

Hello World!

My name is Abdul Musthakin

Here is an integral:

$$\begin{aligned} \mathcal{I} &= \int_{-\infty}^{+\infty} \frac{\sin x}{x} dx = 2 \int_0^{\infty} \frac{\sin x}{x} dx = 2 \lim_{J \rightarrow 0} \int_J^{\infty} \mathcal{H}\{\sin x\}(t) dt \\ &= 2 \lim_{J \rightarrow 0} \int_J^{\infty} \frac{1}{t^2+1} dt = 2 \lim_{J \rightarrow 0} \arctan t \Big|_J^{\infty} \\ &= 2 \lim_{J \rightarrow 0} \left[\frac{\pi}{2} - \arctan(J) \right] \\ &= 2 \frac{\pi}{2} - \cancel{\arctan(0)} \rightarrow 0 \\ &= \boxed{\pi} \end{aligned}$$

