Quiz 1
Math 180 Section 102

Answer the following questions. Work individually. No electronic devices or notes are permitted.

1. Evaluate
\[ \lim_{x \to \infty} \frac{\sqrt{x^4 - 4x^3 + 5}}{8x^2 + 9}. \]

2. Identify any horizontal and vertical asymptotes of
\[ f(x) = \frac{4x^2 + 8x + 16}{2x^2 + 6x - 56}. \]

If you find any asymptotes, support your work by showing an appropriate limit calculation for each asymptote.