Chapter 11

Lesson 11.1.1

11-4. $(3x-2)^2 = 9x^2 - 12x + 4$

11-5. **a.** 228 shoppers
b. 58 people/hr **c.** at 3:00 PM

11-6. **a.** 0.75 **b.** 99
c. 2 **d.** $\widetilde{\pi}$

11-7. The x-coordinate of the vertex must be at $x = 1$ because of symmetry of the parabola.

11-8. $2a + 3c = 56.5$, $a + 4c = 49.5$, $a = \$15.50$, $c = \$8.50$

11-9. **a.** $m = -\frac{2}{7}$, $b = 2$
b. $m = -\frac{1}{3}$, $b = 6$
c. $m = 5$, $b = -1$
d. $m = 3$, $b = 0$

11-10. **a.** $x \geq 2$ **b.** $x > -1$
c. $x \leq 9$ **d.** $x > 10$

11-11. **a.** $\frac{2}{x^4}$ **b.** $s^{11}u^2$
c. $\frac{81}{w^8}$ **d.** $\frac{1}{m^3}$

11-12. **a.** 3 **b.** 1
c. 4 **d.** 2

11-13. **a.** $\frac{x-8}{6x-1}$ **b.** $\frac{2(x-6)}{x-2} = \frac{2x-12}{x-2}$

11-14. **a.** (0, 3) **b.** $(\frac{1}{2}, 0)$ and (3, 0)

11-15. **a.** x^4y^3 **b.** xy
c. $-6x^6$ **d.** $8x^3$

Lesson 11.1.2

11-16. $y = x^2 - 1$

11-17. a) $f(4) = 15$ b) $f(-1) = 0$ c) yes
$f(10) = 99$ $x = \pm 5$

11-18. $f(x) = \sqrt{x}$

11-19. **a.** 10 **b.** 1 **c.** 125
d. no output because you cannot take the square root of a negative number,
e. –5
f. 10 or –10
g. no input will yield a negative absolute value
h. 6
i. 2

11-20. **a.** 0
b. 3 and 0
c. $x \approx -0.5, 2.5$

11-21. 1, 9, and t^2

11-22. $y = -\frac{4}{3}x + 12$

11-23. Marley is correct; they are perpendicular since the slopes are $\frac{2}{7}$ and $-\frac{7}{2}$.

11-24. 45 miles

11-25. **a.** $\frac{x+2}{x-6}$ **b.** $\frac{4x-3}{x-5}$
c. $\frac{x(x-6)}{x-1}$ **d.** $\frac{x+3}{x-7}$
e. $\frac{3x-1}{x-5}$ **f.** $\frac{x-3}{x+11}$

11-26. **a.** $\frac{1}{4}$ **b.** 1
c. $\frac{1}{5^2} = \frac{1}{25}$ **d.** $\frac{1}{x^2}$