Quiz 2 Class Sequence ID:

1. (4 pts; a = 1, b = 3)

Given that $f(x) = 3x^2 - 2x - 8$ and

$g(x) = -3x - 4$,

(a) Write f(x) in vertex form

(b) Find the intersections of f and g, if possible, algebraically and verify your solution graphically.

2. (4 pts; a= 1, b = 1, c = 2)

Let $f(x) = (x^2 - 5x + 4)(x - 2) + 2(x - 2)$

(a) Analyze the ending behavior of f(x)

(b) describe the details of the function around the zeros

(c) Use your results from (a) and (b) to sketch f(x)

3. (4 pts)

Find all rational zeros for

$f(x) = 6x^4 - x^3 - 7x^2 + x + 1$

Quiz 2 Class Sequence ID:

4.(8 pts)

Given $f(x)$ and its domain,

(a) find $f^{-1}(x)$,

(b) Identify the domains and ranges for both $f(x)$ and $f^{-1}(x)$

$f(x)=\frac{3x-2}{2x-2}$, $x<1$

5.(8 pts)

Use $f(x)$ from question 4

(a) Graph both $f(x)$ and $f^{-1}(x)$ on the same xy-plane

(b) Find the intersections of f and f^{-1} if possible, algebraically as well as graphically.