Express the solutions of the equation $A\mathbf{x} = \mathbf{0}$ in parametric form, where

$$A = 1102 - 2 - 21 - 511 - 1344 - 19$$

For what values of c are the vectors $\mathbf{v}_1 = -1$
0
$-1, \mathbf{v}_2 = 2$
1
2 and $\mathbf{v}_3 = 1$
1
c (a) linearly independent? (b) linearly dependent?

Suppose that $\mathbf{v}_1, \mathbf{v}_2, \mathbf{v}_3$ are 3 linearly independent vectors show that the vectors $\mathbf{v}_1, \mathbf{v}_1 + \mathbf{v}_2, \mathbf{v}_1 + \mathbf{v}_2 + \mathbf{v}_3$ are also linearly independent.

Let S be a set of vectors and T be a subset of S. Are the following statements TRUE or FALSE. Be sure to a proof or a counterexample. If the vectors in S are linearly independent then the vectors in T are also linearly independent. If the vectors in S are linearly dependent then the vectors in T are also linearly dependent.

Is the absolute value function $T : \mathbf{R} \to \mathbf{R}, T(x) = |x|$ a linear transformation? Justify your answer.