

MAT 300
Spring 2019
Homework # 4
Due: Friday, 3/29/19

Directions: Neatly write solutions to each of the following problems on separate sheets of paper. (You can put multiple problems on one page). Staple this page to the front of your finished proofs. Minimal to no credit will be given for solutions without appropriate justification. Each problem is worth 5 points.

1. Let $X = \{0\} \cup \{\frac{1}{n}\}_{n=1}^{\infty}$. Is X a compact subspace of \mathbb{R} ?
2. Exercise 4.1 from the text.
3. Exercise 4.7 from the text.
4. Exercise 5.1 from the text.
5. Exercise 5.8 from the text.