Homework #6:

1-2. An alternate way to look at diffraction gratings is to consider the grating as being infinite in size but letting the incoming wave be finite in extent. By writing the grating as a Fourier series and the incoming wave as a Fourier transform, find the intensity as a function of angle for the outgoing waves, and deduce the grating equation from this. Find the peak intensities and the widths, and compare to our work from class.

3-4. For a grating with 800 lines/mm and a blaze wavelength of 500 nm, calculate the fraction of 780 nm light that is diffracted into the 1\textsuperscript{st} order (normal incidence).

5 Brooker 4.8

6. Brooker 4.11 (1)