Definition. *Mean of the distribution of a discrete random variable*

$$\mu_X = \sum_{i=1}^{K} x_i p_i$$

Definition. *Variance of the distribution of a discrete random variable*

$$\sigma_X^2 = \sum_{i=1}^{K} (x_i - \mu_X)^2 p_i$$

Definition. *For the sample of size n, picked from a Normally distributed $N(\mu, \sigma)$ population,*

$$\mu_{\bar{x}} = \mu$$

$$\sigma_{\bar{x}}^2 = \sigma^2/n$$

Definition. *To "standardize" a variable, X from $N(\mu, \sigma)$, define*

$$P(X < p) = P(Z := \frac{X - \mu}{\sigma}) < \frac{p - \mu}{\sigma})$$

Definition. *For Binomial distribution*

$$\mu_X = np$$

$$\sigma_X^2 = np(1 - p)$$