

Equations for use in main report

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1 Equation 1

$$f(x) = \frac{1}{2}a_0 + \sum_{n=1}^{\infty} a_n \cos(nx) + \sum_{n=1}^{\infty} b_n \sin(nx) \quad (1)$$

2 Equation 2

$$a_0 = \frac{1}{\pi} \int_{-\pi}^{\pi} f(x) dx \quad (2)$$

$$a_n = \frac{1}{\pi} \int_{-\pi}^{\pi} f(x) \cos(nx) dx \quad (3)$$

$$b_n = \frac{1}{\pi} \int_{-\pi}^{\pi} f(x) \sin(nx) dx \quad (4)$$

3 Equation 3

$$\mathcal{F}\{g(t)\} = G(f) = \int_{-\infty}^{\infty} g(t) e^{-j2\pi ft} dt \quad (5)$$

$$\mathcal{F}^{-1}\{G(f)\} = g(t) = \int_{-\infty}^{\infty} G(f) e^{j2\pi ft} df \quad (6)$$