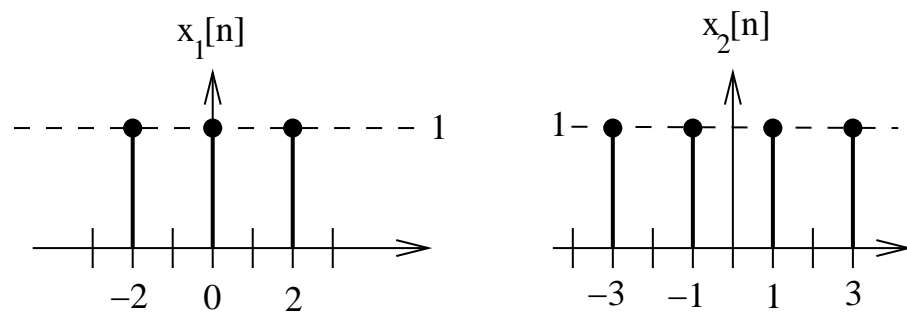


Quiz 7 – November 10, 2006

Note: you only need to specify/sketch the DT FTs within $-\pi \leq \omega < \pi$.

1. Given $H(e^{j\omega}) = 1 - \cos(2\omega)$.
 - (a) Sketch $H(e^{j\omega})$.
 - (b) Determine $h[n]$.
 - (c) Find a difference equation for this system.

2. Consider $x_1[n]$ and $x_2[n]$ given in



- (a) Determine $X_1(e^{j\omega})$ and $X_2(e^{j\omega})$.
- (b) Sketch $y[n] = x_1[n] * x_2[n]$.
- (c) Using your result from (b), determine $Y(1)$, and verify that $Y(1) = X_1(1)X_2(1)$.