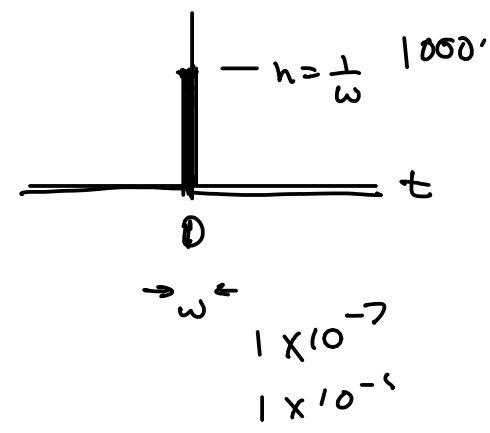
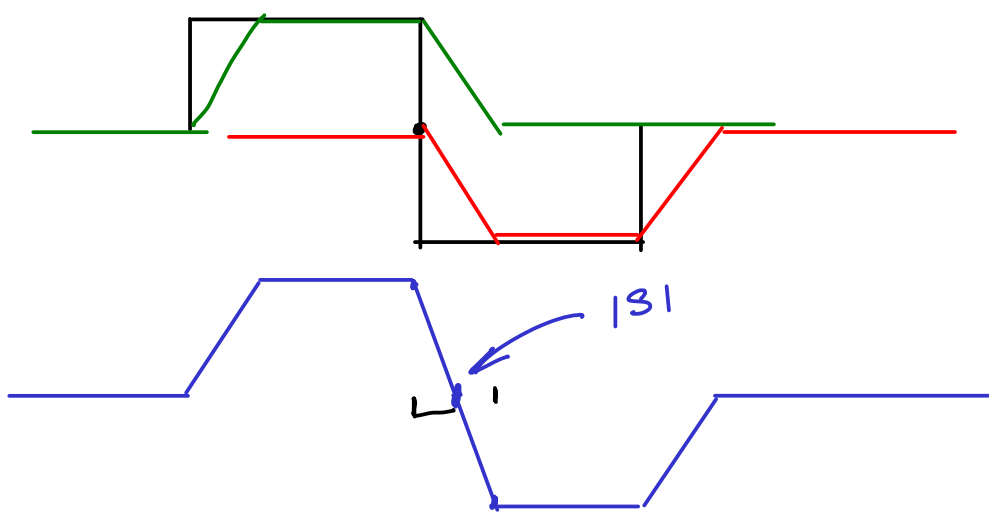
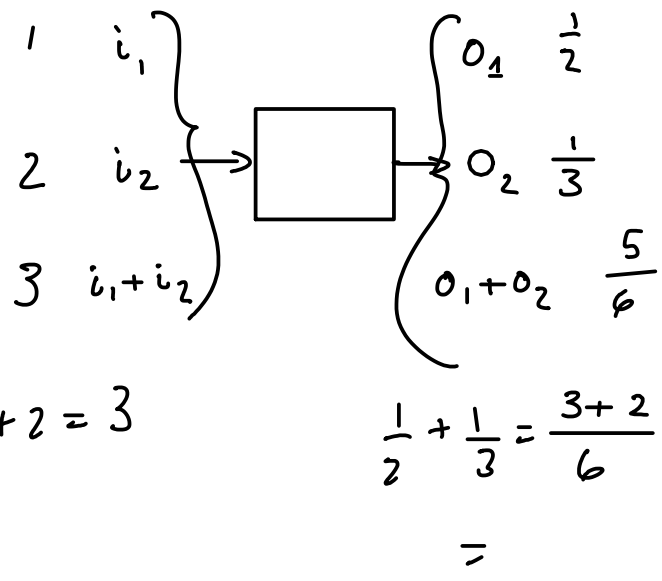
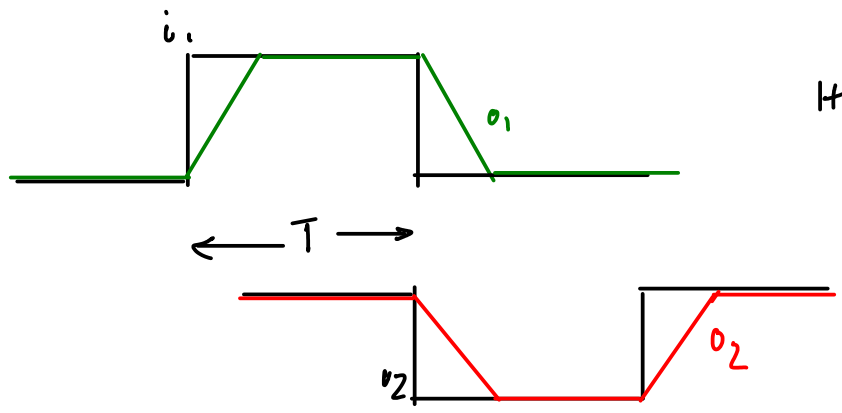
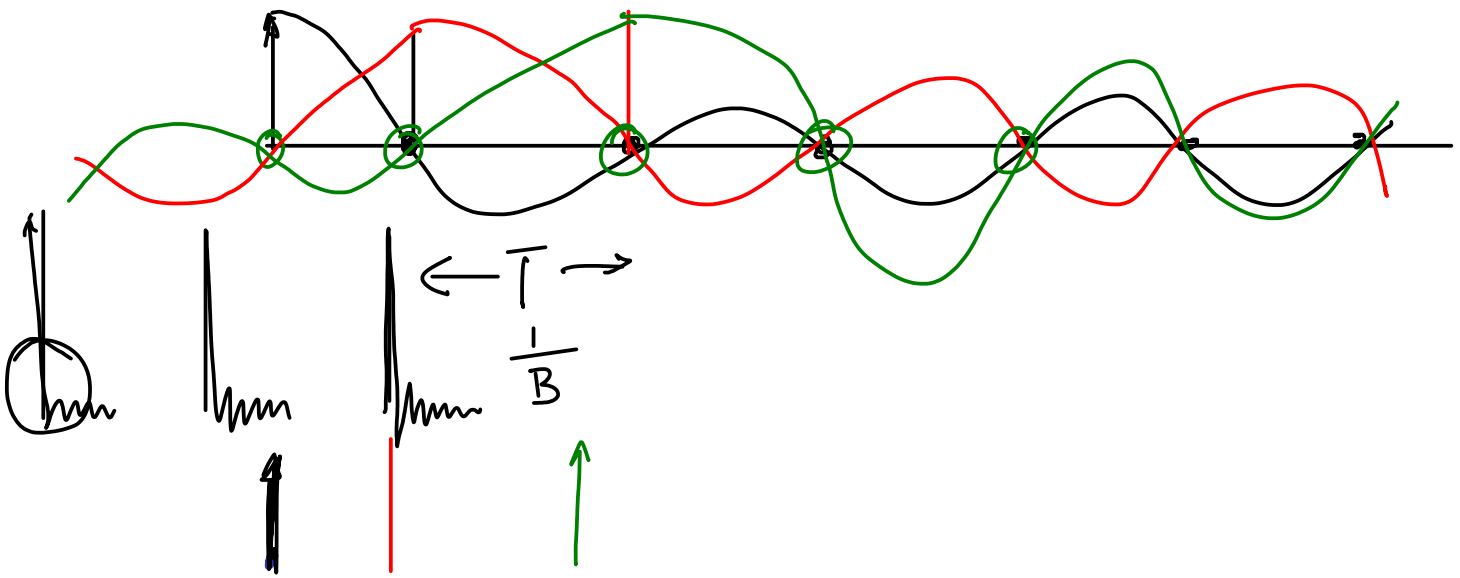


Exercise 1: Draw a square pulse of duration T . Draw the pulse after it has passed through a linear low-pass channel that results in rise and fall times of $T/3$. Draw the output for an input pulse of the opposite polarity. Use the principle of superposition to draw the output of the channel for a positive input pulse followed by a negative input pulse.



$$\delta(t) = \begin{cases} 0 & \text{unless } t=0 \\ \text{Area under } \delta(t) = 1 \end{cases}$$



Exercise 2: What is the impulse response of a channel that does not alter its input? — same, an impulse
 Does this impulse response meet the Nyquist condition? Will it result in ISI?

$$S(f) = \int_0^{\infty} \delta(t) e^{-j2\pi ft} dt = 1$$

Yes
 cross
 zero.

