

Vector matrix multiplication

$$\vec{d} = \begin{pmatrix} 1,000 & 12,000 & 23,000 \\ 421,000 & 5,000 & 6,000 \\ 733,000 & 81,000 & 9,000 \end{pmatrix} \cdot \begin{pmatrix} 4,000 \\ 5,000 \\ 6,000 \end{pmatrix} = \begin{pmatrix} 202,000 \\ 1745,000 \\ 3391,000 \end{pmatrix} \quad (1)$$

Calculate inverse

$$a\vec{n}s = \begin{pmatrix} 1,000 & 12,000 & 23,000 \\ 421,000 & 5,000 & 6,000 \\ 733,000 & 81,000 & 9,000 \end{pmatrix}^{-1} \cdot \begin{pmatrix} 202,000 \\ 1745,000 \\ 3391,000 \end{pmatrix} = \begin{pmatrix} 4,000 \\ 5,000 \\ 6,000 \end{pmatrix} \quad (2)$$