EECS 361
Homework #8

1. Section 4.5 Participation Activities
- 4.5.1: Fourier series analysis for RC circuit with triangle wave input.
- 4.5.3: Fourier analysis of RC circuit, half-wave rectified sine input.

2. Section 4.6 Participation Activities
- 4.6.1: Average power of sinusoidal signals.
- 4.6.2: Average power of sum and product of sinusoids.
- 4.6.3: Parseval's theorem for Fourier series.

3. For $x(t) = 4\cos(600\pi t) - 10\sin(1200\pi t)$ find P_x using the Parseval's theorem

4. Section 4.6 Challenge Activity
- 4.6.1: Parseval's theorem for periodic waveforms.

5. Section 4.7 Participation Activities
- 4.7.1: Fourier transform and sinc
- 4.7.2: Rectangular pulse frequency spectrum.
- 4.7.3: Calculating Fourier transforms of constants and exponentials.

6. Let $x(t) = t^2 * \text{rect}(\frac{t-1.5}{3})$. Plot x(t) and find $X(\omega)$, the Fourier Transform of x(t) and plot $|X(\omega)|$ for $|\omega|<10$.

7. Exercise 4.7.3 [Hint: write f(t) as a sum of three rectangular functions.]