Name: _____

Score: _____ /15

Worksheet 6 (Due Thurs, May 15)

Math 1060Q – Summer 2014

Professor Hohn

You must show all of your work to receive full credit!

1. Suppose $f(x) = 7x - 5$. Evaluate $f^{-1}(-3)$.

2. Suppose $g(x) = \dfrac{x - 3}{x - 4}$. Evaluate $g^{-1}(2)$.

3. Suppose $f(x) = 2 + \dfrac{x - 5}{x + 6}$.

   (a) Evaluate $f^{-1}(4)$.

(b) Evaluate $[f(4)]^{-1}$.

(c) Evaluate $f(4^{-1})$.

4. Suppose $f(x) = x^2 - 1$, with the domain of f being the set of positive numbers.

   (a) Evaluate $f^{-1}(8)$.

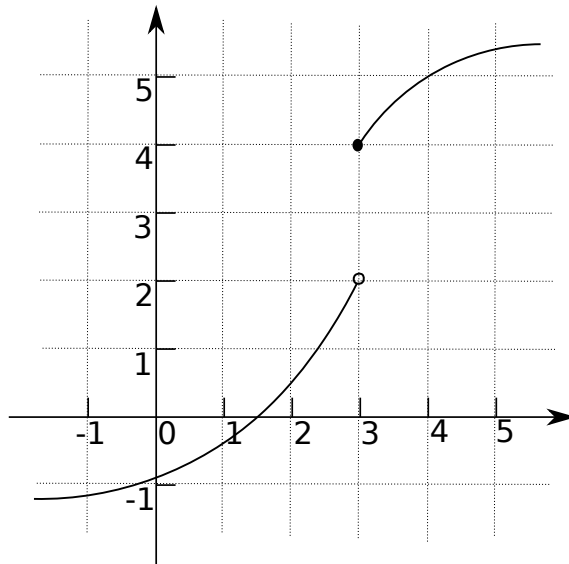   (b) Evaluate $[f(8)]^{-1}$.

(c) Evaluate $f(8^{-1})$.

5. Suppose $f(x) = 2x + 3$.

   (a) Evaluate $f^{-1}(11)$.
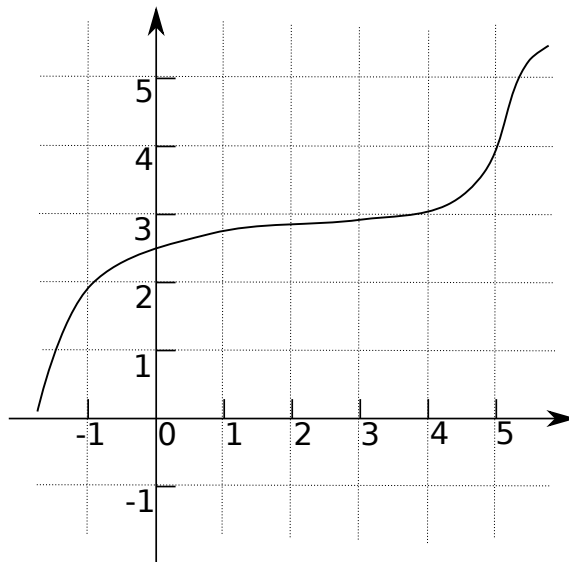
   (b) Find a formula for $f^{-1}(y)$.

6. Let f be given by the following graph.

(a) Estimate $f^{-1}(5)$.

(b) Estimate $f^{-1}(1)$.

7. Let g be given by the following graph. Sketch a graph of g^{-1}.

8. For each of the following functions, find a formula for f^{-1}.

(a) $f(x) = 2x - 7$

(b) $f(x) = \dfrac{x}{2} - 3$

(c) $f(x) = x^3 + 2$

(d) $f(x) = \sqrt[3]{x+1}$

(e) $f(x) = \dfrac{2x-3}{x-1}$

(f) $f(x) = \begin{cases} 3x & \text{if } x < 0 \\ 4x & \text{if } x \geqslant 0 \end{cases}$