

# Advanced Calculus II, Fall 2022, Worksheet for Lecture 5

Instructor: Danny Krashen

Name: \_\_\_\_\_

Discussing the problems with other people is encouraged,  
but you must write up your own work independently!

1. Suppose  $X$  is a metric space and  $S_1, S_2 \subset X$  are compact subsets of  $X$ . Show that  $S_1 \cup S_2$  is also compact.