

Proofs Involving Functions 2a (Countability)

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Name _____

1. $\sqrt{2}$ is an irrational number.
2. The set of positive rational numbers \mathbf{Q}^+ is denumerable.
3. The set of negative rational numbers \mathbf{Q}^- is denumerable.
4. The union of a denumerable set and a finite set is denumerable (you can assume that the two sets are disjoint).
5. The union of two (disjoint) denumerable sets is denumerable.
6. The set of rational numbers is denumerable (countable).
7. The set of real numbers in the interval $[0, 1]$ is uncountable (non-denumerable).