**6-36** Ralph Janaro simply does not have time to analyze all of the items in his company's inventory. As a young manager, he has more important things to do. The following is a table of six items in inventory along with the unit cost and the demand in units.

IDENTIFCATION CODE UNIT COST ($) DEMAND IN UNITS

 XXI 5.84 1,200

 B66 5.40 1,110

 3CPO 1.12 896

 33CP 74.54 1,104

 R2D2 2.00 1,110

 RMS 2.08 961

(a) Find the total amount spent on each item during the year. What is the total investment for all of these?

(b) Find the percentage of the total investment in inventory that is spent on each item.

(c) Based on the percentages in part (b), which item(s) would be classified in categories A, B, and C using ABC analysis?

(d) Which item(s) should Ralph most carefully control using quantitative techniques?

**7-16**A candidate for mayor in a small to 'In has allocated " $40,000 for last-minute advertising in the days preceding the election. Two types of ads will be used: radio and television. Each radio ad costs $200 and reaches an estimated 3,000 people. Each television ad costs $500 and reaches an estimated 7,000 people. In planning the advertising campaign, the campaign manager would like to reach as many people as possible, but she has stipulated that at least 10 ads of each type must be used. Also, the number of radio ads must be at least as great as the number of television ads. How many ads of each type should be used? How many people will this reach?

**7-29** Graphically analyze the following problem:

Maximize profit = $4X + $6Y

Subject to: X + 2Y ≤ 8 hours

 6X + 4Y ≤ 24 hours

(a) What is the optimal solution?

(b) If the first constraint is altered to X + 3 Y≤ 8, does the feasible region or optimal solution change?