MA552. Quiz 3

Given the following five vectors in R^4:

$\alpha_1 = (1, 1, 2, 1)$
$\alpha_2 = (1, -1, 0, 1)$
$\alpha_3 = (0, 0, -1, 1)$
$\alpha_4 = (1, 2, 2, 0)$

$\alpha_5 = (1, 1, 1, 1)$
Show:
1) that $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ is a basis of R^4
2) Find the coordinates of α_5 in the basis $\{\alpha_1, \alpha_2, \alpha_3, \alpha_4\}$