If a company manufactures 2,000 bicycles per year, it can sell them for $ 80 per bicycle. However, if it manufactures 1,000 bicycles, the price is $ 100 per bicycle.

Let x be the number of bicycles manufactured in a year.
Let y be the price per bicycle.
Let $R = xy$. R is called the *revenue*.

Find the value of x that maximizes the revenue.