

# Math 77A Project 1 (Due January 10)

**Instructions:** This project will require some MATLAB code. Please submit your solution as an `.m` file. When turning in the project, name your file `project1_yourlastname.m` and email it to `eesser@uci.edu`. If you are submitting multiple files, please zip them together in a file named `project1_yourlastname.zip`.

1. Find two sine functions  $\sin(2\pi v_1 t)$  and  $\sin(2\pi v_2 t)$  and a sampling interval  $\Delta > 0$  such that

$$\sin(2\pi v_1 n \Delta) = \sin(2\pi v_2 n \Delta) \quad n = 0, 1, 2, \dots$$

Try to choose frequencies  $v_1$  and  $v_2$  that are not integer multiples of each other.

Your code should plot both sine waves and the sampled points on the same plot and include a legend. (Type `help plot`, `help legend` and `help hold` in MATLAB to see documentation for some of the relevant plotting commands.)