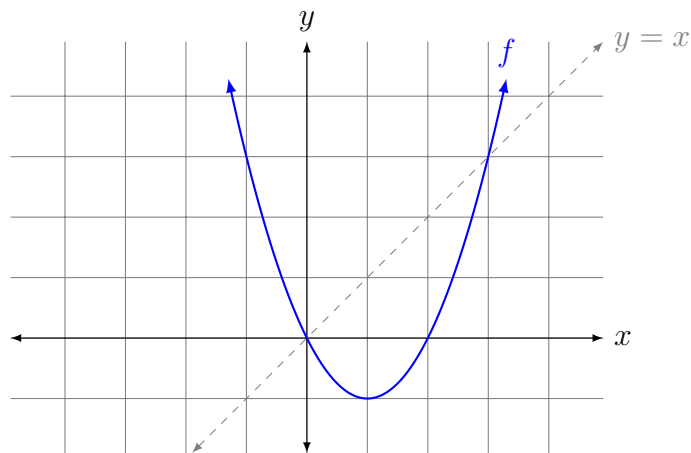
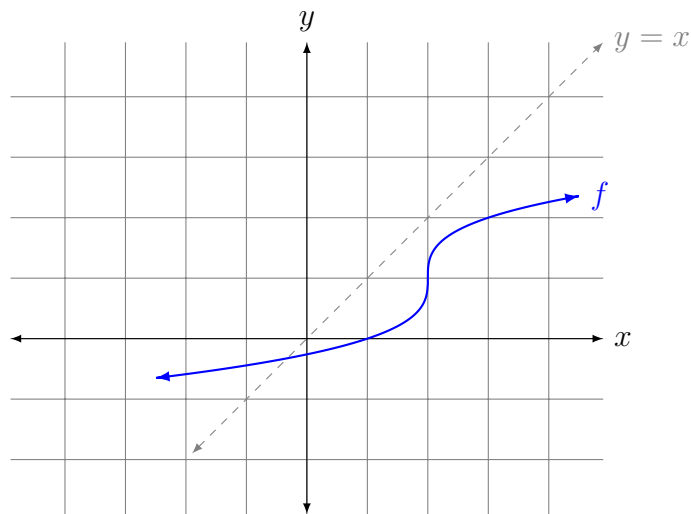

MATH 1 LECTURE 6 EXERCISES FRIDAY 09-23-16

MICHAEL MUSTY

- (1) Let $f(x) = (x - 1)^2 - 1$.
- (a) Find the “largest” domain on which f is one-to-one.
 - (b) Compute the inverse function $f^{-1}(x)$ (defined on the above domain).
 - (c) Draw the graph of $f^{-1}(x)$ in the picture below.



- (2) Let $f(x) = \sqrt[3]{x - 2} + 1$.
- (a) Find the “largest” domain on which f is one-to-one.
 - (b) Compute the inverse function $f^{-1}(x)$ (defined on the above domain).
 - (c) Draw the graph of $f^{-1}(x)$ in the picture below.



(3) Please simplify.

(a) $\log_2 8 =$

(b) $\log_{10} 0.01 =$

(c) $\log_{\sqrt{3}} 27 =$

(d) $\log e^2 =$

(e) $\log 1 =$

(4) What is the domain of the function $f(x) = \log(x^3 - x)$?

(5) What is the domain and range of $f(x) = \log(3x - 2)$?

(6) Please solve the following equations.

(a) $\log(x - 5) = 2$

(b) $e^{2x-5} = 17$

(c) $2^{x-3} = 5^{x-7}$