EECS 307 — Homework #2
1/15/20 (due 1/24)

Z&T (**Ed. 6**): 2.48, 2.53, 2.57, 2.61, 2.63

In **Edition 5** these are: 2.40, 2.45 (use $H(f) = 5/(4 + j(2\pi f)$ and $x(t) = e^{-3t}u(t)$), 2.49 (in part (b) "xr" should be π), 2.53 (in part (b) THD ≤ 0.005 percent), and 2.55

6a. Find the Fourier transform of the signal $x(t) = \sum_{n=-\infty}^{\infty} 100 \,\Lambda(4000t - 4n)$.

6b. Suppose $x(t)$ is the input to a filter with transfer function

$$H(f) = \begin{cases} \frac{\pi^2}{2} e^{-j\pi f} & 1500 \leq |f| \leq 3500 \\ 0 & \text{elsewhere} \end{cases}$$

Find the output of the filter $y(t)$.