MAT257: Real Analysis II
Tutorial 9

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subsection

Jordan Measurable There are two equivalent definitions of when a function is Jordan Measurable (rectifiable).

> **Definition**: S is Jordan measurable if and only if S is bounded and the boundary has measure 0.

> **Definition**: S is Jordan measurable if and only if the identity function is integrable over S.

For example, let $A = \bigcup_{i=1}^{\infty}(a_i, b_i)$ be a disjoint union of sets such that $(0,1) \cap \mathbb{Q} \subset A$. Then $\sum(b_i - a_i) < 1$, which implies that $\operatorname{Bd} A$ is not measure 0.

1 Fubini's Theorem