QUIZ 3 - MATH 112 Friday, September 10

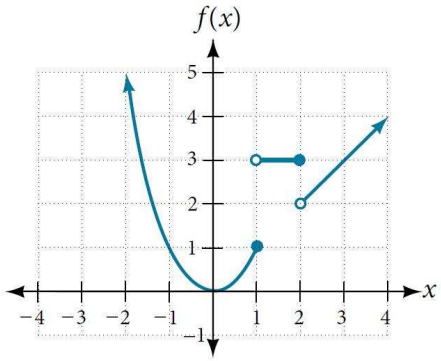
YOUR NAME:_____ George Voutsadakis

Read each problem **very carefully** before starting to solve it. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [3 points] Graph the piecewise defined function $f(x) = \begin{cases} -x+2, & \text{if } x < 1 \\ \sqrt{x-1}, & \text{if } x \geq 1 \end{cases}$, labeling all important points (please, make the graph relatively big, so I can see it clearly).

2. [5 points] Compute the difference quotient of $f(x) = \sqrt{x+1}$ at $x = 3$ and simplify. (Hint: Recall the method of multiplying by the conjugate.)

3. [4 points] For the function depicted on the left, compute the quantities listed on the right.



$f(1) =$ $f(2) =$

$\lim_{x\to 1^-} f(x) =$ $\lim_{x\to 2^-} f(x) =$

$\lim_{x\to 1^+} f(x) =$ $\lim_{x\to 2^+} f(x) =$

$\lim_{x\to 1} f(x) =$ $\lim_{x\to 2} f(x) =$