

Study guide for quiz 07

Quiz problems include both the lecture contents and homework problems.

1. Study how to find the limit for indeterminate powers like 1^∞ , 0^0 , ∞^0 using L'Hôpital's Rule. Key technique: Change of base.
2. Study the statement of L'Hôpital's Rule for various . limits (finite and infinite limits, one sided limits, etc.) and indeterminate forms ($\frac{0}{0}$, $\frac{\infty}{\infty}$, etc.). Find an example of indeterminate form $\frac{0}{0}$ with $\lim \frac{f'(x)}{g'(x)}$ does not exist, but $\lim \frac{f(x)}{g(x)}$ does. Is this a contradiction to L'Hôpital's Rule?
3. Section 4.6: Review standard procedure for applied optimization: determine relevant range of the unknown, find possible locations of maximum/minimum, and how to verify a candidate point is actually a maximum/minimum.
4. Section 4.8: Understand the meaning of Antiderivatives and how to find them in the simple cases. Study how to solve initial value problems using antiderivatives and how to find the undetermined constant in the antiderivative from the initial values (section 4.8, problems 91-113).