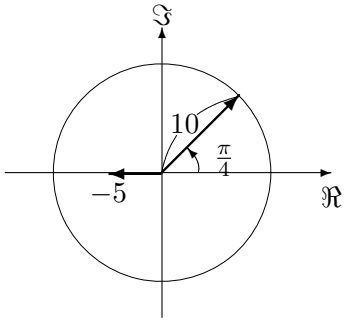
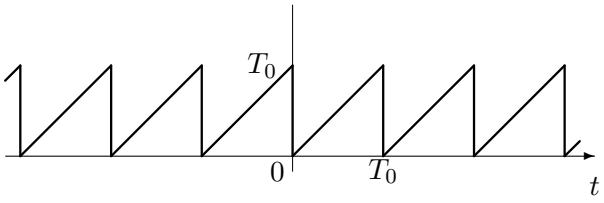
Relevant reading: Chapter 3: 3.1 to 3.4 (including 3.4.5 handout)
Relevant items in the DSP First CD: Homework Problems 3.7 – 3.23

Do the following problems from the text.

1. 2.13(a) only, p. 45
2. 2.14, p. 45
3. Find the sinusoidal signal, whose phasor is the sum of phasors $\mathbf{X} = 10e^{j\pi/4}$ and $\mathbf{Y} = -5$. Assume that the angular frequency is ω_0.



4. 3.3, p. 78
5. 3.5, p. 79
6. 3.6, p. 79
7. Calculate the Fourier coefficients C_k of the exponential Fourier series representation of the periodic sawtooth signal of fundamental period T_0, described over one period by: $x(t) = t$ for $0 \leq t < T_0$.



8. Calculate the Fourier coefficients C_k of the exponential Fourier series representation of the periodic "full-wave rectified sine" signal

$$x(t) = |\sin(t)|, \quad t \in R = (-\infty, \infty).$$