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## Hermite-Hadamard integral inequality

Canonical name	HermiteHadamardIntegralInequality
Date of creation	2013-03-22 16:56:30
Last modified on	2013-03-22 16:56:30
Owner	Mathprof (13753)
Last modified by	Mathprof (13753)
Numerical id	8
Author	Mathprof (13753)
Entry type	Theorem
Classification	msc 26D15
Classification	msc 26D10

Let  $f : [a, b] \rightarrow \mathbb{R}$  be a convex function. Then

$$f\left(\frac{a+b}{2}\right) \leq \frac{1}{b-a} \int_a^b f(t) dt \leq \frac{f(a) + f(b)}{2}.$$