

Tutorial 5 25 and 26 August 2015, Metric and Hilbert.

- 1) (a) Define continuous and uniformly continuous functions. What are your favorite functions?
(b) Work through and supply proofs for the examples following Definition 3.8 of the Rubinstein notes.
(c) Work through and supply proofs for 10.3.2 no (4) of the Ram notes.
- (2) (a) Define pointwise convergence and uniform convergence for sequences of functions. What are your favourite sequences of functions?
(b) Work through and provide proofs for Example 6.6 of the Rubinstein notes.
(c) Work through and provide proofs for 10.5 no. (29) of the Ram notes.
- (3) (a) Define $d(x, A)$ and $d(A, B)$ (see the top of page 9 in the Rubinstein notes).
(b) Do problem 4 from last year's Assignment 1.