24.1 (0) Professor Bong has just written the first textbook in Punk Economics. It is called *Up Your Isoquant*. Market research suggests that the demand curve for this book will be $Q = 2,000 - 100P$, where P is its price. It will cost \$1,000 to set the book in type. This setup cost is necessary before any copies can be printed. In addition to the setup cost, there is a marginal cost of \$4 per book for every book printed.

(a) The total revenue function for Professor Bong's book is $R(Q) =$

(b) The total cost function for producing Professor Bong's book is $C(Q) =$

(c) The marginal revenue function is $MR(Q) =$

the marginal cost function is $MC(Q) =$

The profit-maximizing
quantity of books for professor Bong to sell is $Q^* =$

24.2 (0) Peter Morgan sells pigeon pies from a pushcart in Central Park. Morgan is the only supplier of this delicacy in Central Park. His costs are zero due to the abundant supplies of raw materials available in the park.

(a) When he first started his business, the inverse demand curve for pigeon pies was $p(y) = 100 - y$, where the price is measured in cents and y measures the number of pies sold. Use black ink to plot this curve in the graph below. On the same graph, use red ink to plot the marginal revenue curve.

(b) What level of output will maximize Peter's profits?

price will Peter charge per pie?

(c) After Peter had been in business for several months, he noticed that the demand curve had shifted to $p(y) = 75 - y/2$. Use blue ink to plot this curve in the graph above. Plot the new marginal revenue curve on the same graph with black ink.

(d) What is his profit-maximizing output at this new price? the new profit-maximizing price?