PROBLEM 1

Leather Limited manufactures two types of belts; the deluxe model and the regular model. Each type requires 1 sq yd of leather. A regular belt requires 1 hour of skilled labor, and a deluxe belt requires 2 hours. Each week, 40 sq yd of leather and 60 hours of skilled labor are available. Each regular belt contributes $3 to profit and each deluxe belt, $4. Formulate mathematical model to maximize the profit.

PROBLEM 2

A company is considering three investments. Investment 1 will yield a net present value (NPV) of $16,000; investment 2, an NPV of $22,000 and investment 3, an NPV of $12,000. Each investment requires a certain cash outflow at the present time: investment 1, $5,000; investment 2, $7,000 and investment 3, $4,000. Currently, $10,000 is available for investment. Formulate a problem whose solution will tell the company how to maximize the NPV obtained from investments 1-3.