

6.1 R

den 4 februari 2016 11:37

$$2\vec{u} - 3\vec{v} = (-4, -5, 3, -4, -2)$$

6.2 R

den 4 februari 2016 11:38

$$a) \lambda_1(1, 0, 0, 0) + \lambda_2(0, 1, 0, 0) + \lambda_3(0, 0, 0, 1) = \vec{0} \Leftrightarrow$$

$$\Leftrightarrow \begin{cases} \lambda_1 = 0 \\ \lambda_2 = 0 \\ \lambda_3 = 0 \end{cases} \quad \text{Ober.}$$

b) Ober.

c) ber.

$$d) \left[\begin{array}{cccc|c} 1 & 2 & 2 & 0 & 0 \\ 2 & -1 & 0 & 2 & 0 \\ 2 & 0 & -1 & -2 & 0 \\ 0 & 2 & -2 & 1 & 0 \end{array} \right] \Leftrightarrow \left[\begin{array}{cccc|c} 1 & 2 & 2 & 0 & 0 \\ 0 & 5 & 4 & -2 & 0 \\ 0 & 4 & 5 & 2 & 0 \\ 0 & 0 & 9 & 0 & 0 \end{array} \right] \Leftrightarrow \text{Endast r\u00e4tt 1 l\u00f6sning}$$

$$\text{Ober:} \quad \text{Svar:} \quad \begin{array}{l} a \ 0 \\ b \ 0 \\ c \ b \\ d \ 0 \end{array}$$

6.3 R

den 4 februari 2016 17:39

b, spänner

c) - - -

$$d) \left[\begin{array}{cccc|cccc} 1 & 2 & 2 & 0 & 1 & 0 & 0 & 0 \\ 2 & -1 & 0 & 2 & 0 & 1 & 0 & 0 \\ 2 & 0 & -1 & -2 & 0 & 0 & 1 & 0 \\ 6 & 2 & -2 & 1 & 0 & 0 & 0 & 1 \end{array} \right] \Leftrightarrow \begin{array}{cccc|cccc} & x_1 & x_2 & & x_3 & x_4 & & y_1 & y_2 & y_3 & y_4 \\ \left[\begin{array}{cccc|cccc} 1 & 2 & 2 & 0 & 1 & 0 & 0 & 0 \\ 0 & 5 & 4 & -2 & 2 & -1 & 0 & 0 \\ 0 & 4 & 5 & 2 & 2 & 0 & -1 & 0 \\ 0 & 0 & 9 & 0 & 2 & 0 & -1 & -2 \end{array} \right] \Leftrightarrow$$

$$\left[\begin{array}{cccc|cccc} 1 & 2 & 2 & 0 & 1 & 0 & 0 & 0 \\ 0 & 5 & 4 & -2 & 2 & -1 & 0 & 0 \\ 0 & 0 & -9 & -18 & -2 & -4 & 5 & 0 \\ 0 & 0 & 9 & 0 & 2 & 0 & -1 & -2 \end{array} \right] \Leftrightarrow \left[\begin{array}{cccc|cccc} 1 & 2 & 2 & 0 & 1 & 0 & 0 & 0 \\ 0 & 5 & 4 & -2 & 2 & -1 & 0 & 0 \\ 0 & 0 & 9 & 0 & 2 & 0 & -1 & -2 \\ 0 & 0 & 0 & -18 & 0 & -4 & 4 & -2 \end{array} \right] \quad , \quad - \quad -$$

Spänner

G. 4 R

den 4 februari 2016 17:59

b, k d,

6.5 R

den 4 februari 2016 17:59

$$\left[\begin{array}{cccc|cccc} 1 & 2 & 3 & 4 & 1 & 0 & 0 & 0 \\ 0 & 1 & 2 & 3 & 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 2 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 \end{array} \right] \Leftrightarrow \left[\begin{array}{cccc|cccc} 1 & 0 & 0 & 0 & 1 & 4 & -1 & -16 \\ 0 & 1 & 0 & 0 & 0 & -2 & 1 & 4 \\ 0 & 0 & 1 & 0 & 0 & 0 & 1 & -2 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 \end{array} \right] \text{ g.e.d!}$$

1 2 1 -14

$$\left[\begin{array}{cccc|cccc} 1 & 2 & 3 & 0 & 1 & 0 & 0 & -4 \\ 0 & 1 & 2 & 0 & 0 & 1 & 0 & -3 \\ 0 & 0 & 1 & 0 & 0 & 0 & 1 & -2 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 \end{array} \right]$$

$$\left[\begin{array}{cccc|cccc} 1 & 2 & 0 & 0 & 1 & 0 & -3 & 2 \\ 0 & 1 & 0 & 0 & 0 & 1 & -2 & 1 \\ 0 & 0 & 1 & 0 & 0 & 0 & 1 & -2 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 \end{array} \right] \Leftrightarrow \begin{pmatrix} 1 & -2 & 1 & 0 \\ 0 & 1 & -2 & 1 \\ 0 & 0 & 1 & -2 \\ 0 & 0 & 0 & 1 \\ \hline 1 & -1 & 0 & 0 \end{pmatrix}$$

(1, -1, 0, 0)

6.5 R

den 4 februari 2016 17:59

$$(1, 2, -1, 4, 3) \cdot (2, -1, 3, 4, 5) = 13 + 15 = \underline{28}$$