

Lecture 22: Wed, 27 Feb 2008

Reading quizzes: no talking, no looking in your books/notes

Q1. Which of the following is known as the “sifting property” of the delta function?

a. $\int_{-\infty}^{\infty} \delta(x - x_0) = 1$

b. $\int_{-\infty}^{\infty} \delta(x - x_0) f(x) dx = f(x_0)$

c. $\delta(t - t_0) = \frac{1}{2\pi} \int_{-\infty}^{\infty} e^{-i\omega(t-t_0)} d\omega$

Q2. What symbol did I use for the convolution in my convolution handout?

a. $+$

b. \times

c. \odot

d. \oplus

e. \otimes

f. \oslash

Q3. True/False: Aside from a constant factor, the Fourier transform of a convolution is the product of the Fourier transforms of the individual functions.

$$FT(f \otimes g) \sim FT(f) \cdot FT(g)$$