Directions: Please answer in the space provided. No calculators. Please put all phones, etc., away.

1. Suppose A is a 5×5 matrix, and $A^2 = 2I$.
   What are the possible values for $\det(A)$? Explain.

2. Find all values of x that make $\begin{bmatrix} 1 & 0 & 3 \\ 2 & -1 & 0 \\ 4 & 2 & x \end{bmatrix}$ singular.