Optimization problems in high school classroom

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Optimization is determining the best result of a process, in accordance with given conditions. In mathematics, it is determining the minimum or maximum of a function by which we describe the process. We optimize our activities every day. Maximizing benefits, minimizing costs, saving time, and other forms of optimization are in everyone's interest daily. Therefore, modeling and optimization techniques would be of great benefit to young people, especially high school students.

In this paper, several examples of different types of optimization problems intended for high school students are presented. The given examples can be solved using different arithmetic or algebraic strategies, depending on the age of the students. According to the goals of the subject of Mathematics, this type of problems corresponds to the application of the learned mathematical concepts and that is why we believe that they are interesting for most students. Moreover, we believe that the challenges of optimization problems would be of great importance for students' motivation in studying the subject of Mathematics.