

Homework 2

Due Friday 11/22 in class

Consider a triangle wave of amplitude 1 and period T .

- 1) Calculate the Fourier coefficients for this triangle wave by hand.
- 2) Use these coefficients in the Maple worksheet (`fourier_triangle.mws`) to see how well the Fourier series approximates the triangle wave. Make a plot showing the comparison in the case where the Fourier series includes the first 5 harmonics.
- 3) Compare the coefficients found in (1) with the coefficients for a square wave. Discuss how they are similar and how they are different in light of the fundamental similarities and differences of square and triangle waves.