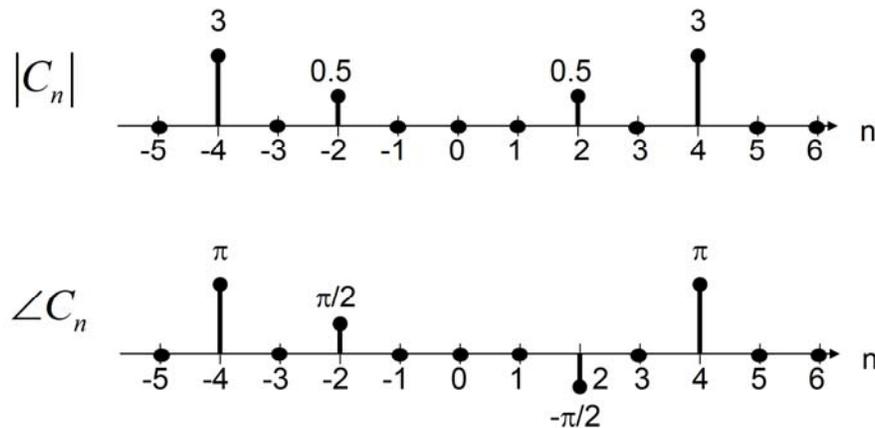


EE432 Fall 08 Homework Problem Set 6 (PS06) Due: 10/10/08

1. Given a signal defined by $x(t) = 4\cos(40\pi t) - \sin(30\pi t) + 3$, find and plot the magnitude and phase of the Fourier series coefficients.
2. Given the Fourier series coefficients in the magnitude/phase plots below, determine the time signal in terms of sinusoids. Assume the fundamental period is 2.5 msec



3. Using the integral equation for the Fourier transform, calculate the Fourier transform of $f(t) = e^{-2t}$. In MATLAB, plot the magnitude and phase for $-100 \leq \omega \leq 100$ radians/sec. Be sure to label your plot. What is the half-power bandwidth of this signal?
4. Work through Practice Problems 3.3 (page 44 of Chapter 3): problems 1, 3, 4, 7, 8.