

C4 – Chapter 6 – Integration

Integrate the following.

(a) $\int 3(x+5)^4 dx$

(b) $\int \frac{4}{(x-1)(x+1)^2} dx$

(c) $\int \frac{8}{3-7x} dx$

(d) $\int \frac{5-4\cos\left(\frac{1}{3}x\right)}{\sin^2\left(\frac{1}{3}x\right)} dx$

(e) $\int \frac{4}{(5-2x)^3} dx$

(f) $\int \sin(2x)e^{3\cos(2x)} dx$

(g) $\int e^{2x} + 3\sin(5x) dx$

(h) $\int \frac{x^2}{x^2-25} dx$

(i) $\int (\cos x - 3)^2 dx$

(j) $\int 3\sin(4x)\cos^4(4x) dx$

(k) $\int (\sin x \cdot \cos x)^2 dx$

(l) $\int \frac{3x-2}{3x^2-4x+2} dx$

(m) $\int (\cot x + \operatorname{cosec} x)^2 dx$

(n) $\int \frac{2\sin x}{5+2\cos x} dx$

(o) $\int \sin(2x) \cdot \cos(5x) dx$

(p) $\int x(x^2+7)^4 dx$

(q) $\int \cos(7x)\cos(3x) dx$

(r) $\int \operatorname{cosec}^2 x (3 - \cot x)^2 dx$

(s) $\int \cos^2(4x) dx$

(t) $\int \sin(2x)e^{3\cos(2x)} dx$

(u) $\int (1-2\sin x)^2 dx$

(v) $\int \frac{4\sin^2 x - \cos x}{\sin^2 x} dx$

(w) $\int 4e^{-2x} + \frac{1}{x+3} - \cot^2(5x) dx$