Show all work, clearly and legibly, to receive full credit. Correct spelling, organization of your solution, and proper use of mathematical notation all count. You may use a calculator, but no notes, books, or other resources. Good luck!

1.) (4 pts.) Find a formula for \( f''(x) \) if \( f(x) = 4\sqrt{x} + \frac{1}{x^3} \).

\[
\begin{align*}
  f(x) &= 4x^{1/2} + x^{-3} \\
  f'(x) &= 2x^{-\frac{1}{2}} - 3x^{-4} \\
  f''(x) &= -x^{-\frac{3}{2}} + 12x^{-5}
\end{align*}
\]

2.) (4 pts.) Given the graph of \( f(x) \) below, what is \( \lim_{{x \to 0}} f(x) \)?

3.) (2 pts.) Rewrite in the form of a fraction with no negative exponents: \( x^2y^{-3}x^{-4} \).

\[
\frac{x^2}{y^3x^4}
\]