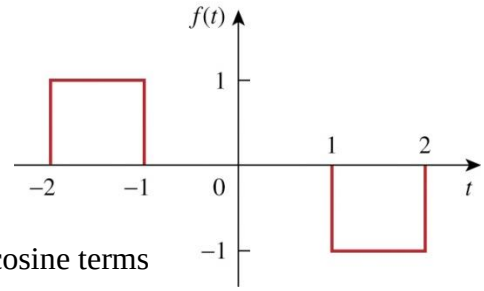
P1 **Concept:** Working with impulse functions

Find: $\int_{-\infty}^{\infty} \frac{10\,\delta(\omega)}{4+\omega^2}\,d\omega$

Hint: Draw what $\delta(\omega)$ looks like. Sketch under that what $\frac{10}{4+\omega^2}$ roughly looks like. Sketch under that what their product looks like. Then integrate.

P2 **Concept:** Integral definition of Fourier Transforms

Find: Fourier Transform F(ω) given f(t) to right
Simplify complex exponentials to cosines



Hints:
- Euler's Identity
- The answer is purely imaginary with two cosine terms