Question #1: Consider the following signal continuous-time signal $x(t)$ and LTI system with impulse response $h(t)$. Assume the zeros continue forever for $t \to -\infty$ and $t \to \infty$.
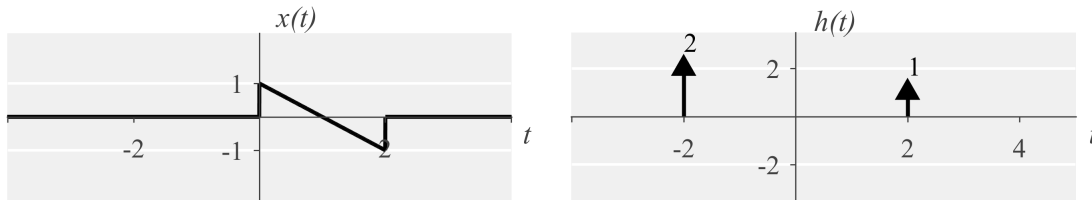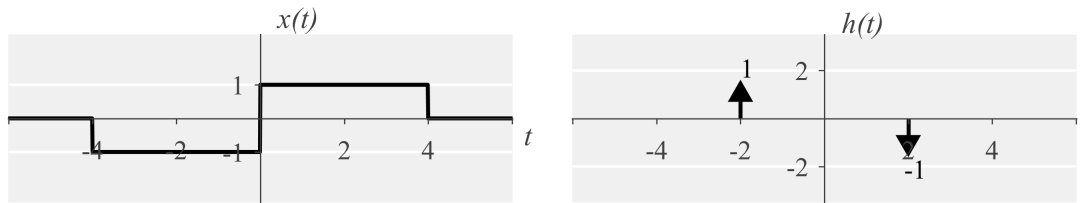

(a) Sketch the system output $y(t) = x(t) * h(t)$.

(b) Sketch $y(t) = h(t) * h(-t)$.

(c) Is the system with impulse response $h(t)$ causal? Is it memoryless?

Question #2: Consider the following continuous-time signal $x(t)$ and LTI system with impulse response $h(t)$. Assume the zeros continue forever for $t \to -\infty$ and $t \to \infty$.

x(t)

h(t)

(a) *(4 pts)*   Sketch the system output $y(t) = x(t) * h(t)$.

(b) *(4 pts)*   Sketch $y(t) = h(t) * h(-t)$.

(c) *(2 pts)*   Is the system with impulse response $h(t)$ causal? Is it memoryless?