Chapter 1: Model Building

1.] Ticket Purchasing Problem: A businessperson has a 5-week commitment traveling from Fayetteville (FYV) and Denver (DEN). Weekly departure from Fayetteville occurs on Mondays for return on Wednesdays. A regular roundtrip ticket costs $400, but a 20% discount is granted if the roundtrip dates span a weekend. A one-way ticket in either direction costs 75% of the regular price. How should the tickets be bought for the 5-week trip?

2.] GARDEN PROBLEM: A home owner is in the process of building a backyard vegetable garden. The garden must take on a rectangular shape to facilitate row irrigation. To keep critters out, the garden must be fenced. The owner has enough material to build a fence of length $L = 100$ ft. The goal is to fence in the largest possible area.