

Name:

56245 Take Portion of Exam 2

Each Question is marked with the number of points it is worth on the exam. You are allowed to work and consult with you fellow students on this portion of the exam. Unlike the in class portion of the exam no partial credit will be given on this section, but you still must show your work to recieve credit. Your answers and supporting work must be perfect to recieve credit on each part. Also, the deadline for this section is 3pm on Friday regardless of which exam you are taking. Early submissions, of course, are always accepted.

**Problem 1** (5 Points). *(1 point) a) If  $f(x) = \frac{x-1}{x+2}$ , find  $f^{-1}(x)$ .*

(2 points) b) Show that  $f \circ f^{-1}(x) = x$  and  $f^{-1} \circ f(x) = x$ . (Hint: Use part b to check part a).

(2 points) c) Graph  $f$  and  $f^{-1}$  and label at least 2 points and any asymptotes on each graph.

**Problem 2** (5 points). *Find the domain of:*  
(1 point) a)  $a(x) = \log(2x + 1)$

(2 points) b)  $b(x) = \ln |x|$

(2 points) c)  $c(x) = \log_4(x^2 - 4x + 3)$  (Remember you must show work to support your answer.)