

## The Automobile Problem

An automobile manufacturer makes a profit of \$1,500 on the sale of a certain model. It is estimated that for every \$100 of rebate, sales increase by 15%.

What amount of rebate should the manufacturer offer?

## The Automobile Problem Continued . . .

An automobile manufacturer makes a profit of \$1,500 on the sale of a certain model. It is estimated that for every \$100 of rebate, sales increase by 15%.

What amount of rebate should the manufacturer offer?

The manufacturer should offer a rebate of \$416.67 per car in order to maximize total profit.

This solution only is valid when all the assumptions of the model hold. But how confident are we with those assumptions? Which aspect of the original problem is least certain?