

Math 190 Quiz 2: Friday October 7

The quiz is 10 minutes long and has two questions. No calculators or other aids are permitted. Show all of your work for full credit. When asked to compute a limit: if the limit exists find its value, if the limit does not exist but 'equals $\pm\infty$ ' say so, otherwise explain why the limit does not exist.

Questions:

1. Compute $\lim_{x \rightarrow 0} \frac{\sqrt{x+4} - 2}{x}$.

2. Compute $\lim_{x \rightarrow 1} f(x)$ where

$$f(x) = \begin{cases} x^2 - 2x + 1, & x < 1 \\ 7, & x = 1 \\ \ln x, & x > 1 \end{cases}.$$