Ex. 1 You have a 500-foot roll of fencing and a large field. You want to construct a rectangular playground area. What are the dimensions of the largest such yard? What is the largest area?

Ex. 2 You have a 1200-foot roll of fencing and a large field. You want to make two paddocks by splitting a rectangular enclosure in half. What are the dimensions of the largest such enclosure?

Ex. 3 The size of a television screen or computer monitor is usually stated as the length of the diagonal. A screen has a 38-cm diagonal. The width of the screen is 6 cm more than the height. Find the dimensions of the screen to the nearest tenth.

Ex. 4 You run a canoe-rental business on a small river in Ohio. You currently charge $12 per canoe and average 36 rentals a day. An industry journal says that, for every fifty-cent increase in rental price, the average business can expect to lose two rentals a day. Use this information to attempt to maximize your income. What should you charge?

Ex. 5 A sporting goods store sells 90 ski jackets in a season for $200 each. Each $10 decrease in price would result in five more jackets being sold.
(a) Find the number of jackets sold and the selling price to give maximum revenues.
(b) What is the lowest price that would produce revenues of at least $15600?
    How many jackets would be sold at this price?

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