5 $-(3/\pi)\cos \pi x + c$ 6 $-\frac{1}{2}\cos 2x + c$ 7 $\pi/2 - 1$
9 $\frac{1}{3}\tan(3x + 1)$ 10 1 11 $\frac{1}{2}$
13 $-\frac{1}{2}\cot(2x - 1) + c$ 14 $-\frac{1}{2}\cot 2x + c$ 15 $-\frac{1}{2}\cot 2x + c$
17 0 18 $\frac{1}{3}\sec 3x + c$ 19 $-\frac{1}{2}\csc 2x + c$
21 $(1/\pi)\ln(\sec \pi x + \tan \pi x) + c$ 22 $\frac{1}{3}\ln[\sec(3x + 2) + \tan(3x + 2)] + c$
23 $2\ln(\sec x + \tan x) + c$ 25 $-\frac{1}{2}\ln[\csc(2x - 1) + \cot(2x - 1)] + c$
26 $\ln(\sqrt{2} + 1)$ 27 $-\frac{1}{2}\ln(\csc x^2 + \cot x^2) + c$
29 $-\ln\cos x + c$ 30 $-\ln(1 - \tan^2 x) + c$
31 $\ln\sqrt{2}$ 33 $\frac{1}{2}$ 34 $\frac{1}{3}$ 35 $4 - \pi/6$
37 $\ln 2$ 38 $\sqrt{2} - 1$ 39 $\pi/3 + \ln 2$

Exercise 13.3

1 $-\frac{1}{6}\cos 6x - \frac{1}{4}\cos 4x + c$ 2 $-\frac{3}{4}\cos 4x + \frac{3}{2}\cos 2x + c$
3 $-\frac{1}{6}\cos 6x - x\sin 2 + c$ 5 $\frac{1}{3}\sin 3x + \sin x + c$
6 $\frac{1}{2}\sin 2x + 0.1\sin 10x + c$ 7 $2x + \frac{1}{3}\sin 6x + c$
9 $-\frac{1}{2}\sin 6x + \frac{3}{4}\sin 4x + c$ 10 $-2x\cos 4 + 0.5\sin(4x + 2) + c$
11 $-x + \frac{1}{4}\sin 4x + c$ 13 $\frac{1}{2}\sinh 2x + c$
14 $-\sinh(3 - x) + c$ 15 $-\frac{1}{3}\cosh(1 - 3x) + c$
17 $\frac{1}{2}\ln\cosh 2x + c$ 18 $2\ln\cosh x^{1/2} + c$
19 $\ln\sinh\sqrt{x^2 + 1} + c$ 21 $\frac{1}{2}\tanh(2x + 1) + c$
22 $(1/m)\tanh mx + c$ 23 $(-1/n)\coth nx + c$
25 $-\frac{1}{2}\operatorname{sech} x^2 + c$ 26 $-3\operatorname{sech}(3x + 2) + c$
27 $-2\operatorname{csch} 2x + c$ 29 $\frac{1}{12}\cosh^4 3x + c$
30 $\frac{2}{3}(\sinh x)^{3/2} + c$ 31 $\frac{1}{8}\tanh^4 2x + c$
33 $-\frac{1}{5}\operatorname{sech}^5 x + c$ 34 $-\frac{1}{4}\operatorname{csch}^4 x + c$
35 $\frac{1}{4}\cosh^2 2x + c$

Exercise 13.4

1 $-\cos x + \frac{1}{3}\cos^3 x + c$ 2 $-\cos x + \cos^3 x - \frac{3}{5}\cos^5 x + \frac{1}{7}\cos^7 x + c$
3 $-\frac{1}{2}\cos 2x + \frac{2}{3}\cos^3 2x - \frac{1}{5}\cos^5 2x + c$ 5 $\sin x - 3\sin^3 x + \frac{3}{5}\sin^5 x - \frac{1}{7}\sin^7 x + c$
6 $\frac{1}{3}\sin 3x - \frac{1}{9}\sin^3 3x + c$ 7 $\frac{1}{2}\sin 2x - \frac{1}{3}\sin^3 2x + \frac{1}{10}\sin^5 2x + c$
9 $x/2 + \frac{1}{4}\sin 2x + c$ 10 $3x/4 - \frac{1}{4}\sin 2x + \frac{1}{32}\sin 4x + c$
11 $3x/16 - \frac{1}{4}\sin 2x + \frac{3}{64}\sin 4x + \frac{1}{24}\sin^3 2x + c$
13 $-\frac{1}{6}\cos^6 x + \frac{1}{8}\cos^8 x + c$ 14 $\frac{1}{8}\sin^8 x - \frac{1}{10}\sin^{10} x + c$
15 $\frac{1}{12}\sin^6 2x - \frac{1}{8}\sin^8 2x + \frac{1}{20}\sin^{10} 2x + c$
17 $\frac{1}{3}\sin^3 x - \frac{1}{5}\sin^5 x + c$ 18 $\frac{1}{5}\sin^5 x - \frac{1}{7}\sin^7 x + c$
19 $\frac{1}{7}\cos^7 x - \frac{1}{5}\cos^5 x + c$ 21 $(12x - 3\sin 4x + 4\sin^3 2x + c)/192$
22 $(120x - 128\sin^3 2x - 24\sin 4x - 3\sin 8x + c)/3{,}072$
23 $(12x - 3\sin 4x - 4\sin^3 2x + c)/384$
25 $(4x - \sin 4x + c)/32$ 26 $(24x - 8\sin 4x + \sin 8x + c)/1{,}024$
27 $\frac{1}{2}\sec^2 x + c$ 29 $\frac{1}{2}\tan^2 x + \ln\cos x + c$
30 $(-\cot^4 x - 2\cot^2 x + 4\ln\sin x + c)/4$
31 $-\csc x + c$ 33 $x - \sin^2 x + c$
34 $(12x + 8\sin 2x + \sin 4x + c)/8$
35 $(24x - 6\sin 2x - 32\cos^3 x + 48\cos x + 3\sin 4x + c)/24$

Exercise 13.5

1 $\tan x - x + c$
3 $(-\cot^3 2x + 3\cot 2x + 6x +$
6 $(-\cot^4 2x + 2\cot^2 2x + 4\ln$
7 $(\tan^4 x - 2\tan^2 x - 4\ln\cos$
9 1
11 $(-15\cot 2x - 10\cot^3 2x -$
13 $\frac{1}{3}$
15 $(-9\cot^7 x - 7\cot^9 x +$
18 $(10\tan^6 x + 15\tan^8 x +$
19 $(-5\cot^5 2x - 4\cot^{10} 2x +$
22 $(-6\csc^{10} x + 15\csc^8 x -$
23 $(4\sec^{10} 2x - 15\sec^8 2x +$
25 $(2\sqrt{2} - 1)/3$
27 $(-3\csc^5 x + 5\csc^3 x +$
30 $-\frac{1}{5}\cot^5 x + c$
31 $2\sqrt{\tan x}\,(77\tan x + 66\tan^3$

Exercise 13.6

1 17.4 g
6 87 percent
10 45°
14 $i = 20e^{-50t}$, $i = 20/e^{100}$

Exercise 14.1

1 $(x^2 + 9)^{3/2}/3 + c$
5 $-(x^2 + 25)^{1/2}/x + c$
7 $\ln|\sqrt{x^2 + 16} + x| - \sqrt{x^2 +$
9 $32\operatorname{Arcsin}(x/4) - x\sqrt{16 - x^2}$
10 $-(9 - x^2)^{3/2}(x^2 + 6) + c$
11 $81\operatorname{Arcsin}(2x/3) - 2x\sqrt{9 -$
13 $-\sqrt{16 - x^2}/16x + c$
15 $-\frac{1}{2}\ln|(2 + \sqrt{4 - x^2})/x| +$
18 $\sqrt{x^2 - 9} - 3\operatorname{Arcsec}(x/3) +$
19 $\frac{1}{20}[\operatorname{Arcsec}(2x/5) - 5\sqrt{4x^2 -$
21 $(x^2 - 1)^{3/2}(8 - 3x^2)/15 + c$
23 $(4x^2 - 9)^{3/2}(2x^2 + 3)/40 + c$
26 $\operatorname{Arcsec}(x/3) + c$
29 $\ln|\sqrt{x^2 + a^2} + x| - x\sqrt{x^2 +$
30 $\ln|\sqrt{x^2 + 4} + x| + C$
33 $-(9 - x^2)^{5/2}/5 + C$
35 $x/\sqrt{a^2 - x^2} - \operatorname{Arcsin}(x/a) +$