

$$\sin(A + B) = \sin A \cos B + \cos A \sin B \quad (1)$$

$$\sin(A - B) = \sin A \cos B - \cos A \sin B \quad (2)$$

$$\begin{aligned} \int_{-\infty}^{\infty} g(x)\delta(x - x_0)dx &= \int_{-\infty}^{\infty} g(x)\frac{d}{dx}\eta(x - x_0)dx \\ &= [g(x)\eta(x - x_0)]_{-\infty}^{\infty} - \int_{-\infty}^{\infty} \frac{dg}{dx}\eta(x - x_0)dx \\ &= g(\infty) - \int_{x_0}^{\infty} \frac{dg}{dx}dx \\ &= g(\infty) - [g(x)]_{x_0}^{\infty} \\ &= g(\infty) - g(\infty) + g(x_0) \\ &= g(x_0) \end{aligned} \quad (3)$$

$$y = ax + b$$

$$z = cx + d$$

$$\begin{aligned} \int x^n dx &= \frac{x^{n+1}}{n+1} & (n \neq -1) \\ &= \log x & (n = -1) \end{aligned}$$