231 Quiz 2 **Name:** _____

September 3, 2013

You MAY use your hand-written Notebooks but NOT other materials and NOT technology.

1. Approximate the smallest positive number δ such that if $x \in (5-\delta, 5) \cup (5, 5+\delta)$ then $\sqrt{x-1} \in (1.5, 2.5)$. Show your work very clearly so that I can see how you arrived at your final answer, and write your final answer in the box. Your work MUST include a labeled graph. *(like #45 in 1.2)*

Hint: This problem is about the limit statement $\lim_{x \to 5} \sqrt{x-1} = 2$ *with* $\epsilon = 0.5$.

$\delta =$ ☐

2. Write each of the following as an absolute value inequality:

$x \in (5-\delta, 5) \cup (5, 5+\delta)$ your answer: _____

$\sqrt{x-1} \in (1.5, 2.5)$ your answer: _____

3. Bonus: What is one question that could have been on this quiz, but wasn't?