1) Solve the following set of equations using Gauss-Jordan elimination and LU decomposition. Then move on the find the inverse of the coefficient matrix A using both the methods.

$3.0\ x1 - 0.1x2 - 0.2\ x3 = 7.85$
$0.1\ x1 + 7.0\ x2 - 0.3\ x3 = -19.3$
$0.3\ x1 - 0.2\ x2 + 10.0\ x3 = 71.4$