

FOURIER ANALYSIS & METHODS GOALS FOR 2020.01.24

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1. LEARNING OBJECTIVES

Our goals for today are that:

- (1) You will be able to compute the scalar product of two functions defined on $[-\pi, \pi]$.
- (2) You will be able to compute the “L2 norm” of a function defined on $[-\pi, \pi]$.
- (3) You will be able to compute the Fourier coefficients of functions defined on $[-\pi, \pi]$.
- (4) You will be able to interpret the functions $\{e^{inx}\}_{n \in \mathbb{Z}}$ as basis vectors in the Hilbert space $L^2(-\pi, \pi)$ and use them to compute Fourier series.

Ready, set, let's go!