Math 001.12 **Quiz # 4** **Sem. I , Dec 10 , 2003**

Name :_____ **ID. # :** _____ **SER. # :** ____

1. Find all points on y–axis that are $\sqrt{5}$ units from the point $(-1, 1)$. (3 pts)

2. Find the range, maximum, and minimum of the function $y = 2x^2 + x - 3$ (4 pts)

3. Find the slope of the diameter of the circle $x^2 + y^2 - 2y = 3$ that has an endpoint $(2, 1)$. (4 pts)

4. Identify the functions and then the $1-1$ functions: (4.5 pts)

(i) $y = \sqrt{x}$ (ii) $xy = -3$ (iii) $|y| + x = 4$ (explain your answer)

5. Graph $y = \begin{cases} x+6 & \text{if} \quad x < -2 \\ x^2 & \text{if} \quad -2 \le x \le 2 \\ 4 & \text{if} \quad x > 2 \end{cases}$, showing all intercepts. What's the range of $f(x)$

(4.5 pts)