**B.1** Solve the following linear programming problem

graphically:

Maximize profit = 4*X* + 6*Y*

Subject to: *X* + 2*Y* … 8

5*X* + 4*Y* … 20

*X*, *Y* U 0

**B.5** Solve the following LP problem graphically:

Minimize cost = 24*X* + 15*Y*

Subject to: 7*X* + 11*Y* U 77

16*X* + 4*Y* U 80

*X*, *Y* U 0

**B.7** The Attaran Corporation manufactures two electrical

products: portable air conditioners and portable heaters. The

assembly process for each is similar in that both require a certain

amount of wiring and drilling. Each air conditioner takes 3 hours

of wiring and 2 hours of drilling. Each heater must go through

2 hours of wiring and 1 hour of drilling. During the next production

period, 240 hours of wiring time are available and up to

140 hours of drilling time may be used. Each air conditioner sold

yields a profit of $25. Each heater assembled may be sold for a

$15 profit.

Formulate and solve this LP production-mix situation, and

find the best combination of air conditioners and heaters that

yields the highest profit

**B.11** The Sweet Smell Fertilizer Company markets bags

of manure labeled “not less than 60 lb dry weight.” The packaged

manure is a combination of compost and sewage wastes. To

provide good-quality fertilizer, each bag should contain at least

30 lb of compost but no more than 40 lb of sewage. Each pound

of compost costs Sweet Smell 5¢ and each pound of sewage costs

4¢. Use a graphical LP method to determine the least-cost blend

of compost and sewage in each bag.

**B.21.** Par, Inc., produces a standard golf bag and a deluxe

golf bag on a weekly basis. Each golf bag requires time for cutting

and dyeing and time for sewing and finishing, as shown in the following

table:

**HOURS**

**REQUIRED PER BAG**

**PRODUCT CUTTING AND DYEING SEWING AND FINISHING**

Par, Inc., will sell whatever quantities it produces of these two

products.

a) Find the mix of standard and deluxe golf bags to produce per

week that maximizes weekly profit from these activities.

b) What is the value of the profit?