

ZMATH 2016d.00898

Edwards, Thomas G.; Chelst, Kenneth R.; Principato, Angela M.; Wilhelm, Thad L.
Investigating integer restrictions in linear programming.

Math. Teach. (Reston) 109, No. 2, 136-142 (2015).

Summary: Linear programming (LP) is an application of graphing linear systems that appears in many Algebra 2 textbooks. Although not explicitly mentioned in the Common Core State Standards for Mathematics, linear programming blends seamlessly into modeling with mathematics, the fourth Standard for Mathematical Practice. In solving a linear programming problem, we always seek to find the optimal solution, which might be a maximum or a minimum depending on the nature of the problem. When the variables are restricted to integer values, as often happens in the real world, the problem is then an example of integer linear programming (ILP). In this article, we show why this distinction matters and how it might provide an interesting classroom investigation. (ERIC)

Classification: N60

Keywords: optimization; integer linear programming

<http://www.nctm.org/Publications/Mathematics-Teacher/2015/Vol109/Issue2/Investigating-Integer-Restrictions-in-Linear-Programming/>