

Svar på duggan 2010–11–15

1. $L = \emptyset$.

$$2. L = \left\{ \left(\begin{array}{cccc} a & 0 & 0 & b \\ 0 & c & d & 0 \\ 0 & e & f & 0 \\ g & 0 & 0 & h \end{array} \right) \middle| a, b, c, d, e, f, g, h \in \mathbb{R} \right\}.$$

$$3. A = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 0 & 1 \\ 0 & 1 & 0 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 3 \end{pmatrix} \begin{pmatrix} 1 & 0 & 5 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}, \text{ exempelvis.}$$

$$4. \text{ a) } M = \begin{pmatrix} 0 & 0 & 4 \\ 2 & 3 & 0 \\ 0 & 2 & 0 \end{pmatrix}, \quad \text{ b) } C = \begin{pmatrix} 0 & 0 & 4 \\ -2 & 3 & 0 \\ 0 & -2 & 0 \end{pmatrix},$$

c) $\det(A) = -4$,

$$\text{d) } \text{adj}(A) = \begin{pmatrix} 0 & -2 & 0 \\ 0 & 3 & -2 \\ 4 & 0 & 0 \end{pmatrix}, \quad \text{e) } A^{-1} = \begin{pmatrix} 0 & \frac{1}{2} & 0 \\ 0 & -\frac{3}{4} & \frac{1}{2} \\ -1 & 0 & 0 \end{pmatrix}.$$