

Linear Programming

4.4.4 Graph the solution to a system of linear inequalities.

4.4.6 Solve application problems involving optimization.

Linear Programming

A tool manufacturer produces a 3" socket and a 9" socket. The marketing department expects the minimum demand of 3" sockets to be 120 units and 9" sockets to be 70 units per day. The maximum capacity of the production facility limits production to no more than 200 3" sockets and 170 9" sockets per day. To meet a contract with the shipping company, a total of at least 200 sockets must be shipped daily.

If each 3" socket sold results in a \$2 profit and each 9" socket results in a \$4.50 profit, how many of each type should be made daily to maximize the manufacturer's profit?