KTH Matematik

5B1456, , Matrix Algebra
Assignment 4
due Oct. 4, 2004

Let $A \in M_n(F)$ be a skew-symmetric matrix.

(1) Show that $det(A) = 0$ if n is odd.
(2) Show that $det(A)$ is a square if n is even.
(3) Assume that n is even and write $det(A) = (\mathrm{Pf(A)})^2$ (Pf(A) is called the Pfaffian of A). Show that for every invertible matrix P is

$$\mathrm{Pf}(PAP^t) = det(P)\mathrm{Pf}(A)$$