CONVEX FUNCTIONS ON BANACH SPACES NOT CONTAINING $\ell_1$

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Abstract. There is a sizeable class of results precisely relating boundedness, convergence and differentiability properties of continuous convex functions on Banach spaces to whether or not the space contains an isomorphic copy of $\ell_1$. In this note, we provide constructions showing that the main such results do not extend to natural broader classes of functions.

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