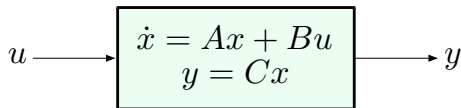


Impulse Response



zero initial condition: $x(0) = 0$

Question: If we know h , how can we find the system's response to other (arbitrary) inputs?

Recall the *sifting property* of the δ -function: for any function f which is “well-behaved” at $t = \tau$,

$$\int_{-\infty}^{\infty} f(t)\delta(t - \tau)dt = f(\tau)$$

— any *reasonably regular* function can be represented as an integral of impulses!!