

## Study guide for quiz 01

Quiz problems include both the lecture contents and homework problems.

1. Review Limit laws, techniques of finding limits of the form  $\frac{0}{0}$  (such as finding common factors in the numerator and the denominator, rationalizing the numerator or the denominator). Memorize the statement of The Sandwich Theorem and review its applications. Study typical examples of ' $\lim_{x \rightarrow c} f(x)$  does not exist'.
2. Section 2.3: Memorize the precise definition of  $\lim_{x \rightarrow c} f(x) = L$  using  $\varepsilon$  and  $\delta$ .
3. Section 2.3: Study how to prove  $\lim_{x \rightarrow c} f(x) = L$  and simple limit laws (such as Example 6 of section 2.3. Be careful about the "—" case such as  $4f(x) - 2g(x)$ ) using  $\varepsilon$  and  $\delta$  argument.