

Section 1.1

2. a) negative b) negative
 c) positive d) positive
 8. a) $b > 0$ b) $s \leq 0$
 c) $w \geq -4$ d) $\frac{1}{5} < c < \frac{1}{3}$
 e) $p \leq -2$ f) $-m \geq -2$
 g) $\frac{r}{s} \geq \frac{1}{5}$ h) $\frac{1}{f} \leq 14$
 i) $|x| < 4$
 12. a) 4 b) $\frac{5}{2}$ c) 10

Section 1.2

4. $\frac{1}{2}$ 6. $\frac{5}{1}$ 12. $-12x^2$
 20. $\frac{-2x^6z^5}{y}$ 24. $-4x^{12}y^7$
 8. $\frac{243}{1}$ 36. $4r^{\frac{5}{6}}$
 54. a) $4 + x\sqrt{x}$ b) $(4+x)\sqrt{4+x}$
 58. -5
 62. $\frac{1}{7}\sqrt{7}$
 64. $\frac{4a^4}{b}$
 68. $\frac{\sqrt{3xy}}{3x^2y}$
 78. $5x^2y^5\sqrt{2}$
 86. $\sqrt{a^2+1} \quad a+1$

Section 1.3

6. $6x^2 + 19x - 36$
 12. $7x^4 - 11x^3 + 4x^2 + 42x - 24$
 18. $2a^2b - 3a + b^2$
 22. $25x^2 - 16y^2$
 38. $x^3 + 9x^2y + 27xy^2 + 27y^3$
 40. $27x^3 - 108x^2y + 144xy^2 - 64y^3$
 46. $2u(2u - v)$
 54. $(7x - 4)(x + 2)$
 62. $(3x + 4)^2$
 68. $(9r + 4t)(9r - 4t)$
 70. $(3y^2 + 11x)(3y^2 - 11x)$
 72. $x(x + 5)(x - 5)$
 76. $4(4x + 3y)(4x - 3y)$
 92. $(x^4 + 4)(x^2 + 2)(x^2 - 2)$
 100. $x(2x + 1)^2$

Section 1.4

4. $\frac{23}{216}$
 $\frac{5-r}{r^3}$
 10. $\frac{3x^2 + 2x + 5}{r^3}$
 20. $\frac{5t - 6}{t - 3}$
 22. $\frac{5x + 4}{2x + 3}$
 26. $\frac{x(3x + 5)}{(x - 2)(x + 2)^2}$
 34. $\frac{-1}{x(x + h)}$
 46. $\frac{t - 8\sqrt{t} + 16}{t - 16}$
 50. $\frac{t - 8\sqrt{t} + 16}{t - 16}$