## MATH 321/421 HOMEWORK 6: DUE 10/11/2024

**Directions:** Show all of your work on each questions below. Proofs are to be written in full and grammatically correct sentences. The use of quantifiers in proofs such that  $\forall$ ,  $\exists$ ,  $\Longrightarrow$  in place of the written word will result in a point deduction from a problem for each use of such a quantifier. However, use of the notation  $x \in A$  to denote an element x in a set A is perfectly acceptable. Each problem is worth 5 points.

**Problems from Textbook**: 2.5.2, 2.5.3, 2.5.14, and 3.1.1, 3.1.2.