1. [6pts] Let \( f : \mathbb{R}^2 \rightarrow \mathbb{R}^2 \) be the identity linear operator \( f(x) = x \), and let \( S = \{[1, 0], [0, 1]\} \), \( T = \{[1, -1], [2, 3]\} \) be ordered bases of \( \mathbb{R}^2 \). Find the representation of \( f \) with respect to (a) \( S \) and \( T \) and (b) \( T \) and \( S \).

2. [4pts] Let \( A \) be a scalar matrix. Find all matrices that are similar to \( A \).