(3) a) For a pulse train having period of 2T, the Fourier series is

\[ A e^{-j\pi ka/T} \frac{\sin \pi ka/T}{\pi k} \]

The deformed pulse train is \( p_{aT}(t) + \frac{1}{2} p_{aT}(t-T) \), which has the Fourier series

\[ A e^{-j\pi ka/T} \frac{\sin \pi ka/T}{\pi k} \left[ 1 + \frac{1}{2} e^{-j2\pi kT/T} \right] \]

\[ \frac{1}{2} (\delta(t-k)) \]
3) Sampling with this pulse train does induce aliasing.

However, doubling every odd sample removes aliasing! (Sample...