

## MATH 321/421 HOMEWORK 7: DUE 10/23/2024

**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:** 3.1.5, 3.1.12, 3.2.2, 3.2.13, and 3.2.15.