Ex 1: $\int (x + 5\cos^3(x))\,dx = C + \frac{x^2}{2} - \frac{5\sin^3(x)}{3} + 5\sin(x)$

Ex 2: $\int (5x + 3e^{3x})\,dx = C + \frac{5x^2}{2} + e^{3x}$

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

Ex 4: $\int \frac{1}{2}\,dx = C + \frac{x}{2}$

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

Ex 6: $\int \frac{3}{\sqrt{x}}\,dx = C + 6\sqrt{x}$

Ex 7: $\int \frac{1}{5}\,dx = C + \frac{x}{5}$

Ex 8: $\int x^3\,dx = C + \frac{x^4}{4}$

Ex 9: $\int (x^4 - e^x)\,dx = C + \frac{x^5}{5} - e^x$

Ex 10: $\int \left(3e^{2x} + 4\log(x)\right)dx = C + 4x\log(x) - 4x + \frac{3e^{2x}}{2}$

Ex 11: $\int (2e^{2x} - \sin^3(x))\,dx = C + e^{2x} - \frac{\cos^3(x)}{3} + \cos(x)$

Ex 12: $\int (5\sqrt{x} + 5x^3)\,dx = C + \frac{10x^{\frac{3}{2}}}{3} + \frac{5x^4}{4}$

Ex 13: $\int \left(-5\log(x)^2 + \frac{5}{x}\right)dx = C - 5x\log(x)^2 + 10x\log(x) - 10x + 5\log(x)$

Ex 14: $\int (1 - \sin^2(x))\,dx = C + \frac{x}{2} + \frac{\sin(x)\cos(x)}{2}$

Ex 15: $\int \left(3e^{3x} - \frac{2}{x}\right)dx = C + e^{3x} - 2\log(x)$

Ex 16: $\int(-2x^2+4e^{2x})\,dx = C - \frac{2x^3}{3} + 2e^{2x}$

Ex 17: $\int(-5x^2+2\log(x)^2)\,dx = C - \frac{5x^3}{3} + 2x\log(x)^2 - 4x\log(x) + 4x$

Ex 18: $\int(5e^{2x}+2\log(x))\,dx = C + 2x\log(x) - 2x + \frac{5e^{2x}}{2}$

Ex 19: $\int x^2\cos^3(x)\,dx = C + \frac{2x^2\sin^3(x)}{3} + x^2\sin(x)\cos^2(x) + \frac{4x\sin^2(x)\cos(x)}{3} + \frac{14x\cos^3(x)}{9} - \frac{40\sin^3(x)}{27} - \frac{14\sin(x)\cos^2(x)}{9}$

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

Ex 21: $\int \left(2\log\left(x\right)+3\sin^{3}\left(x\right)\right)dx = C+2x\log\left(x\right)-2x+\cos^{3}\left(x\right)-3\cos\left(x\right)$

Ex 22: $\int \left(x^{2}+\frac{5}{x^{2}}\right)dx = C+\frac{x^{3}}{3}-\frac{5}{x}$

Ex 23: $\int \left(3\log\left(x\right)-2\sin\left(x\right)\right)dx = C+3x\log\left(x\right)-3x+2\cos\left(x\right)$

Ex 24: $\int \left(3\sin^{2}\left(x\right)+1\right)dx = C+\frac{5x}{2}-\frac{3\sin\left(x\right)\cos\left(x\right)}{2}$

Ex 25: $\int \left(-e^{2x}+\frac{3}{x^{2}}\right)dx = C-\frac{e^{2x}}{2}-\frac{3}{x}$

Ex 26: $\int (3e^{2x} - 4\sin^2(x))\,dx = C - 2x + \frac{3e^{2x}}{2} + 2\sin(x)\cos(x)$

Ex 27: $\int (-2x^3 + 5\sin^2(x))\,dx = C - \frac{x^4}{2} + \frac{5x}{2} - \frac{5\sin(x)\cos(x)}{2}$

Ex 28: $\int 4xe^x\,dx = C + (4x - 4)e^x$

Ex 29: $\int \frac{x^2\sin(x)}{3}\,dx = C - \frac{x^2\cos(x)}{3} + \frac{2x\sin(x)}{3} + \frac{2\cos(x)}{3}$

Ex 30: $\int \left(3\log(x)^2 - \frac{2}{x^2}\right)dx = C + 3x\log(x)^2 - 6x\log(x) + 6x + \frac{2}{x}$

Ex 31: $\int (x + 3\sin^2(x))\,dx = C + \frac{x^2}{2} + \frac{3x}{2} - \frac{3\sin(x)\cos(x)}{2}$

Ex 32: $\int (\sqrt{x} - 2\sin(x))\,dx = C + \frac{2x^{\frac{3}{2}}}{3} + 2\cos(x)$

Ex 33: $\int (x^2 + 3e^x)\,dx = C + \frac{x^3}{3} + 3e^x$

Ex 34: $\int 5x^4 \log(x)\,dx = C + x^5 \log(x) - \frac{x^5}{5}$

Ex 35: $\int (4e^{3x} + 1)\,dx = C + x + \frac{4e^{3x}}{3}$

Ex 36: $\int (4\sqrt{x} + x^2)\, dx = C + \frac{8x^{\frac{3}{2}}}{3} + \frac{x^3}{3}$

Ex 37: $\int \left(2e^{3x} + \frac{3}{x^2}\right) dx = C + \frac{2e^{3x}}{3} - \frac{3}{x}$

Ex 38: $\int (3x^2 + 3\log(x)^2)\, dx = C + x^3 + 3x\log(x)^2 - 6x\log(x) + 6x$

Ex 39: $\int 4x^4 e^{-3x}\, dx = C + \frac{(-108x^4 - 144x^3 - 144x^2 - 96x - 32)e^{-3x}}{81}$

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