# 1.4.2

(a) Let $K_n$ be a complete graph on $n$ vertices. Let $V'$ be any subset of $V = V(K_n)$.

**Example:**

Let $V = \{v_1, v_2, v_3, v_4\}$

$G[V'] = \{v_2, v_4\}$

Since an induced subgraph has every edge the parent graph has, $G[V']$ must be a complete graph.
(b) Let $G$ be a bipartite graph and $V' \subseteq V = V(G)$.
What can we say about $G[V']$?

We know the vertices of $G$ can be partitioned into sets $\overline{X}$ and $\overline{Y}$.

So $V'$ must have some edges from $\overline{X}$ and some from $\overline{Y}$. So $G[V']$ must be bipartite.