Ex 1: $\int (5x^4 + \sin(x))\, dx = C + x^5 - \cos(x)$

Ex 2: $\int (5\sin^2(x) + 2\cos(x))\, dx = C + \frac{5x}{2} - \frac{5\sin(x)\cos(x)}{2} + 2\sin(x)$

Ex 3: $\int x\log(x)\, dx = C + \frac{x^2\log(x)}{2} - \frac{x^2}{4}$

Ex 4: $\int (e^{2x} + 3\cos(x))\, dx = C + \frac{e^{2x}}{2} + 3\sin(x)$

Ex 5: $\int 9e^{3x}\cos^2(x)\, dx = C + \frac{6e^{3x}\sin^2(x)}{13} + \frac{18e^{3x}\sin(x)\cos(x)}{13} + \frac{33e^{3x}\cos^2(x)}{13}$

Ex 6: $\int 1\,dx = C + x$

Ex 7: $\int \left(x^2 - 5\sin\left(x\right)\right)\,dx = C + \frac{x^3}{3} + 5\cos\left(x\right)$

Ex 8: $\int \frac{4x^2\sin^3\left(x\right)}{5}\,dx = C - \frac{4x^2\sin^2\left(x\right)\cos\left(x\right)}{5} - \frac{8x^2\cos^3\left(x\right)}{15} + \frac{56x\sin^3\left(x\right)}{45} + \frac{16x\sin\left(x\right)\cos^2\left(x\right)}{15} + \frac{56\sin^2\left(x\right)\cos\left(x\right)}{45} + \frac{32\cos^3\left(x\right)}{27}$

Ex 9: $\int \left(e^{2x} - 5\log\left(x\right)\right)\,dx = C - 5x\log\left(x\right) + 5x + \frac{e^{2x}}{2}$

Ex 10: $\int \left(4\sqrt{x} + 3\cos^2\left(x\right)\right)\,dx = C + \frac{8x^{\frac{3}{2}}}{3} + \frac{3x}{2} + \frac{3\sin\left(x\right)\cos\left(x\right)}{2}$

Ex 11: $\int (5\sin^3(x) + 1)\, dx = C + x + \frac{5\cos^3(x)}{3} - 5\cos(x)$

Ex 12: $\int (x + 3\log(x)^2)\, dx = C + \frac{x^2}{2} + 3x\log(x)^2 - 6x\log(x) + 6x$

Ex 13: $\int \frac{e^{-x}}{2}\, dx = C - \frac{e^{-x}}{2}$

Ex 14: $\int \frac{x\log(x)^2}{2}\, dx = C + \frac{x^2\log(x)^2}{4} - \frac{x^2\log(x)}{4} + \frac{x^2}{8}$

Ex 15: $\int \frac{2}{5x^6}\, dx = C - \frac{2}{25x^5}$

Ex 16: $\int \left(3x + \frac{4}{x}\right) dx = C + \frac{3x^2}{2} + 4\log(x)$

Ex 17: $\int \left(-e^x + \sin^2(x)\right) dx = C + \frac{x}{2} - e^x - \frac{\sin(x)\cos(x)}{2}$

Ex 18: $\int \left(\log(x)^2 - \cos(x)\right) dx = C + x\log(x)^2 - 2x\log(x) + 2x - \sin(x)$

Ex 19: $\int \left(5e^{3x} - 4\sin(x)\right) dx = C + \frac{5e^{3x}}{3} + 4\cos(x)$

Ex 20: $\int \left(x^3 - 5\sin^2(x)\right) dx = C + \frac{x^4}{4} - \frac{5x}{2} + \frac{5\sin(x)\cos(x)}{2}$

Ex 21: $\int \frac{x^2}{4}\,dx = C + \frac{x^3}{12}$

Ex 22: $\int \left(5\sqrt{x} - 4\sin^2(x)\right)\,dx = C + \frac{10x^{\frac{3}{2}}}{3} - 2x + 2\sin(x)\cos(x)$

Ex 23: $\int 3x^2\sin^3(x)\,dx = C - 3x^2\sin^2(x)\cos(x) - 2x^2\cos^3(x) + \frac{14x\sin^3(x)}{3} + 4x\sin(x)\cos^2(x) + \frac{14\sin^2(x)\cos(x)}{3} + \frac{40\cos^3(x)}{9}$

Ex 24: $\int 3x^4\sin(x)\,dx = C - 3x^4\cos(x) + 12x^3\sin(x) + 36x^2\cos(x) - 72x\sin(x) - 72\cos(x)$

Ex 25: $\int \left(2x^4 - \log(x)^2\right)\,dx = C + \frac{2x^5}{5} - x\log(x)^2 + 2x\log(x) - 2x$

Ex 26: $\int \frac{4}{\sqrt{x}}\,dx = C + 8\sqrt{x}$

Ex 27: $\int \left(-5x + \cos^2(x)\right)\,dx = C - \frac{5x^2}{2} + \frac{x}{2} + \frac{\sin(x)\cos(x)}{2}$

Ex 28: $\int \left(3\cos(x) + \frac{1}{x}\right)\,dx = C + \log(x) + 3\sin(x)$

Ex 29: $\int \left(-e^x + \frac{3}{x}\right)\,dx = C - e^x + 3\log(x)$

Ex 30: $\int \frac{1}{2x^2}\,dx = C - \frac{1}{2x}$