p. 291, 5-32, 38, 39 (omit 15, 18, 19, 24, 25, 31)

5. $x^2\,|_0^1 = 1-0 = 1$

6. $3x\,|_2^7 = 21-6 = 15$

7. $\frac{1}{2}x^2 - 2x\,|_{-1}^0 = (0)-(0.5+2) = -2.5$

8. $-\frac{3}{2}v^2 + 4v\,|_2^5 = \left(-\frac{75}{2}+20\right)-(-6+8) = -19.5$

9. $\frac{1}{3}t^3 - 2t\,|_{-1}^1 = \left(\frac{1}{3}-2\right)-\left(-\frac{1}{3}+2\right) = -\frac{10}{3}$

10. $x^3 + \frac{5}{2}x^2 - 4x\,|_1^3 = \left(27+\frac{45}{2}-12\right)-\left(1+\frac{5}{2}-4\right) = 38$

11. $\int (2t-1)^2\,dt = \int (4t^2-4t+1)\,dt$, $\quad \frac{4}{3}t^3 - 2t^2 + t\,|_0^1 = \left(\frac{4}{3}-2+1\right)-(0) = \frac{1}{3}$

12. $\frac{1}{4}t^4 - \frac{9}{2}t^2\,|_{-1}^1 = \left(\frac{1}{4}-\frac{9}{2}\right)-\left(\frac{1}{4}-\frac{9}{2}\right) = 0$

13. $\int \left(\frac{3}{x^2}-1\right)dx = \int (3x^{-2}-1)\,dx$, $\quad -3x^{-1} - x\,|_1^2 = \left(\frac{-3}{2}-2\right)-(-3-1) = 0.5$

14. $\frac{1}{2}u^2 + u^{-1}\,|_{-2}^{-1} = \left(\frac{1}{2}-1\right)-\left(\frac{4}{2}-\frac{1}{2}\right) = -2$

15. OMIT

16. $\frac{3}{4}v^{4/3}\,|_{-3}^3 = \frac{3}{4}(3)^{4/3} - \frac{3}{4}(-3)^{4/3} = 0$

17. $\int \left(\sqrt[3]{t}-2\right)dt = \int (t^{1/3}-2)\,dt$, $\quad \frac{3}{4}t^{4/3} - 2t\,|_{-1}^1 = \left(\frac{3}{4}-2\right)-\left(\frac{3}{4}+2\right) = -4$

18. OMIT

19. OMIT

20. $\frac{4}{3}t^{3/2} - \frac{2}{5}t^{5/2}\,|_0^2 = \left(\frac{4}{3}(2)^{3/2} - \frac{2}{5}(2)^{5/2}\right)-0 = \frac{16}{15}\sqrt{2} = 1.508$

21. $\frac{3}{4}t^{4/3}-\frac{3}{5}t^{5/3}\Big|_{-1}^{0}=(0)-\left(\frac{3}{4}+\frac{3}{5}\right)=-\frac{27}{20}$

22. $\frac{1}{2}\left(x^{2/3}-x^{5/3}\right)=\frac{1}{2}\left(\frac{3}{5}x^{5/3}-\frac{3}{8}x^{8/3}\right)\Big|_{-8}^{-1}=57.112$

23. $\int_0^3|2x-3|\,dx=\int_0^{1.5}(-2x+3)\,dx+\int_{1.5}^3(2x-3)\,dx$,
$\left(-x^2+3x\Big|_0^{1.5}\right)+\left(x^2-3x\Big|_{1.5}^3\right)=(-2.25+4.5)+\big((9-9)-(2.25-4.5)\big)=4.5$

24. OMIT

25. OMIT

26. $2\int_0^1\left(x^2-4x+3\right)dx+\int_1^3\left(-x^2+4x-3\right)dx$, $2\left(\frac{1}{2}x^3-2x^2+3x\Big|_0^1\right)+\left(-\frac{1}{2}x^3+2x^2-3x\Big|_1^3\right)=4$

27. $x-\cos x\Big|_0^{\pi}=\big(\pi-(-1)\big)-(0-1)=\pi+2$

28. $\frac{\cos^2\theta}{\cos^2\theta}=1$, $\int_0^{\pi/4}1d\theta=\theta\Big|_0^{\pi/4}=\pi/4$

29. $\tan x\Big|_{-\pi/6}^{\pi/6}=\left(\frac{1}{\sqrt{3}}\right)-\left(-\frac{1}{\sqrt{3}}\right)=\frac{2}{\sqrt{3}}$ or $\frac{2\sqrt{3}}{3}$

30. $2x+\cot x\Big|_{\pi/4}^{\pi/2}=\frac{\pi}{2}-1=.570$

31. OMIT

32. $t^2+\sin t\Big|_{-\pi/2}^{\pi/2}=2$

38. $\frac{1}{2}x^2-\cos x\Big|_0^{\pi}=\frac{\pi^2}{2}+2=6.934$

39. $\int_0^2\left(3x^2+1\right)dx=x^3+x\Big|_0^2=10$