

Notes – Linear Programming

1. Stiches Inc. can make at most 30 jean jackets and 20 leather jackets in a week. It takes a worker 10 hours to make a jean jacket and 20 hours to make a leather jacket. The total number of hours by all of the employees can be no more than 500 hours per week. The profit on a jean jacket is \$20, and the profit on a leather jacket is \$50. How many of each type should be produced in order to maximize the company's profit? What is the maximum profit?
2. A farmer has 10 acres to plant in wheat and rye. However, he has only \$1200 to spend and each acre of wheat costs \$200 to plant and each acre of rye costs \$100 to plant. Moreover, the farmer has to get the planting done in 12 hours and it takes an hour to plant an acre of wheat and 2 hours to plant an acre of rye. If the profit is \$500 per acre of wheat and \$300 per acre of rye how many acres of each should be planted to maximize profits?