MTG 4254 - Homework due Thursday, Feb. 3

1. Show that if $\alpha(t) = (a_{ij}(t))$ is a curve in $SL(n)$ with $\alpha(0) = Id$, then

$$\dot{a}_{11}(0) + \dot{a}_{22}(0) + ... + \dot{a}_{nn}(0) = 0.$$

(Hint: Differentiate the relation $det(\alpha(t)) = 1$ and evaluate at $t = 0$.)

2. Problem 6.7 textbook.