

Name: _____

Section: _____

MATH 120A

QUIZ 4

February 7, 2002

You may use a scientific calculator to complete this quiz. No notes please.

1. (5 points) The graph of

$$g(x) = \sqrt{25 - x^2}$$

is the upper half of a semi-circle.

- (a) Sketch the graph of $g(x)$ and explain how you know that $g(x)$ is *not* one-to-one.

- (b) Name an interval on which $g(x)$ is one-to-one and find the inverse of $g(x)$ on that interval.

2. (5 points) Let

$$f(x) = \frac{x^2 - x - 12}{3x^2 + 9x - 12} = \frac{(x + 3)(x - 4)}{3(x - 1)(x + 4)}.$$

Find each of the following.

(a) the domain

(b) the zeros

(c) the y -intercept

(d) the vertical asymptote(s)

(e) the horizontal asymptote