

ELEG 3124 Assignment # 8

1. Find the Fourier transform of the following signals

(a) $s(t) = \text{rect}\left(\frac{t-1}{2}\right)$.

(b) $s(t) = e^{-2t}u(t)$

(c) $s(t) = e^{2t}u(-t)$

(d) $s(t) = 2e^{-3|t|} + 2\delta(t-3)$

2. Let $X(\omega) = \text{rect}\left(\frac{\omega-1}{2}\right)$. Find the Fourier transform of the following functions by using the properties of the Fourier transform

(a) $x(-t)$

(b) $x(-3t+6)$

(c) $\frac{dx(t)}{dt}$