

## MATH 321/421 HOMEWORK 2: DUE 09/25/2024

**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  $\forall, \exists, \implies$  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:** 2.2.3, 2.2.5, 2.2.9, 2.2.12, and 2.2.15.