

A-6 ANSWERS

Exercise 2.3 [page 76] 1. $\frac{x-3}{2}$ 3. $\frac{a+b-5c}{6}$ 5. $\frac{2x-1}{2y}$ 7. $\frac{-2x+1}{x+2y}$
 9. $\frac{4}{a-1}$ 11. $\frac{6}{18x}$ 13. $\frac{-a^2b^2}{b^3}$ 15. $\frac{xy^2}{xy}$ 17. $\frac{3y^2-9y}{y^2-y-6}$ 19. $\frac{-3b-3a}{b^2-a^2}$
 21. $12xy^2(x+y)^2$ 23. $(a+1)^2(a+4)$ 25. $x(x-1)^3$ 27. $12x^3(x-1)^2$ 29. $\frac{7x}{6}$
 31. $\frac{5x}{12}$ 33. $\frac{1}{12}y$ 35. $\frac{3}{4}y$ 37. $\frac{7xy-2x+3y}{6xy}$ 39. $\frac{8x-2}{(x-1)(x+1)}$
 41. $\frac{-3y^2+3y}{(2y-1)(y+1)}$ 43. $\frac{y^2-4y+5}{(y+1)(2y-3)}$ 45. $\frac{-4}{15(x-2)}$ 47. $\frac{4x-2}{(x-2)(x+1)^2}$
 49. $\frac{-6y-4}{(y+4)(y-4)(y-1)}$ 51. $\frac{3y+1}{y(y-3)(y+2)}$ 53. $\frac{-x^2-7x+2}{(x+2)(x-2)^2}$
 55. $\frac{-1}{(z-4)(z-3)(z-2)}$ 57. $\frac{6}{a-4}$ 59. $\frac{x^2-1}{x}$ 61. $\frac{x^3-2x^2+2x-2}{(x-1)^2}$
 63. $\frac{y^3-2y^2-y}{(y-1)(y+1)}$ 65. $\frac{x^2+x+1}{x+2}$ 67. $\frac{1}{x+5}$ 69. $\frac{x-2}{x+3}$

Exercise 2.4 [page 82] 1. $\frac{2}{21}$ 3. $\frac{4y}{3}$ 5. $\frac{1}{5}$ 7. $\frac{1}{10}$ 9. $\frac{7}{10a+2}$ 11. $\frac{a}{a-2}$
 13. x 15. $\frac{x}{x-1}$ 17. $\frac{y}{y+2}$ 19. xy 21. $\frac{x^2(y-1)}{y^2(x+1)}$ 23. $\frac{-2(x+z)}{xz}$
 25. $3a+b$ 27. $\frac{-3z}{2x}$ 29. $\frac{2x}{x-3}$ 31. $\frac{y^2}{(y-1)(y+1)^2}$ 33. $\frac{a+5}{a+4}$
 35. $\frac{-(u+1)(u+5)}{(u+3)(u-1)}$ 37. $\frac{w^2-2w}{w^2-2}$ 39. 1 41. $\frac{2-y}{2y}$ 43. $\frac{3-a}{a}$ 45. $\frac{x+1}{x-2}$
 47. a. $\frac{1}{q+60} + \frac{1}{q}$ b. $\frac{q^2+60q}{2q+60}$
 49. a. $T_1 = \frac{d}{r_1}$, $T_2 = \frac{d}{r_2}$ b. Total distance: $D = 2d$; c. Average speed: $\frac{2d}{\frac{d}{r_1} + \frac{d}{r_2}}$
 total time: $\frac{d}{r_1} + \frac{d}{r_2}$
 d. $\frac{2r_1r_2}{r_1+r_2}$ e. $58\frac{1}{3}$ miles per hour 51. $\frac{a-2b}{a+2b}$ 53. $\frac{x(x+2)}{(x-1)(x+1)}$ 55. 1

Exercise 2.5 [page 93] 1. x^2 3. $\frac{x}{y^4}$ 5. $\frac{x^3}{y^6}$ 7. $\frac{-8x^3}{27y^6}$ 9. $\frac{16}{x}$ 11. $-x^4y$
 13. $\frac{-8x}{9y^2}$ 15. $\frac{9(x+y)}{x^6}$ 17. $\frac{1}{2}$ 19. 3 21. $\frac{-1}{8}$ 23. 9 25. $\frac{5}{3}$ 27. $\frac{9}{5}$
 29. $\frac{82}{9}$ 31. $\frac{3}{16}$ 33. $\frac{-2}{x^3}$ 35. $\frac{-5x^5}{y^2}$ 37. $\frac{1}{(x-y)^2}$ 39. $\frac{b-c}{(b+c)^2}$ 41. $\frac{1}{x^4}$