Linear Algebra. Test 1. Variant 1.

1. Find linear independent vectors. *(4 points)*

Find rank(A) if A is a composition of this vectors. Find rank(AT). *(1 point)*

1. Find E: EA = U (U – upper-triangular matrix). *(3 points)*  
   Find L = E-1. *(2 points)*
2. Find complete solution for the system Ax=b: *(4 points)*

Provide an example of vector b that makes this system unsolvable. *(1 point)*

6x1 – 3x2 + x3 – 4x4 = 7  
4x1 – 2x2 + 14x3 – 31x4 = 18  
2x1 – x2 + 3x3 – 7x4 = 5