

Problem (Pigpen Problem) *If a farmer has 100 feet of fence and wants to make a rectangular pigpen, one side of which is along an existing straight fence, what dimensions should be used in order to maximize the area of the pen?*

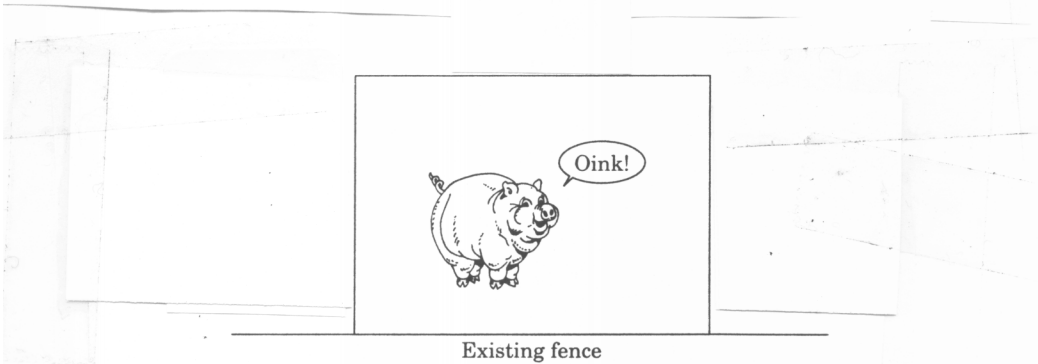


Figure 16.3 Pigpen.

Problem (Exploiting Humanity Problem) *You have just invented a new peanut butter guacamole dip, and you open a stand in front of the student union to sell this goop by the jar. Somehow a rumor gets started, certainly not traceable back to you, that it is an aphrodisiac, and sales take off. At a price of \$1.00 a jar, you sell 500 jars a day. For each nickel that you increase the price, you sell two fewer jars. Assuming that your fixed cost per day is \$200 (protection money), and the cost per jar to you is 50 cents, determine the price for which you should sell your dip in order to maximize your profit.*