Probability space (S,$\mathcal{G}$,P)

Probability space ($\mathbb{R}$,$\mathcal{B}$,P$_x$)

S

Random variable X

1

$\mathbb{R}$

A

2

5

X

B

6

3

($-\infty$,$\mathbf{x}$]

4

X^{-1}
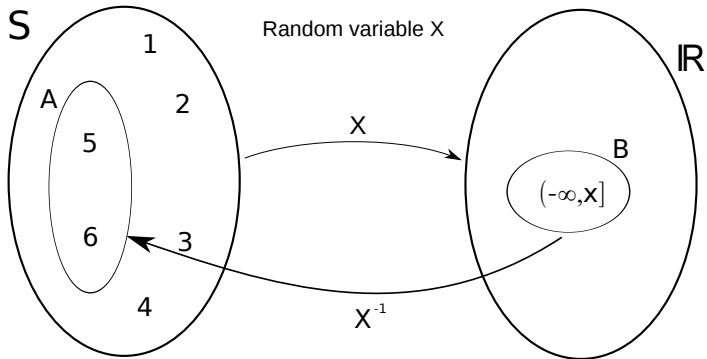
Induced probability $P_x(B) := P(A)$