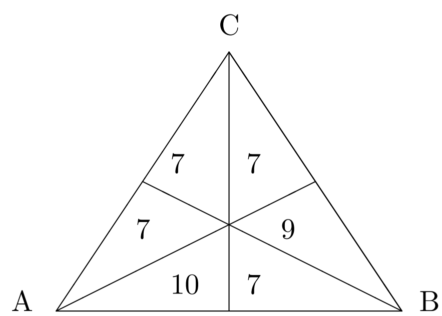
Place fundamental vectors $K, R_1, R_2, C_y, B_1, B_2$ in columns of matrix M.

$$M = \begin{bmatrix} 1 & 1 & 0 & 1 & 2 & 1 \\ 1 & 0 & 1 & 0 & 2 & 0 \\ 1 & 0 & 0 & 1 & 1 & 0 \\ 1 & 1 & 0 & 0 & 0 & 1 \\ 1 & 0 & 1 & 1 & 0 & 2 \\ 1 & 0 & 0 & 0 & 1 & 2 \end{bmatrix} \qquad M^{-1} = \frac{1}{6}\begin{bmatrix} -4 & 1 & 5 & 4 & -1 & 1 \\ 3 & 0 & -3 & 3 & 0 & -3 \\ 0 & 3 & -3 & 0 & 3 & -3 \\ 2 & -2 & 2 & -2 & 2 & -2 \\ 2 & 1 & -1 & -2 & -1 & 1 \\ 1 & -1 & -2 & -1 & 1 & 2 \end{bmatrix}$$

If $\vec{\mathbf{p}}$ is a profile in the standard coordinates, then $M^{-1}\vec{\mathbf{p}}$ gives the decomposition in terms of the fundamental vectors.

For example, if

$\vec{\mathbf{p}} =$



$$= \begin{bmatrix} 10 \\ 7 \\ 7 \\ 7 \\ 9 \\ 7 \end{bmatrix}$$

Then the decomposition in terms of the fundamental vectors is

$$M^{-1}\vec{\mathbf{p}} = \frac{1}{6}\begin{bmatrix} -4 & 1 & 5 & 4 & -1 & 1 \\ 3 & 0 & -3 & 3 & 0 & -3 \\ 0 & 3 & -3 & 0 & 3 & -3 \\ 2 & -2 & 2 & -2 & 2 & -2 \\ 2 & 1 & -1 & -2 & -1 & 1 \\ 1 & -1 & -2 & -1 & 1 & 2 \end{bmatrix}\begin{bmatrix} 10 \\ 7 \\ 7 \\ 7 \\ 9 \\ 7 \end{bmatrix} = \frac{1}{6}\begin{bmatrix} 28 \\ 9 \\ 6 \\ 10 \\ 4 \\ 5 \end{bmatrix}$$

$$= \frac{1}{6}(28K + 9R_1 + 6R_2 + 10C_y + 4B_1 + 5B_2)$$