

1. Diet problem: A Nutritionist is planning a menu that includes food A and food B as its main samples. Suppose that each ounce of food A contains 2 units of protein, 1 unit of iron and 1 unit of thiamine; each ounce of food B contains 1 unit of iron and 3 units of thiamine. Suppose that each ounce of A costs 30 cents, while each ounce of B costs 40 cents. The Nutritionist wants the meal to provide at least 12 units of protein, at least 9 units of iron, and at least 15 units of thiamine. How many ounces of each food should be used to minimize the cost of the meal?
2. A Dietician has to develop a special diet using two foods P and Q. Each packet of food P contains 12 units of calcium, 4 units of iron, 6 units of Cholesterol and 6 units of Vitamin A. Each packet of same quantity food Q contains 3 units of calcium, 20 units of iron, 4 units of Cholesterol and 3 units of vitamin A. The diet requires at least 240 units of calcium, at least 460 units of Iron and at most 300 units of cholesterol. How many packets of each food should be used to minimise the amount of Vitamin A in the diet? What is the minimum amount of the vitamin A?

	Foods		Requirement
	P	Q	
Calcium	12 Units	3 Units	At least 240 Units
Iron	4 Units	20 Units	At least 460 Units
Cholesterol	6 Units	4 Units	At most 300 Units
Vitamin A	6 Units	3 Units	