MATH 113: DISCRETE STRUCTURES
READING QUESTIONS FOR WEDNESDAY WEEK 4

Reading assignment. *DM:EB* §2.3.

Problem 1. In an experiment, 8 petri dishes receive treatment A, 6 receive treatment B, 5 receive treatment C, 3 receive A and B, 4 receive A and C, 2 receive A and B, and 1 receives all three treatments. How many petri dishes received at least one treatment? (*Note*: When we say that 8 dishes receive A, we mean that 8 receive A and potentially other treatments as well, etc.)

Problem 2. Would the above problem make sense if it said that 6 dishes received A and C?

Problem 3. Draw a shaded Venn diagram justifying the equation
$$|A \cup B \cup C| = |A| + |B| + |C| - |A \cap B| - |A \cap C| - |B \cap C| + |A \cap B \cap C|.$$
(No words necessary.)