

1. Reading assignment

1.1 Please read the Preliminaries and keep them in mind as we go along the semester. For this assignment, I suggest you review/familiarize yourselves with the following notions: Sequences, Functions, Cardinality, Extended Real-Valued Functions, Suprema and Infima, Convergent and Cauchy Sequences, Convergence in the extended real sense,  $\limsup$ ,  $\liminf$ , pointwise convergence of sequences of functions, continuity.

1.2 Sections 1.1 & 1.3

1.3 Sections 2.1-2.4

2. Problems: The problems with bolded numbers will be collected for grading for both completeness and correctness. However, credit will also be given for attempts that are fully justified.

2.1 **1.1.20**, 1.1.21; 1.3.6, 1.3.8; 1.4.3, **1.4.4**

2.2 **2.1.29**, 2.1.30, 2.1.31, **2.1.32**, 2.1.34, 2.1.35, **2.1.39**, 2.1.42.

2.3 **2.2.32**, 2.2.33, **2.2.34**, 2.2.36, **2.2.37**, 2.2.38, 2.2.3, 2.2.42, 2.2.43, **2.2.44**, 2.2.47, 2.2.49, **2.2.50**, 2.2.51.

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