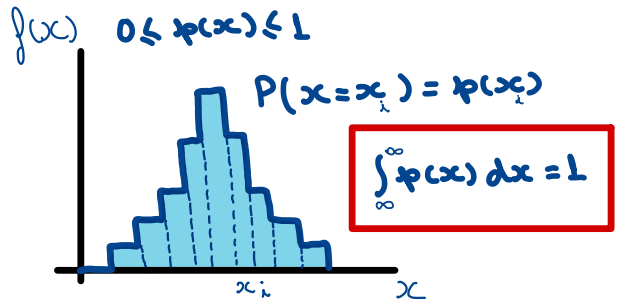
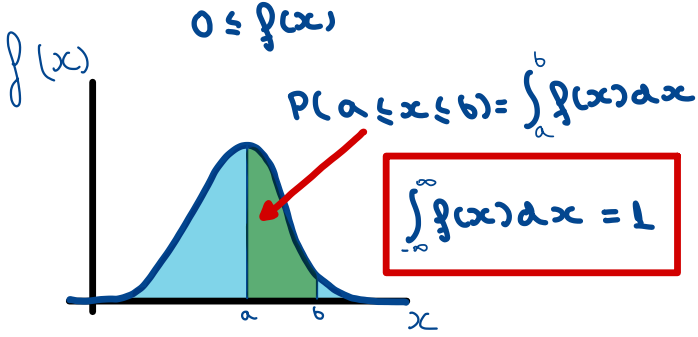
x discrete:



x continuous:



Expected Mean:

$$\mu_x = E[x] = \begin{cases} \int_{-\infty}^{\infty} x f(x)\,dx, & x \text{ continuous} \\ \sum_{all\,x} x\,p(x), & x \text{ discrete} \end{cases}$$

Expected variance:

$$\sigma^2 = V[x] = E[(x-\mu_x)^2] = \begin{cases} \int_{-\infty}^{\infty} (x-\mu_x)^2 f(x)\,dx, & x \text{ continuous} \\ \sum_{all\,x} (x-\mu_x)^2 p(x), & x \text{ discrete} \end{cases}$$