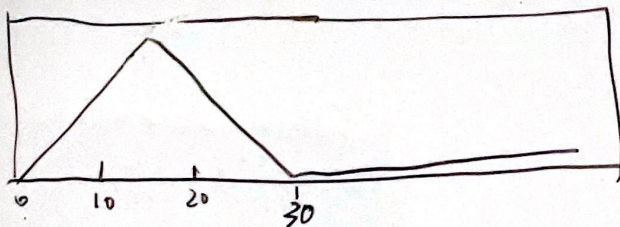


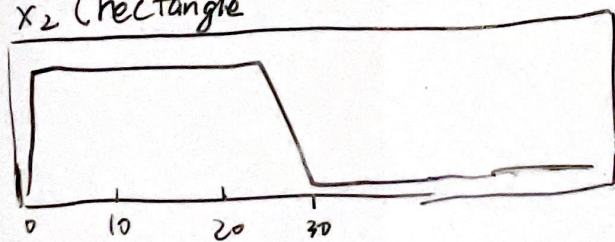
7 Convolution — 卷积

$$\begin{aligned} y[n] &= (x_1[n] * x_2[n])_n \\ &= \sum_{m=0}^{N-1} x_1[m] x_2[n-m] \end{aligned}$$

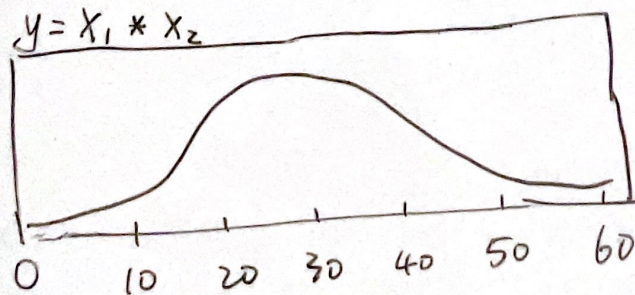
x_1 (triangle)



x_2 (rectangle)



$y = x_1 * x_2$



y 是 x_1 和 x_2 的结合。卷积类似计算交叉相关性 (cross correlation)、常见的滤波算法