PROBLEM:

The following complex-valued signal is a phasor:

$$z[n] = e^{j\theta[n]}$$

where $\theta[n]$ is the phase.

(a) When the phase changes by a constant amount versus n, the phasor rotates at a constant speed. For the following phasor

$$z[n] = e^{j(0.08\pi n - 0.25\pi)}$$

make a plot of the phasor locations for $n = 0$, 1, 2, 7, 10, 17, 20, 33, 50 and 99.

(b) What is the period of $z[n]$?

(c) Repeat for the complex phasor that corresponds to the chirp signal:

$$c[n] = e^{j0.1\pi n^2}$$

In this case, plot the phasor locations for $n = 0$, 1, 2, 3, 4 and 7.