DIGITAL SIGNAL PROCESSING: COSC390

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QUIZ 1

1. Let $v(t) = 1.2\cos(2\pi(4kHz)t - \pi/2)$ Volts. Graph this signal as a phasor in the complex plane.
2. Express $z = -1/\sqrt{2} + j/\sqrt{2}$ in polar form, and graph it.
3. Imagine a function f can be approximated by $f(x) = \frac{2\pi^2}{3} - \frac{4}{1^2}\cos(1x) + \frac{4}{2^2}\cos(2x) - \frac{4}{3^2}\cos(3x) + \frac{4}{4^2}\cos(4x) - \ldots$ Is this an odd or even function? What is a general expression for the Fourier series coefficient, a_n?