Exercises Week 8

DSP

1. Consider a signal $x[n] = \left\{ ..., 0, -1, 2, \underset{\uparrow}{-3}, 2, -1, 0, ... \right\}$, whose Fourier transform is $X(\omega)$. Compute the following values:
   a. $X(0)$
   b. $\angle X(\omega)$
   c. $\int_{-\pi}^{\pi} X(\omega) d\omega$
   d. $X(\pi)$
   e. $\int_{-\pi}^{\pi} |X(\omega)|^2 d\omega$