Name _____

Homework 2
Sections 1.1 & 1.2

1. (1ea) Determine the domain of each of the following functions. b and c represent arbitrary constants.

   (a) $f(x) = \sqrt{25 - x^2}$

   (b) $f(t) = \frac{15}{\sqrt{t+29}}$

   (c) $g(x) = \frac{x^2+2x-3}{x+b}$

   (d) $f(x) = \frac{x-c}{x^3-4x}$

2. (6) Fill in the table below given that $f(x)$ is a linear function and $g(x)$ is an exponential function.

x	0	1	2	3	4
$f(x)$	10		20		
$g(x)$	10		20		

3. (2ea) During 1988 Nicaragua's inflation rate averaged 1.3% per day. This means that on average, prices went up by 1.3 percent from one day to the next. By what percentage did Nicaraguan prices increase in June of 1988? What was Nicaragua's annual inflation rate during 1988?

4. (2ea) Residents of the city of Camarillo who are connected to the municipal water supply are billed a fixed monthly amount plus a charge for each 100 cubic foot (HCF) of water used. A household using 18 HCF was billed \$29, while one using 12 HCF was billed \$21.20.

   (a) Write an equation for the total monthly cost of a resident's water as a function of hundred cubic feet of water used.

   (b) How many cubic feet of water would lead to a bill of \$35.50?

   (c) Write an equation for the total *annual* cost of a resident's water as a function of hundred cubic feet of water used.