p. 586/ 21-28, 41, 42, 44

21. $\dfrac{2x^2 + 3x + 9}{(x + 1)(x - 3)}$

22. $\dfrac{-2(7x + 13)}{(x + 2)(x - 2)}$

23. $\dfrac{-3(x + 16)}{(x - 4)^2}$

24. $\dfrac{-x + 1}{(x + 7)(x - 2)}$

25. You must have a common denominator before you can add values in the numerator;

$$\frac{x(x - 5) + 4(x + 2)}{(x + 2)(x - 5)} = \frac{x^2 - x + 8}{(x + 2)(x - 5)}.$$

26. C

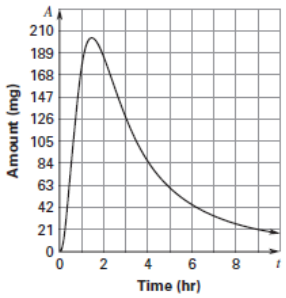
27. $\dfrac{(2x + 3)(x - 1)}{(x - 3)(x + 3)^2}$

28. $\dfrac{-2(x + 7)}{(x - 4)(x + 2)(x - 8)}$

41. $T = \dfrac{2da}{(a - j)(a + j)}$; about 10.2 h

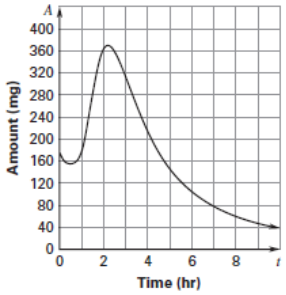
42. $\dfrac{R_1R_2}{R_2 + R_1}$; about 1474 ohms

44. a.



b. $A = \dfrac{391(t - 1)^2 + 0.112}{0.218(t - 1)^4 + 0.991(t - 1)^2 + 1}$

c. $\dfrac{391t^2 + 0.112}{0.218t^4 + 0.991t^2 + 1} + \dfrac{391(t - 1)^2 + 0.112}{0.218(t - 1)^4 + 0.991(t - 1)^2 + 1}$



d. about 1 h 13 min