Newberger College Algebra for the Sciences Fall 04

**Homework: Piecewise Functions and their graphs**

Due: Tuesday, March 8

The following exercises refer to the problems on page 234 of the College Algebra book. *Use graph paper and a ruler.*

(1) For each of the functions given in problem numbers 38, 42, 43, and 44, answer each of the following questions.
   (a) Find $f(0)$,$f(1)$ and $f(2)$. Label each answer.
   (b) Draw the graph of $f$. Be careful to get the $x$ and $y$ intercepts right.

(2) Write a paragraph describing 1) what a piecewise function is and 2) what the notation we use to express a piecewise function algebraically looks like.

(3) Do problem 67 on page 223.

(4) Read problem 87 on page 236. What does the function $C(x)$ yield (in words)? Write a formula for $C(x)$ algebraically, on the interval $(0, 2)$ (i.e. for $0 < x < 2$). Graph $C(x)$ on that domain.

(5) Read problem 88 on page 236. What does the function $P(x)$ yield (in words)? What is the cost of mailing an .6 oz. package? Write a formula for $P(x)$ on the interval $(0, 12]$, i.e. for $0 < x \leq 12$, and sketch the graph of the function on that domain.