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. $\frac{243}{1}$ 32. $64a^{14}b^2$
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. $\sqrt{a^2+1} \neq a+1$

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. $4(4x+3y)(4x-3y)$
94. $(x^4+4)(x^2+2)(x^2-2)$
102. $x(2x+1)^2$

Section 1.4

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