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 12.

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

The LaTex file of this handout might save your time.

MS 12a. Do SW 6.