

Study guide for quiz 04

Quiz problems include both the lecture contents and homework problems.

Red text were not discussed in recitation. They will appear in next quiz, not this one.

1. Section 3.8: Study how to derive for derivative of inverse functions. Memorize the result. Practice the trick of writing $x = e^{\ln x}$ in various applications.
2. Section 3.9: Memorize the domains and ranges of all six inverse trigonometric functions. Study how to derive the derivatives of inverse trigonometric functions and memorize the results. Pay attention to the $|x|$ factor in the derivatives of \sec^{-1} and \csc^{-1} .
3. Section 3.11: Study how to find approximate value of functions using linear approximation (linearization) such as $(1 + x)^k$ and $(a + x)^k$, $a > 0$, etc. and how to estimate the error of the linear approximation (memorize the error formula in problem 4 of Homework week 07).
4. Section 3.11: Study the equivalence relation on page 222-223 of the textbook and its application in the proof of the Chain Rule.