Exercise 1 [5 points]
The demand function for an office supply company's line of plastic rulers is $p = 0.9 - 0.00045q$, where $p$ is the price (in dollars) per unit when $q$ units are demanded (per day) by consumers. Find the level of production that will maximize the manufacturer's total revenue, and determine this revenue.

Exercise 2 [5 points]
Solve \[
\begin{cases}
  x = y + 1 \\
  y = -2\sqrt{x} + 2
\end{cases}
\]