**MATH 101-09 Quiz #1**
**Name:.....ID:.....**

**Exercise #1:** Find

$$\lim_{x\to 0} \frac{2x + \sin x}{x}$$

if it exists.

**Exercise #2:** For which value(s) of $\alpha$ the function

$$f(x) = \begin{cases} \alpha^2 \ , \ x > 1 \\ \alpha x + 1 \ , \ x \leq 1 \end{cases}$$

is continuous?

**Exercise #3:**Find all vertical and horizontal asymptotes of

$$f(x) = \frac{x^3 - 1}{x^3 - 6x^2 + 11x - 6}$$