轉置矩陣的行列式觀念題

93 中正資工

There is no real square matrix A such that $\det(AA^T) = -1$.

Ans.

True.

$$\det(AA^T) = \det(A) \cdot \det(A^T) = \det(A) \cdot \det(A) = \det(A)^2$$

實數的平方不可能會出現負數。

$\therefore \det(AA^T) \neq -1$ #