



LUND
UNIVERSITY

Linear Algebra 2
Saturday, 12 November 2016
Duration: 08:00–13:00

Centre for Mathematical Sciences
Mathematics, Faculty of Science

Answers

1. $\begin{bmatrix} a_n \\ b_n \end{bmatrix} = 7(-2)^n \begin{bmatrix} 2 \\ 3 \end{bmatrix} + 6(-1)^n \begin{bmatrix} 1 \\ 1 \end{bmatrix}.$
2. E.g. $\frac{1}{\sqrt{3}}(1, 1, 1, 0)$, $\frac{1}{\sqrt{3}}(0, 1, -1, 1)$, $\frac{1}{\sqrt{15}}(1, 1, -2, -3)$.
3. Hyperboloid of one sheet.
4. $a = -6$, $b = 7$, $c = 6$ and $d = \frac{1}{11}$. The plane of reflection is $3x_1 + 2x_2 - 3x_3 = 0$.