $2x - 6, x \neq 0$

4-21. Typical response: "A slope function finds the slope of $f(x)$ at all x over the domain."

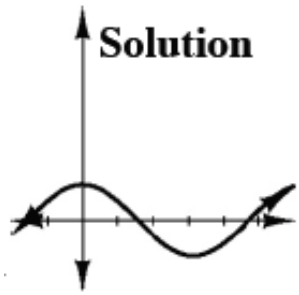
4-22. Both are 2π

4-23. See below:

a.



b.



4-24. See below:

a. 4

b. 2

4-25. $\frac{4\pi}{25}(10 - h)^2 \text{ un}^2$

4-26. Yes, the sum will still approximate the area under the curve.