Quiz   **Name**

1. Find the derivative of $f(x) = \left(\frac{x^2-4}{(x-5)^4}\right)^{\frac{1}{2}}$. (Complete the procedure, but there is no need to simplify.)

2. Find the critical numbers for the function $f(x) = x^{\frac{1}{3}}(x-4)^2$.

3. A double use of L'Hospital's Rule provides the equalities $\lim\limits_{x\to 0} \frac{x}{x^2} = \lim\limits_{x\to 0} \frac{1}{2x} = \lim\limits_{x\to 0} \frac{0}{2} = 0$. Is this correct or not? If not, what's the problem?