

Homework # 25

- Read pp. 122 - 133.
- Statements and theorems from homework # 24, and statement of theorem 4.3.9, statements and proofs of thms 4.4.1 and 4.4.2; definition of uniform continuity (def 4.4.4).

Do the following problems:

1. Use only the definition of continuity to show that if $f: A \rightarrow \mathbb{R}$ and $g: A \rightarrow \mathbb{R}$ are both continuous at $c \in A$, then $f \cdot g: A \rightarrow \mathbb{R}$ is also continuous at $c \in A$.
2. Negate the def. 4.4.4 of uniform continuity.
3. Do # 4.3.3, 4.3.6.
4. Graduate problem: 4.3.11 a), b)