

Written HW3 – MATH 4580 Spring 2023

1. Which of the theorems 1–18 shows that if p is not a limit point of X and is not a limit point of Y , then p is not a limit point of $X \cup Y$?

2. Consider the set $M = \{(x, y) \mid 0 < x^2 + y^2 < 1 \text{ or } x = y = 1\}$. Which are points of M and which are limit points (some may be both): $(0, 0)$, $(0, 1)$, $(1, 1)$, $(2, 0)$, $(1/2, 0)$?

- 3.