Section 1.3: Inverse Functions

MATH 130: Calculus I
Prepare for class: Monday, September 5, 2011 Name (Print): _____

Read Section 1.3 and answer the following questions.

1) Fill in the blank (Hint: what is the first thing we think about for a function? That should be included in the definition!):

Definition: A function g is the **inverse** of the function f if

_____ for each _____

AND

_____ for each _____.

2) If g is the inverse of f, what is the inverse of g? Why?

3) (a) What is the relationship between the domain of f and its inverse?

(b) If we know that $f(3) = 7$, what else do we know?

4) Using your definition in (1), show that $f(x) = 3 - 4x$ and $g(x) = \dfrac{3 - x}{4}$ are inverse functions.

5) Do all functions have inverses? If so, why? If not, which ones do? Explain why your response (yes or no) makes sense.