(Q9)

Proof. We first assume:

$$\sum_{i=1}^{k} c_i A_i = 0 \implies \forall i \; c_i = 0$$

Then since $(A^t)_{ij} = A_{ji} \forall A$, the same operation essentially takes place with A^t, which means

$$\sum_{i=1}^{k} c_i A_k^t = 0 \implies \forall i \; c_i = 0$$

The same argument holds for the converse. ■