Sample exam of Linear Algebra II -

Name:

1	2	3	4	$\sum$

---

1. Define orthogonal and orthonormal basis. [1]

2. State and prove theorem about the determinant of a product of matrices. [4]

3. Produce symmetric matrix $A \in \mathbb{R}^{3\times 3}$ containing no 0 with eigenvalues $\lambda_1 = 1, \lambda_2 = 2, \lambda_3 = 3$. [3]

4. Decide (and explain) if the following statement holds:
Two matrices $A, B \in \mathbb{R}^{3\times 3}$ are similar if and only if their eigenvalues are the same. [2]