INFINITE REFINEMENTS OF THE DISCRETE JENSEN’S INEQUALITY DEFINED BY RECURSION

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Abstract. In this paper we give very general refinements of the discrete Jensen’s inequality for convex and mid-convex functions defined by recursion. Conditions are given for strict inequality which is rare in this topic. In some cases explicit formulas are obtained. The results contain and generalize earlier statements. As an application we define some new quasi-arithmetic means and study their (strict) monotonicity.


Keywords and phrases: Discrete Jensen’s inequality; convex functions; recursion.

REFERENCES