

## Linear Programming Lesson Helper

Name \_\_\_\_\_

**Example** The AC Telephone Company manufactures two styles of cordless telephones, deluxe and standard. Each deluxe telephone nets the company \$9 in profit, and each standard telephone nets \$6. Machines A and B are used to make BOTH styles of telephones. Each deluxe phone requires three hours of machine A time and one hour of machine B time. Each standard phone requires two hours of machine A time and two hours of machine B time. An employee has an idea that frees twelve hours of machine A time and eight hours of machine B time. Determine the mix of telephones that can be made during the free time that most effectively generates profit for the company within the given constraints.

**Example** The Champion Lumber Company converts logs into lumber or plywood. In a given week, the total production cannot exceed 800 units, of which 200 units of lumber and 300 units of plywood are required by regular customers. The profit on a unit of lumber is \$20, and the profit on a unit of plywood is \$30. Find the number of units each of lumber and plywood that should be produced to maximize profit.

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