(1) Use generating functions to solve $a_k = 3a_{k-1} + 2$ with the initial condition $a_0 = 1$. (From Section 8.4 # 33.)
(2) Suppose that a relation $R$ is symmetric. Show that $R^*$ is symmetric. (From Section 9.4 #23).
(3) Show that the property that a graph is bipartite is a graph invariant. (From Section 10.3 #66).