

## 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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