C4

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1 Parametric Equations

A parametric equation is one in the form;

$$x = f(\lambda), y = g(\lambda)$$

To convert them to cartesian form ($y = h(x)$), one can rearrange to the form;

$$\lambda = f^{-1}(x), y = g(\lambda) \Rightarrow y = g(f^{-1}(x))$$

2 Implicit Differentiation

$$\frac{\mathrm{d}}{\mathrm{d}x}xy = \frac{\mathrm{d}y}{\mathrm{d}x}x + y$$
$$\frac{\mathrm{d}}{\mathrm{d}x}y^n = \frac{\mathrm{d}y}{\mathrm{d}x}ny^{n-1}$$