You are **strongly** encouraged to work in groups, following the procedure as in homework MS09.

Below is a summary of the handout: Stone-Weierstrasse Theorems.

Recall 1. About the metric space $(C(K,\mathbb{K}), d_\infty)$.

Theorem 2 (Weierstrass Approx. Thm.)**.** *The collection of real polynominal is dense in* $C([0,1])$.

Definition 3. separates points (of S) and algebra (of functions over $\mathbb{K}$).

Theorem 4 (Stone-Weierstrass theorem, real version so $\mathbb{K}=\mathbb{R}$)**.**

Theorem 5 (Stone-Weierstrass theorem, complex version so $\mathbb{K}=\mathbb{C}$)**.**

Lemma 6. *Uniform approximation of the square root function on the unit interval by polyonomial.*

Metric Space Exercise 13.

Do the following Stone-Weierstrass Exercises from the handout Stone-Weierstrasse Theorems.

The LaTex file of this handout might save your time.

MS 13a. Do SW 7.

MS 13b. Do SW 8.