

Name	Date
Program	Score

Activity 5.5.1 Linear Programming Formulation

Direction. Formulate the following as LP Models.

1. BranCo company produces two products that are processed on two production lines. Production line 1 has 90 available hours, and production line 2 has 40 available hours. Each product requires 10 hours of processing time on line 1, while on line 2 product 1 requires 7 hours and product 2 requires 3 hours. The profit for product 1 is 50 pesos per unit and the profit for product 2 is 45 pesos per unit. BranCo wants to determine the amount of product 1 and product 2 to produce to maximize the company's profit.

2. RAN Department Store aims to increase its popularity by hiring an advertise firm. Three types of advertising are available, namely, television and radio commercial ads. The store aims to determine the number of each type of advertisement it should purchase in order to maximize exposure. The table below shows the estimated potential audience and cost of the three advertising options.

	Potential Audience Exposure	Cost (in pesos)
Television	20,000	15,000
Radio	12,000	6,000

The department store requires that only at most 8 commercial ads should be availed and that their budget is only 75,000 pesos.

Determine how many ads of each type should the department store availed in order to maximize audience exposure.