1. A gardener wishes to enclose a 75 square meter rectangular garden. He will use fencing that costs $3 per meter on two opposite sides and on the remaining sides he will use fencing that costs only $1 per meter.
    a. Find the dimensions for which the cost is minimized.
    b. What is the minimum cost of the fence?

2. An offshore oil well is located at a point W that is 5 miles from the closest point A on a straight shoreline. Oil is to be piped from W to a shore point B that is 8 miles from A by piping it on a straight line under water from W to some shore point P between A and B and then on to B via pipe along the shoreline. If the cost of laying pipe is $100,000 per mile under water and $75,000 per mile over land, where should the point P be located to minimize the cost of laying the pipe?