

UTSA
Department of Mathematics
MAT 1214 Calculus I, Section 13
Spring, 2007
Quiz 1. Ten minutes
February 15, 2007

Name: _____

① Let

$$f(x) = \begin{cases} 3 - x & \text{if } 0 \leq x < 3 \\ (x - 3)^2 & \text{if } x \geq 3 \\ \sqrt{-x} & \text{if } x < 0 \end{cases}$$

(a) Sketch the graph of f , labeling in your graph the most significant points.

(b) Where is f discontinuous? Why?

② Prove that the equation

$$2x^3 + x^2 + 2 = 0$$

has a solution in the interval $(-2, -1)$.