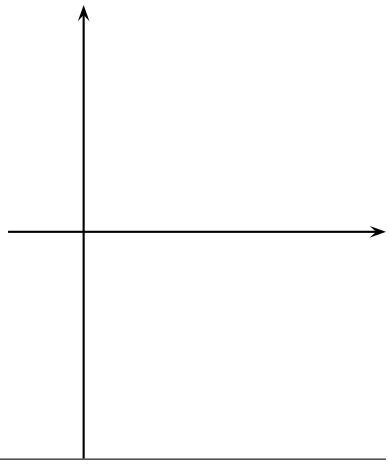
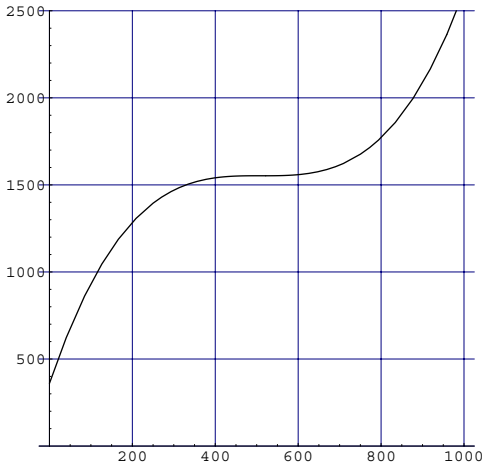
MA 120-04 §4.3 – 4.7	**Quiz #5**	*score*	**Name:** _____ **31 March 2003**

1. Sketch a graph of a function $f(x)$ on the interval $0 \le x \le 10$ with the following properties: f has local minimum at $x = 3$ and a local maximum at $x = 8$; f has a global maximum and a global minimum at the endpoints of its domain. Label the important points on your graph. *(5 points)*



2. If the marginal cost exceeds the marginal revenue at a particular production level, should production be increased or decreased to increase profit? Explain. *(5 points)*

3. For the given cost function, estimate the value of q that minimizes the average cost. Show in the graph how you estimate your result. *(5 points)*



4. For the logistic function $f(t) = \dfrac{450}{1 + 10e^{-0.15t}}$, use your calculator to approximate the value of $f(25)$. What is the limiting value for $f(t)$ as t increases? *(5 points)*