Generalized preinvex functions and their applications

ABSTRACT

A class of function called sub-b-s-preinvex function is defined as a generalization of s-convex and b-preinvex functions, and some of its basic properties are presented here. The sufficient conditions of optimality for unconstrainded and inquality constrained programming are discussed under the sub-b-s-preinvexity. Moreover, some new inequalities of the Hermite—Hadamard type for differentiable sub-b-s-preinvex functions are presented. Examples of applications of these inequalities are shown.

Keyword: Generalized convexity; b-vex functions; sub-b-s-convex functions