University of South Carolina
Math 111: College Algebra
Instructor: Austin Mohr
Section 8
Fall 2008

Quiz 1

(10 points total)

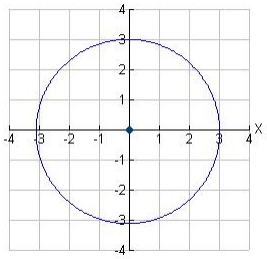
1. For each of the following, tell whether a function is being represented and explain why or why not.

   a. Widgets cost \$2 each, so the total cost of x widgets is given by $2x$.

   b.

In	Out
♣	Γ
♣	Θ
♠	Λ
♡	Ξ
♢	Ψ

   c.



   d. $f(x) = x^2 + 1$

2. Let $f(x) = \frac{1}{x-1}$ and $g(x) = \sqrt{2-x}$. Find each of the following, if it exists. If a given value does not exist, explain why this is the case.

a. $f(0)$

b. $f(1)$

c. $g(-2)$

d. $g(2)$

e. $g(4)$

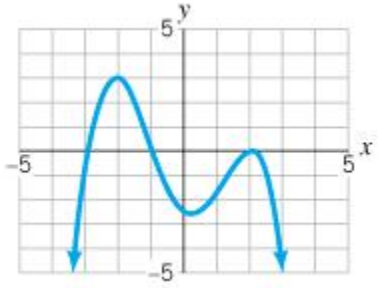
3. Find the domain of each of the following.

   a. $f(x) = \frac{2}{2x+5}$

   b. $f(x) = \sqrt{3x-7}$

   c. $f(x) = x^2 + 4x + 5$

4. The graph below represents a function $f(x)$.



   a. On what interval(s) is $f(x)$ increasing?

   b. On what interval(s) is $f(x)$ decreasing?

   c. Does $f(x)$ have a global maximum? If so, where does it occur and what is its value?

   d. Does $f(x)$ have a global minimum? If so, where does it occur and what is its value?