ECE 301 Quiz 6.

7/29 (Wed)

Find the DTFT of \( h[n] = u[n-2] - u[n-6] \).

- You may use some properties below:
  - \( u[n] - u[n-N] \) \( \leftrightarrow \) \( e^{-j\frac{N\pi}{2} \sin\left(\frac{N\pi}{2}\right)} \) \( \frac{\sin\left(\frac{N\pi}{2}\right)}{\sin\left(\frac{\pi}{2}\right)} \)
  - \( u[n-n_0] \) \( \leftrightarrow \) \( X(n) e^{-j\omega n_0} \)

(Answer) \( u[n-2] - u[n-6] \) \( \leftrightarrow \) \( e^{-j\frac{4\pi}{2} \sin\left(\frac{4\pi}{4}\right)} \) \( \frac{\sin\left(\frac{4\pi}{4}\right)}{\sin\left(\frac{\pi}{2}\right)} \)