THE HIERARCHY OF CONVEXITY AND SOME CLASSIC INEQUALITIES

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Abstract. In what follows, a hierarchy of m-convexity is considered: we define m-starshaped functions, m-superadditive functions, Jensen m-convex functions, weak Jensen m-convex functions, Jensen m-superadditive functions, and weak m-superadditive functions. Some inclusions between such classes of functions are established. We also analyze the validity of the Hermite-Hadamard inequality, and of the Chebyshev-Andersson inequality for m-convex functions.

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