1. Let $f, g : \mathbb{R} \to \mathbb{R}$, and suppose that f and g are both odd functions. Then $f + g$ is an (even / odd – pick one and defend your claim) function.

2. If $f : A \to B$ and $g : B \to C$ are injective functions, then $g \circ f$ is injective.

3. If $f, g : \mathbb{R} \to \mathbb{R}$ are both bounded, then:

   (a) $f + g$ is bounded

   (b) f/g is bounded

4. If A, B and C are denumerable sets with each pair disjoint, then $A \cup B \cup C$ is denumerable.

5. (a) The set of even natural numbers is denumerable.

   (b) The set of irrational numbers is uncountable.