Oppgave 5)

$$v_1 = \begin{bmatrix} -1 \\ 3 \\ 4 \end{bmatrix}, \quad v_2 = \begin{bmatrix} 4 \\ -5 \\ 1 \end{bmatrix}, \quad v_3 = \begin{bmatrix} -3 \\ 1 \\ 4 \end{bmatrix}$$

$$A = \begin{bmatrix} -1 & 4 & -3 \\ 3 & -5 & 1 \\ 4 & 1 & 4 \end{bmatrix} \sim \begin{bmatrix} -1 & 4 & -3 \\ 0 & 7 & -8 \\ 0 & 17 & -8 \end{bmatrix} \sim \begin{bmatrix} -1 & 4 & -3 \\ 0 & 7 & -8 \\ 0 & 0 & 80/7 \end{bmatrix}$$

$$\sim \begin{bmatrix} \textcircled{1} & -4 & 3 \\ 0 & \textcircled{1} & -8/7 \\ 0 & 0 & \textcircled{1} \end{bmatrix}$$

no free variables:

$Ax = 0$ has only the trivial solution

so the vectors are

<u>linearly independent</u>