Discrete Math
Quiz 5

Name:_____

You have 10 minutes to complete this quiz. You may not use any unauthorized sources and you may not communicate with others about the exam. If you have a question raise your hand and remain seated. In order to receive full credit your answer must be **complete**, **legible** and **correct**. Show your work, and give adequate explanations.

1. Show that the empty set is finite.

We must show that $\emptyset$ is equipotent with a natural number. For this, it suffices to observe that the identity function on the empty set is a bijection $\mathrm{id}_\emptyset \colon 0 \to \emptyset$.

2. State the Cantor-Bernstein-Schröder Theorem.

CBS Theorem. If $|A| \leq |B|$ and $|B| \leq |A|$, then $|A| = |B|$.