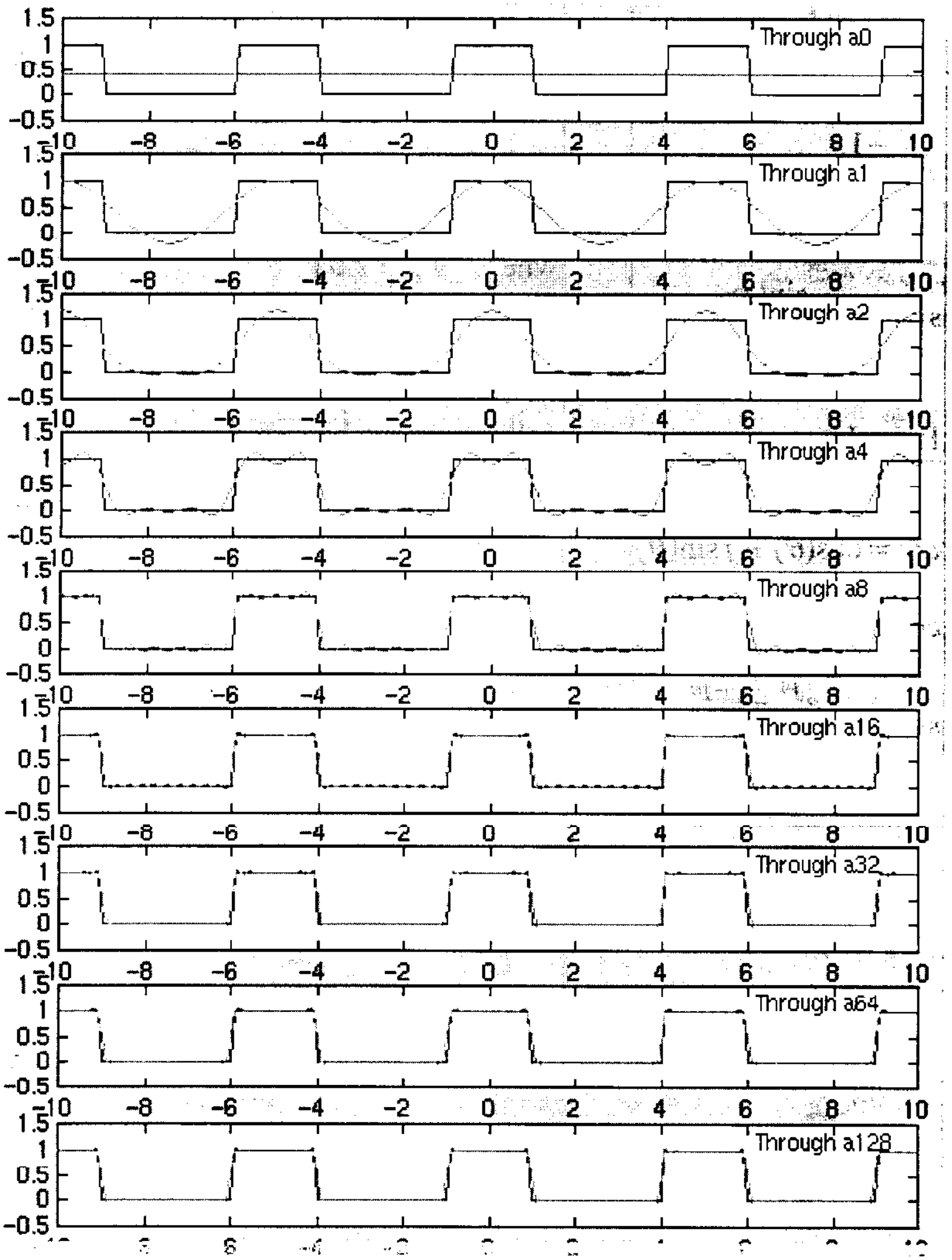
Through a0
Through a1
Through a2
Through a4
Through a8
Through a16
Through a32
Through a64
Through a128

Algebraic:

$$j = \sqrt{-1}$$

$$j = \frac{-1}{j}$$

$$\operatorname{sinc}(x) = \frac{\sin(\pi x)}{\pi x}$$

Euler Identities:

$$e^{j\theta} = \cos(\theta) + j\sin(\theta)$$

$$\cos(\theta) = \frac{e^{j\theta} + e^{-j\theta}}{2}$$

$$\sin(\theta) = \frac{e^{j\theta} - e^{-j\theta}}{2j}$$

Exponential Fourier Series:

$$C_n = \frac{1}{T}\int_{t1}^{t1+T} x(t)e^{-jnw_0 t}\,dt \qquad \mathrm{n} = 0, \pm 1, \pm 2, \ldots$$

$$x(t) = \sum_{n=-\infty}^{\infty} C_n e^{jnw_0 t}$$

where $\mathrm{w}_0 = 2\pi/\mathrm{T}$

Trigonometric Fourier Series:

$$\mathrm{An} = \frac{2}{T}\int_{t1}^{t1+T} x(t)\cos(nw_0 t)\,dt \qquad \mathrm{n} = 0, 1, 2, \ldots$$

$$\mathrm{Bn} = \frac{2}{T}\int_{t1}^{t1+T} x(t)\sin(nw_0 t)\,dt \qquad \mathrm{n} = 0, 1, 2, \ldots$$

$$x(t) = \frac{\mathrm{A}_0}{2} + \sum_{n=1}^{\infty} \mathrm{An}\cos(nw_0 t) + \mathrm{Bn}\sin(nw_0 t)$$

Fourier Transform and Inverse

$$\Im\{\mathrm{x(t)}\} = \mathrm{X(w)} = \int_{-\infty}^{\infty} \mathrm{x(t)e^{-jwt}dt}$$

$$\Im^{-1}\{\mathrm{X(w)}\} = \mathrm{x(t)} = \frac{1}{2\pi}\int_{-\infty}^{\infty} \mathrm{X(w)e^{jwt}dw}$$