

Fourier Transform of Step I

What is the Fourier transform of the unit step,

$$g(t) = \sigma(t)$$

1. $-\frac{1}{j\omega}$
2. $\frac{1}{j\omega}$
3. $\frac{1}{\omega}$
4. None of the above

Fourier Transform of Step II

What is the Fourier transform of the unit step,

$$g(t) = \sigma(t)$$

1. $2\pi\delta(\omega)$
2. $\frac{1}{j\omega} + 2\pi\delta(\omega)$
3. $\frac{1}{j\omega} + \pi\delta(\omega)$
4. None of the above