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ON THE EQUIVALENCE BETWEEN SOME MULTIDIMENSIONAL HARDY-TYPE INEQUALITIES

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ABSTRACT. We prove and discuss some power weighted Hardy-type inequalities on finite and infinite sets. In particular, it is proved that these inequalities are equivalent because they can all be reduced to an elementary inequality, which can be proved by Jensen inequality. Moreover, the corresponding limit (Pólya–Knopp type) inequalities and equivalence theorem are proved. All constants in these inequalities are sharp.

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