Name: _____

Math 124 Quiz 2

18 October 2001

Instructions: No notes or calculators allowed. Please turn off all cell phones and pagers. Make sure you do both sides of this.

1. Compute these limits:

   (a) (2 points) $\displaystyle\lim_{x\to 1}\frac{x^2-3x+2}{x^2+x-2}$

   (b) (2 points) $\displaystyle\lim_{x\to 1}\frac{x^2+1}{x^3+1}$

   (c) (2 points) $\displaystyle\lim_{x\to\infty}\frac{2x-3}{6x+2}$

2. (4 points) Let

$$f(x) = \begin{cases} 2x - 1 & \text{if } x \le 0, \\ x^2 & \text{if } 0 < x < 3, \\ 4 & \text{if } x = 3, \\ 1 - x & \text{if } x > 3. \end{cases}$$

Where is f discontinuous? At each point of discontinuity, is f continuous from the right, from the left, or neither?