231 Quiz 5 (10/6) **Name:** _____ **02/04**

This quiz is worth 10 points, and you have 10 minutes to complete it.

Calculators ARE allowed today.

1. (*10 pts*) Approximate the largest value of δ such that if $0 < |x - 5| < \delta$, then $|\sqrt{x-1} - 2| < 0.5$.

Do NOT do this by algebraically solving the inequality $|\sqrt{x-1} - 2| < 0.5$. *Draw a picture of the function* $f(x) = \sqrt{x-1}$ *and use it to illustrate the roles played by* 5, δ, 2, *and* 0.5, *and use this picture to approximate the largest "working"* δ. *Having the correct picture will be worth half of the points. You may use your calculuator if you like, but all your work has to be shown here BY HAND, including a clearly labeled graph that is not too small.*

Put your final answer here: $\delta =$ _____ .