- The revenue is the amount of money R that a company receives by selling q items at a set price p.

$$R = p \cdot q$$

- The cost is the amount of money C a company spends to make q items.

$$C(q) = F + V(q)$$

- F stands for the fixed costs: Salaries, rent, commercials, etc.
- $V(q)$ stands for the variable costs: Materials, over-time, etc.
- The profit is the amount of money P the company is left with after all products were sold and all costs are paid.

$$P = R - C$$

- Demand is the relation between the price p of an item and the quantity q of items to be sold at that price. A basic principle of economy is that an increase in price leads to a decrease in demand.

Today: We assume that the demand is a linear connection, i.e.

$$q = A \cdot p + B$$

Question: What is the main goal of a good business?

1) Maximize revenue.

2) Minimize cost.

3) Maximize profit.

4) Maximize demand.

The story:

We were hired by BChalk Inc. They are selling a chalk box for 2$ and sell 3,000 boxes a month. Last April, they had a chalk sale (the *chalk-fest*) and, at a discount of 10¢ a box, they sold 100 more boxes than other months.

Talking with BChalk's accountant we found that their fixed cost is 3,250$ a month and it costs an extra 75¢ to make a box of chalk, so now their monthly profit is 500$ and they would wish to increase it.

What is the price the need to set for a box of chalk in order to maximize their revenue?