

# Tutorial 6 - Eigenvalues and Eigenvectors

COMP1046 - Maths for Computer Scientists

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Question 1.

Find the eigenvalues, eigenvectors and eigenspaces for the endomorphism,  $f : \mathbb{R}^3 \rightarrow \mathbb{R}^3$ ,

$$f(x, y, z) = (2x + 3y - z, 4y + 2z, z - y).$$

Question 2.

Find the eigenvalues, eigenvectors and eigenspaces for the endomorphism,  $f : \mathbb{R}^4 \rightarrow \mathbb{R}^4$ ,

$$f(w, x, y, z) = (-2w - y, 4w + 2x - 2y + z, w, 4w + 4y + 2z).$$