Exam 4 Review Answer Key

Section R.6

28. 4 35. $4x^2$ 43. $\sqrt{xy}$ 44. $\sqrt[3]{x^2} \cdot \sqrt[5]{y}$ 51. $1/\sqrt[3]{8}$; $1/2$

52. $1/\sqrt[4]{16^3}$ *or* $1/(\sqrt[4]{16})^3$; $1/8$ 63. $2^{7/6} \approx 2.24$ 73. 2 83. y^2/x 85. $y^{13/6}$

90. $\dfrac{1}{3x^{3/2}}$ 92. $(3x)^{1/3}$ 97. $1/k^2$ 103. $p^2 + p$ 105. $x^{5/6} - x$

Section R.7

19. a 25. $2x\sqrt[4]{y}$ 29. $2x^2yz^3$ 35. $1/a$

49. $-5xy\sqrt[3]{xy^2}$ 51. $5\sqrt[3]{5t^2}$ 61. $\sqrt[12]{r^{11}t^7}$ 65. $2\sqrt{x} - \sqrt{y}$ 73. $5\sqrt[3]{2} - \sqrt{2}$

76. $(3x - 1)\sqrt{x}$ 79. $71\sqrt{2}/10$ 83. $20\sqrt{3z}$ 91. $x - 64$ 95. $x + \sqrt{x} - 56$

Section 3.1

18. (-3, -5); ½; $f(x) = \frac{1}{2}x^2 + 3x - \frac{1}{2}$ 23. $f(x) = \frac{1}{2}(x - 2)^2 - 3$

28. $f(x) = -3(x - 1)^2 + 1$ 29. $f(x) = (x + 2)^2 - 9$; (-2, -9)

36. $f(x) = -1/2\,(x + 3/2)^2 + 17/8$; (-3/2, 17/8) 87. a) 32ft b) 34.25ft

107. a) $f(x) \approx 0.00019838x^2 - 0.79153x + 791.46$ b) $f(1975) \approx 1.99$, which is close to the actual value

Chapter 3 Review Exercises

11. See Figure 11 12. See Figure 12

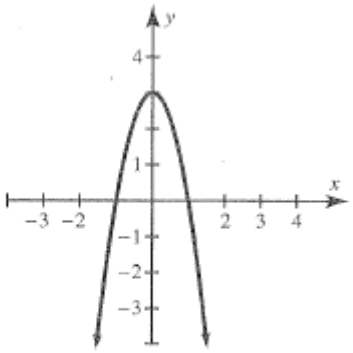

Figure 11

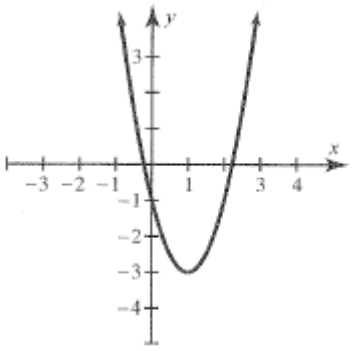

Figure 12

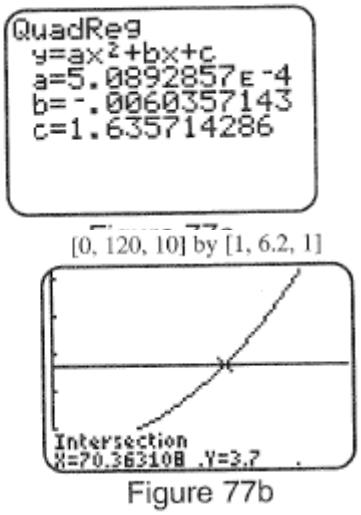

Figure 77b

21. -4, 5 25. $\pm\sqrt{7}/2$ 29. -2, 5 32. $-2 \pm \sqrt{7}$

72. a) R(20) = 1400; the revenue from selling 20 radios is $1400 b) 45 radios
c) $2025 d) From 40 to 50 radios

73. a) h(0) = 5; the stone was 5ft above the ground when it was released
b) 117 ft c) 126ft d) After 2 sec and 3.5 sec

77. a) $f(x) \approx 0.00051x^2 - 0.00604x + 1.6$ (See Figure 77a)
b) About 70.4; when 70.4% of the area is irrigated, yield will be 3.7 tons per hectare. (See Figure 77b)