MTH 1210, FALL 2013
DR. GRAHAM-SQUIRE

SECTION 2.7: IN CLASS ACTIVITY
INVERSE FUNCTIONS

1. NAMES

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2. INSTRUCTIONS

Read the problem given below, then work on it with the other members of your group. You should give a complete answer with all of your work shown for each question. It is fine for different people to work on different parts of the question, but you should check each other's work since everyone in the group will receive the same grade for the assignment. If you have any questions, ask the other members of your group first. If all of you are stuck, everyone in the group must raise their hand in order to get help from the professor. Attach this as a cover sheet to the work you turn in.

Exercise 1. Let $f(x) = \dfrac{3 - 2x}{x - 4}$.

(a) Sketch a graph of f.

(b) Use the horizontal line test to check whether or not f is a one-to-one function. Explain your result in words, and reference the graph to help your explanation.

(c) Reflect your graph of f in the line $y = x$ to get a graph of $f^{-1}(x)$.

(d) Find an expression for $f^{-1}(x)$. Graph it using a graphing utility to confirm that it (roughly) looks like the graph you sketched in part (c).

(e) Compose the functions f and f^{-1} to confirm that they are inverse functions.