1. The B & W Leather Company wants to add handmade belts and wallets to its product line. Each belt nets the company $18 in profit, and each wallet nets $12. Both belts and wallets require cutting and sewing. Belts require 2 hours of cutting time and 6 hours of sewing time. Wallets require 3 hours of cutting time and 3 hours of sewing time. If the cutting machine is available 12 hours a week and the sewing machine is available 18 hours per week, what ratio of belts and wallets will produce the most profit within the constraints?

2. A ski company makes two types of skis and has a fabrication and a finishing department. A pair of downhill skis requires 6 hours to fabricate and 1 hour to finish. A pair of cross-country skis requires 4 hours to fabricate and 1 hour to finish. The fabricating department has 108 hours of labor available per day. The finishing department has 24 hours of labor available per day. The company makes a profit of $40 on each pair of downhill skis and $30 on each pair of cross-country skis. Fill in all questions a-f below and use the information above to find out how many downhill skis and how many cross-country skis it will be required to make in order to maximize company profit.

3. Toys-A-Go makes toys at Plant A and Plant B. Plant A needs to make a minimum of 1000 toy dump trucks and fire engines. Plant B needs to make a minimum of 800 toy dump trucks and fire engines. Plant A can make 10 toy dump trucks and 5 toy fire engines per hour. Plant B can produce 5 toy dump trucks and 15 toy fire engines per hour. It costs $30 per hour to produce toy dump trucks and $35 per hour to operate produce toy fire engines. How many hours should be spent on each toy in order to minimize cost? What is the minimum cost? (Be careful with this one because it is MINIMUM cost)

4. A diet is to include at least 140 milligrams of Vitamin A and at least 145 milligrams of Vitamin B. These requirements can be obtained from two types of food. Type X contains 10 milligrams of Vitamin A and 20 milligrams of Vitamin B per pound. Type Y contains 30 milligrams of Vitamin A and 15 milligrams of Vitamin B per pound. If type X food costs $12 per pound and type Y food costs $8 per pound how many pounds of each type of food should be purchased to satisfy the requirements at the minimum cost?(Be careful because with this one because it is MINIMUM cost)

5. ******This one is difficult
   The area of a parking lot is 600 square meters. A car requires 6 square meters. A bus requires 30 square meters. The attendant can handle only 60 vehicles. If a car is charged $2.50 and a bus $7.50, how many of each should be accepted to maximize income?