

$$f_X(\boldsymbol{x}; \boldsymbol{\theta}) = p$$

**Sample Space**

$$\boldsymbol{x} = x_1, x_2, x_3, \dots, x_n$$

**Probability  
Mass Function**



**Probabilities**

$$\boldsymbol{p} = p_1, p_2, p_3, \dots, p_n$$



**Parameters**

$$\boldsymbol{\theta} = \theta_1, \theta_2, \theta_3, \dots, \theta_k$$