Week 13 Tutorial Session

(1) Prove that the following language is NP-complete:

$$L = \{\langle\varphi\rangle \mid \varphi \text{ is a boolean formula with at least two satisfying assignments}\}$$

(2) Suppose some polynomial-time algorithm A decides the *decision* problem

$$\textsc{Clique} = \{\langle G, k\rangle \mid \text{Graph } G \text{ contains a clique of size } k\}.$$

Using A, give a polynomial-time algorithm to search for a clique of size k in a graph G, whenever such a clique exists.