



### Results

If the integral of the  $n$ th power of a real-valued random variable exists, the *nth moment* of the random variable is the expectation of its  $n$ th power.

### Notation

Let  $(X, \mathcal{A}, \mathbf{P})$  be a probability space. Let  $x$  be a real-valued random variable on  $X$  such that  $\int x^n d\mathbf{P}$  exists. The  $n$ th moment of  $f$  is  $\mathbf{E}(f^n)$ .



