

GEORGIA INSTITUTE OF TECHNOLOGY
School of Electrical and Computer Engineering

Course EE 6416

Multidimensional Digital Signal Processing

Assigned: October 2, 1998

Due: October 9, 1998

Due (video): October 23, 1998

Problem Set #2

Reading: Read Sections 1.3 and 2.1.

Problem 2.1: Work Problem 1.15 in the notes.

Problem 2.2: Work Problem 1.17 in the notes. Mathematically, this sequence fails the existence condition for the Fourier transform, but we can extend that condition as we regularly do in the one-dimensional case. *Hint:* Find the Fourier transform of $x[n_1, n_2] = \delta[n_1]$ and use the generalized rotation property.

Problem 2.3: Work Problem 1.18 in the notes.

Problem 2.4: Work Problem 1.20 in the notes.

Problem 2.5: Work Problem 1.23(c). There is an error in your version of the notes. This is really a “stand-alone” problem that has nothing to do with the other parts of problem 1.23.