A ball is tossed straight upward with an initial velocity of from a rooftop that is above ground level. The height of the ball in feet at time t in seconds is given by . Find the maximum height above ground level for the ball.

If of fencing will be used to fence a rectangular region, then what dimensions for the rectangle will maximize the area of the region?

Your factory produces lemon-scented widgets. You know that each unit is cheaper, the more you produce. But you also know that costs will eventually go up if you make too many widgets, due to the costs of storage of the overstock. The guy in accounting says that your cost for producing thousands of units a day can be approximated by the formula . Find the daily production level that will minimize your costs.