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MATH 223 LINEAR ALGEBRA	**Quiz 7**	14.12.2004
Name	**Student No.**	**Sign**

You will not get any points if your answer is wrong, that is no points to your explanations if your answer is wrong. And of course no points to a correct answer if your explanation or proof is not correct or clear.

YOU must write GOOD Mathematics

1. Show that if A is an orthogonal matrix then $\det(A) = \pm 1$.
   SOLUTION:

2. Let T be the linear operator on $\mathbb{C}^3$ defined by

$$T(x, y, z) = (x + iy, y - 4iz, x + (2 - i)y + 2z).$$

   Find $T^*(x, y, z)$, the adjoint operator of T.
   SOLUTION: