Further Calculas

Differentiating

sin x — $\frac{dy}{dx} = \cos x$

cos x — $\frac{dy}{dx} = -\sin x$

sin (a x + b) — $\frac{dy}{dx} = a \cos(a x + b)$

cos (a x + b) — $\frac{dy}{dx} = -a \sin(a x + b)$

Chain Rule

Differentiate $f(g(x))$

$= f'(g(x)) \times g'(x)$

Integrating

$\int \sin x \, dx$ — $-\cos x + c$

$\int \cos x \, dx$ — $\sin x + c$

$\int \sin(a x + b) \, dx$ — $-\frac{1}{a}\cos(a x + b) + c$

$\int \cos(a x + b) \, dx$ — $\frac{1}{a}\sin(a x + b) + c$

$\int (a x + b)^n$ — $\frac{(ax+b)^{n+1}}{a(n+1)} + c$