1. (2 pts.) How is the Lebesgue outer measure of a subset E of the real line defined in terms of the length of an interval l(I)??

2. (2 pts.) How do we define the measurability of a subset E of the real line?

3. (2 pts.) Suppose that A is a subset of the real line. What does it mean to say a function $f:A \to \mathbb{R}$ is measurable??

4. (2 pts.) Does the existence of a non-measurable set P imply there are subsets A, B, and C, of the real line with $A = B \cup C$, $B \cap C = \emptyset$, and $m^*(A) < m^*(B) + m^*(C)$?? Explain.

5. (2 pts.) What does it mean to say something is true almost everywhere??