



Math for the people, by the people.

## Martingale criterion (discrete time)

Canonical name	MartingaleCriteriondiscreteTime
Date of creation	2013-03-22 18:34:48
Last modified on	2013-03-22 18:34:48
Owner	karstenb (16623)
Last modified by	karstenb (16623)
Numerical id	5
Author	karstenb (16623)
Entry type	Theorem
Classification	msc 60G07

**Theorem.** *Let  $X = (X_n, \mathcal{F}_n)$  be a local martingale. If there is an  $n_0 \in \mathbb{N}$  such that  $\forall n \geq n_0, n \in \mathbb{N}$  either:*

$$EX_n^- < \infty$$

*or:*

$$EX_n^+ < \infty$$

*Then  $X$  is a martingale.*