1145-F5-201 **Fang Chen*** (fchen2@emory.edu). *Two True/False Questions on Linear Independence and an Application to a Set Theory Problem.* Preliminary report.

The introductory linear algebra course that I teach covers general theories and structures as well as fundamental topics. My typical class consists of first and second year students who have almost no experience in writing proofs or solving real problems. The course lets them get a glimpse of what mathematics is and how it is done. It is important to pose questions, kindle curiosities, explore connections and inspire interests. Through the course, apart from acquiring a solid foundation of knowledge, students learn to think mathematically, to explore, investigate and solve problems.

Some portion of the evaluation are True/False questions which require the students to either prove a statement or disprove it with an argument or a counterexample. Students found them interesting and challenging while I deem them an effective tool. I would like to share the experience of using two True/False questions on linear independence and an application to a set theory problem. These questions not only strengthen the understanding of linear independence and its connection to existence/uniqueness, but also introduce some useful techniques. Furthermore the process gives the students a taste of how to approach a nontrivial problem and how to polish a proof after a rough argument is reached. (Received August 19, 2018)