probability mea-
sure on $(\mathbb{R}, \mathcal{B})$,
$P^X : \mathcal{B} \to [0, 1]$

$\xleftarrow{\hspace{3cm}}$ correspondence theorem $\xleftarrow{\hspace{3cm}}$

commulative distri-
bution function,
$F : \mathbb{R} \to [0, 1]$

$P^X \ll \lambda$, σ-finite:
$f = \frac{\mathrm{d}P^X}{\mathrm{d}\lambda}$, Radon-Nikodym
P^X discrete (means?):
$f(x) = P^X(\{x\})$

continuous:
$P^X(A) = \int_A f \, \mathrm{d}\lambda$
discrete:
$P^X(A) = \sum_{x \in A} f(x)$

X continuous:
probability density function
$f : \mathbb{R} \to [0, \infty)$
X discrete:
probability mass funciton
$f : \mathbb{R} \to [0, 1]$