

Math 120 Quiz #4

Oct. 18, 2010

Problem 1

The following true/false questions deal with functions.

Problem 1.a

If you can draw a vertical line through a graph without the line intersecting the graph twice, then that is the graph of a function. **TRUE**

Problem 1.b

The range of a function is the set of all possible outputs. **TRUE**

Problem 1.c

A horizontal line drawn through the graph of a function must intersect it no more than once to prove that function has an inverse. **TRUE**

Problem 1.d

To determine the domain of a function you must check for inputs where the function square roots a negative number. **TRUE**

Problem 1.e

The key equation needed to solve for the inverse of a function is

$$f(f^{-1}(x)) = x.$$

TRUE

Problem 2

Suppose you were given the function $f(x) = x^2$.

Problem 2.a

Graph $f(x)$.

Solution

Look this up in the book or see <http://en.wikipedia.org/wiki/Parabola>.

Problem 2.b

Write down $g(x)$ if $g(x) = f(x - 1) + 2$.

Solution

$$g(x) = (x - 1)^2 + 2$$

Problem 2.c

Graph $g(x)$.

Solution

This should look the same as the graph in problem 2.a, but shifted to the right one unit and up two units.