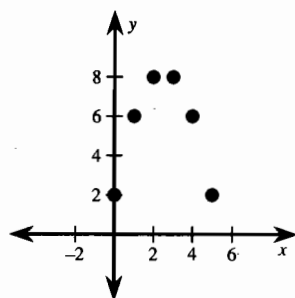
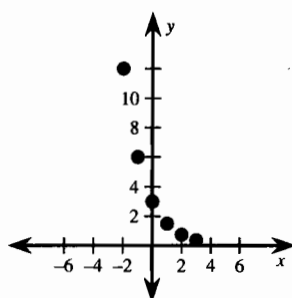


Lesson 9.7 (continued)

5. Quadratic



6. Exponential



7. $A = 6s^2$ 8. $B = 100 + 5t$ 9. $E = 5v^2$
 10. $R = 8(1.25)^t$ 11. $V = 500 - 50t$
 12. $P = 10(0.9)^t$

Lesson 10.1

1. Constant, monomial 2. Linear, binomial
 3. Quadratic, trinomial 4. Cubic, binomial
 5. Quartic, binomial 6. Quartic, polynomial

7. $2x^2 - 3x - 8$ 8. $4x^3 + 3x - 1$
 9. $-x^3 - 2x^2 - 3x + 2$ 10. $10x^2 - 3x - 4$
 11. $3x^3 + 3x^2 + x - 3$ 12. $x^5 + 5x^3 + x - 4$
 13. $-4x^2 + 6x + 5$ 14. $-4x^3 - 14x^2 + 3x + 13$
 15. $x^3 - 7$ 16. $10x^2 + 3x + 7$
 17. $2x^3 + x^2 - 3x + 4$ 18. $x^3 + 3x^2 - 7x - 3$
 19. $5x^2 - 7x - 1$ 20. $-4x^3 - 7x^2 + 6x - 13$
 21. $-18x^2 - 2x - 5$ 22. $-2x^3 + x - 8$
 23. $3x^2 - 12\pi x + 8\pi$ 24. $\frac{9}{4}x^2 + 6x - 30$
 25. $\frac{4}{15}t^2 + \frac{7}{3}t + 100$ 26. $0.014t^2 + 0.15t + 10$

Lesson 10.2

1. $6x^3 - 15x^2 + 3x$ 2. $-4x^3 + 7x^2$
 3. $2x^5 - 4x^4 + 16x^3 - 10x^2$ 4. $-18x^5 + 6x^3$
 5. $18x^2 - 15x^3 + 24x$
 6. $-10x^5 - 15x^4 + 35x^3 - 45x^2$
 7. $x^2 - 3x - 28$ 8. $x^2 - x - 30$
 9. $x^2 - 12x + 32$ 10. $3x^2 + 17x + 10$
 11. $8x^2 + 5x - 3$ 12. $5x^2 - 32x + 12$
 13. $x^3 + 4x^2 - 3x - 12$ 14. $x^3 + 9x^2 + 20x$
 15. $2x^2 + \frac{29}{2}x + 15$ 16. $\frac{1}{6}x^2 + x - 12$
 17. $2x^2 - \frac{4}{3}x + \frac{1}{6}$ 18. $6x^2 + 19x + 10$
 19. $12x^2 - 20x + 7$ 20. $40x^2 + x - 6$
 21. $12x^2 - 23x - 9$ 22. $6x^3 + 2x^2 + 12x + 4$
 23. $30x^3 + 25x^2 - 12x - 10$
 24. $32x^3 - 8x^2 + 12x - 3$
 25. $20x^3 + 3x^2 - 9x$ 26. $14x^3 - 40x^2 - 6x$
 27. $3x^3 + 11x^2 - 27x - 35$
 28. $2x^4 + 3x^3 - x^2 - 9x - 15$
 29. $2x^3 + 3x^2 - 11x + 3$ 30. $12x^3 - 10x^2 + 8$
 31. $6x^2 + 9x - 2$; 2578 ft²

32. $18x^2 + 30x + 12$; 144 in.³

33. Distance = $\frac{1}{75}x^2 + \frac{1}{2}x + \frac{7}{6}$

34. Total Cost = $0.25t^3 + 75.5t^2 + 160t + 3000$

Lesson 10.3

1. $x^2 + 10x + 25$ 2. $x^2 - 12x + 36$
 3. $x^2 + 18x + 81$ 4. $4x^2 + 4x + 1$
 5. $16x^2 - 8x + 1$ 6. $x^2 + 14x + 49$
 7. $x^2 - 4x + 4$ 8. $9x^2 - 24x + 16$
 9. $9x^2 + 48x + 64$ 10. $x^2 - 6x + 9$
 11. $25x^2 - 20x + 4$ 12. $16x^2 + 40x + 25$
 13. $x^2 - 9$ 14. $x^2 - 49$ 15. $4x^2 - 1$
 16. $16x^2 - 9$ 17. $9x^2 - 9$ 18. $25x^2 - 4$
 19. $4x^2 - 9$ 20. $49x^2 - 25$ 21. $x^2 - y^2$
 22. $25x^2 - y^2$ 23. $x^2 - 16y^2$ 24. $4x^2 - 9y^2$
 25. $8x$, 40 in.², 48 in.², 56 in.²
 26. $4x + 16$, 36 in.², 44 in.², 52 in.²
 27. $T = 4t^2 - 9$, \$91,000
 28. Brown: 75%, Blue: 25%

Lesson 10.4

1. $3(x^2 + 6)$ 2. $6(x - 2)$ 3. $5(x^2 - 5)$
 4. $2(2x + 5)$ 5. $4(2x^2 + 1)$ 6. $2x(x + 4)$
 7. $7x(x - 3)$ 8. $3x(2x - 3)$ 9. $5x(2x + 7)$
 10. $2x(10x + 3)$ 11. $2(x^2 + 2x - 4)$
 12. $3(4x^2 - 3x + 5)$ 13. $(x - 7)(x + 7)$
 14. $(x + 6)^2$ 15. $(2x + 3)^2$
 16. $2(2x - 1)^2$ 17. $(3x - 11)(3x + 11)$
 18. $(3x + 1)^2$ 19. $(x - 8)^2$ 20. $3(2x - 5)(2x + 5)$
 21. $(\frac{1}{3}x - \frac{1}{2})(\frac{1}{3}x + \frac{1}{2})$ 22. $(5x - 2)^2$
 23. $5(x + 2)^2$ 24. $(7x - 1)^2$
 25. $(3x - 5)^2$ 26. $(5 - x)(9 + x)$
 27. $5(5 - x)(x - 1)$
 28. $9^2 + 40^2 = 41^2$; $9^2 + 12^2 = 15^2$
 29. $10^2 + 24^2 = 26^2$ 30. $11^2 + 60^2 = 61^2$
 31. $A = b_1h + \frac{1}{2}(b_2 - b_1)h$
 $= h[b_1 + \frac{1}{2}b_2 - \frac{1}{2}b_1]$
 $= h[\frac{1}{2}b_1 + \frac{1}{2}b_2]$
 $= \frac{1}{2}h[b_1 + b_2]$
 32. $\pi x^2 - \pi y^2$, $\pi(x - y)(x + y)$, 21π cm²
 33. $81x^2 + 36x + 4$, $(9x + 2)^2$, $\frac{1}{3}$ ft = 4 in.

Lesson 10.5

1. $(x + 3)(x + 5)$ 2. $(x - 4)(x - 1)$
 3. $(x - 7)(x + 6)$ 4. $(x - 2)(x + 8)$
 5. $(2x + 1)(x - 3)$ 6. $(3x - 2)(x + 4)$
 7. $(7x - 3)(x - 4)$ 8. $(5x + 2)(x + 1)$
 9. $(2x - 3)(3x - 1)$ 10. $(5x + 1)(6x - 1)$
 11. $(4x - 3)(5x + 2)$ 12. $(2x + 3)(5x + 1)$
 13. Yes, $(4x + 3)(2x - 1)$ 14. No 15. No

Lesson 10.5 (continued)

16. Yes, $4(x+3)(x-1)$ 17. No
 18. Yes, $(6x-1)(2x+3)$
 19. No 20. No 21. Yes, $(2-3x)(1-5x)$
 22. Yes, $(3-4x)(2+x)$ 23. No 24. No
 25. $x+6$, $x-2$ 26. $2x+1$, $x+5$
 27. $t+8$; 8, 9, 10, 11, 12, 13
 28. $5+\frac{1}{4}t$; \$5.00, \$5.25, \$5.50, \$5.75, \$6.00

Lesson 10.6

1. -3, 2 2. 5, 3 3. 1, -4
 4. $2, -\frac{1}{3}$ 5. $3, \frac{3}{2}$ 6. $-\frac{2}{3}, -1$
 7. $-\frac{1}{2}, -\frac{3}{4}$ 8. $-\frac{1}{2}, \frac{5}{2}$ 9. $\frac{3}{4}, -\frac{1}{3}$
 10. $-\frac{5}{3}, \frac{3}{5}$ 11. $\frac{1}{4}, \frac{5}{2}$ 12. $-\frac{1}{3}, -\frac{1}{2}$
 13. $\frac{3}{2}, -\frac{3}{2}$ 14. 0, -6 15. ≈ 3.73 , ≈ 0.27
 16. 3, 7 17. ≈ -7.14 , ≈ 0.14
 18. ≈ -0.85 , ≈ 2.35 19. 0, 8
 20. -3 21. $-\frac{3}{2}, 2$ 22. $-\frac{1}{3}, \frac{1}{4}$
 23. $\frac{1}{2}, -4$ 24. ≈ 0.69 , ≈ -2.19
 25. $r = 12$ cm 26. 6 in. \times 10 in.
 27. Height = 6 in., base = 9 in. 28. 1 sec
 29. 11 in. \times 5 in. \times 2 in., 15 in. \times 9 in.
 30. 10 ft \times 17 ft, 54 ft

Lesson 10.7

1. $-5 \pm \sqrt{29}$ 2. $-3 \pm \sqrt{10}$ 3. $4 \pm \sqrt{13}$
 4. $3 \pm \sqrt{17}$ 5. $-6 \pm \sqrt{39}$ 6. $-2 \pm \sqrt{2}$
 7. $5 \pm \sqrt{21}$ 8. $-4 \pm 2\sqrt{2}$ 9. $-2 \pm \sqrt{7}$
 10. $4 \pm \sqrt{14}$ 11. $-2 \pm \sqrt{6}$ 12. $1 \pm \sqrt{5}$
 13. 3, 4 14. 0, 3 15. $\pm\sqrt{5}$
 16. $-2 \pm 2\sqrt{2}$ 17. $\pm\frac{5}{3}$ 18. $-\frac{3}{2}, 1$
 19. $-\frac{4 \pm \sqrt{30}}{2}$ 20. $-\frac{2 \pm \sqrt{10}}{3}$ 21. $\frac{1 \pm \sqrt{41}}{10}$
 22. $-\frac{1}{3}, -\frac{3}{2}$ 23. $10 \pm 2\sqrt{10}$ 24. $\frac{7 \pm \sqrt{29}}{2}$
 25. 23,328 26. ≈ 71.4 mi; ≈ 96.4 mi.
 27. 11 ft 28. $\frac{1}{4}$ mile

Lesson 11.1

1. $\frac{12}{5}$ 2. $-\frac{5}{2}$ 3. $\frac{14}{3}$ 4. $\frac{33}{5}$
 5. $-\frac{7}{2}$ 6. $\frac{3}{14}$ 7. $-\frac{9}{10}$ 8. $\frac{1}{2}$
 9. $\frac{17}{3}$ 10. -5, 1 11. 0, 3 12. 8, -2
 13. 3, 6 14. -3, 5 15. -6, -1
 16. 3, 6 17. 6, -1 18. $-\frac{3}{2}, 8$
 19. 11,550 in. or 962.5 ft
 20. 453.25 in. or ≈ 37.8 ft 21. 54 in.
 22. 29.7 in. 23. 0.75 ft or 9 in. 24. 27

Lesson 11.2

1. 9 2. 12% 3. 600 4. 160
 5. 120 6. 64% 7. 88% 8. 80
 9. 219 10. 138.6 11. 44% 12. 70

13. 50% 14. $\approx 44\%$

15. $\approx 1.90933 \times 10^8$ square miles
 16. $\approx 2.487 \times 10^8$ 17. ≈ 94 18. ≈ 6
 19. ≈ 1 20. ≈ 4 21. 16 22. 24
 23. 98 24. 62

Lesson 11.3

1. $y = 8x$ 2. $y = \frac{1}{4}x$ 3. $y = \frac{7}{3}x$
 4. $y = \frac{5}{8}x$ 5. $y = \frac{3}{8}x$ 6. $y = \frac{3}{2}x$
 7. $xy = 21$ 8. $xy = 10$ 9. $xy = 24$
 10. $xy = 8$ 11. $xy = 5$ 12. $xy = \frac{10}{3}$
 13. 4 14. 10 15. 18 16. $\frac{6}{5}$
 17. $\frac{9}{2}$ 18. 5 19. 3 20. $\frac{7}{4}$
 21. $\frac{3}{4}$ 22. 2 23. $\frac{4}{3}$ 24. $\frac{1}{24}$
 25. $C = 2\pi r$ 26. $f \cdot \gamma \approx 2.99 \times 10^5$
 27. 6 volts 28. 4 lb

Lesson 11.4

1. $\frac{1}{6}$ 2. $\frac{1}{40}$ or 0.025 3. $\frac{5}{6}$ 4. $\frac{6}{11}$
 5. 0.000002 6. 2,750,000 7. $\approx 297,576$
 8. $\frac{7}{160}$ 9. $\frac{7}{44} \approx 0.16$ 10. $\frac{3}{22} \approx 0.14$
 11. $\frac{2}{11} \approx 0.18$ 12. $\frac{5}{22} \approx 0.23$
 13. ≈ 0.086 , ≈ 0.059 , ≈ 0.048 , ≈ 0.035 , ≈ 0.026 ,
 ≈ 0.021 , ≈ 0.015

Lesson 11.5

1. All real numbers except 2
 2. All real numbers except -3
 3. All real numbers except 0 and 1
 4. All real numbers except -4
 5. All real numbers except 2 and -2
 6. All real numbers except 4 and -4
 7. All real numbers except 7 and -7
 8. All real numbers except 3 and -3
 9. All real numbers except -2 and -1
 10. All real numbers except 4 and -3
 11. All real numbers except -1 and $\frac{1}{2}$
 12. All real numbers except $\frac{2}{3}$ and 4
 13. $\frac{x}{3}$ 14. $\frac{5x}{7}$ 15. $\frac{3x}{2}$ 16. $\frac{6}{7x^3}$
 17. $\frac{5}{x+3}$ 18. $\frac{2x+1}{4}$ 19. $\frac{x-1}{6}$ 20. $\frac{4}{x+3}$
 21. $\frac{x-5}{x+3}$ 22. $\frac{x+1}{2x-1}$ 23. $\frac{x+6}{x-4}$ 24. $\frac{x-4}{x-3}$
 25. $\frac{6(t+4)}{18-0.5t+0.01t^2}$ 26. 600,000
 27. $\frac{8t+11}{3-0.2t+0.1t^2}$ 28. ≈ 8273 lb
 29. $\frac{5}{2}x(2x+3)$, $45x$, $\frac{2x+3}{18}$ 30. $\frac{x-3}{x-2}$

Lesson 11.6

1. $\frac{8}{3}$ 2. $\frac{14}{x}$ 3. $\frac{32x}{15}$ 4. $\frac{3}{2x^2}$
 5. $\frac{3x}{4}$ 6. $\frac{30}{x-4}$ 7. $\frac{4(x-7)}{x(x+7)}$
 8. $\frac{7x}{2x-1}$ 9. $\frac{2(x+1)}{(x+3)(x-5)}$