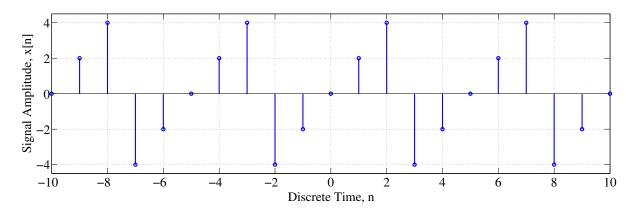
## ELEC 309 Signals and Systems Homework 6 Assignment

## Frequency-Domain Analysis of Signals



- 1. For the periodic discrete-time signal x[n] shown above:
  - (a) Find the Fourier series representation of x[n].
  - (b) Verify Parseval's theorem for x[n].
  - (c) Using MATLAB, write a script m-file to plot the Fourier spectra for the signal. (Plot  $|\mathcal{D}_k|$  vs. k and  $\angle \mathcal{D}_k$  vs. k on a single figure by using the *subplot* command.) Upload a copy of your MATLAB script m-file to the course website.