

## Optimization (Applied Min/Max)

- 1) A movie theater has 80 seats. At \$4.00 per ticket, every seat will be sold. For every \$0.25 increase in ticket prices, one customer will be lost. What price should the theater owner charge in order to maximize revenue?
- 2) The owner of an apartment complex can rent out all 80 units at a rent of \$500 per week. For every \$20 increase in rent, one more unit will become vacant. What is the rent price that gives the owner maximum revenue?

3) A square sheet of cardboard of sides 12 inches is used to make an open box. This is done by cutting squares of equal sides from the four corners and folding up the sides. What size squares should be cut to obtain a box with the largest possible volume?

4) Find the lengths of the sides of an isosceles triangle that has a perimeter of 12, and a maximum area.