"The Knowledge" FOR EXTRA PURE

The form of the complementary function given the roots of the auxiliary equation for a second order recurrence relation

How to change your trial function for a recurrence relation if the natural choice appears in the complementary function

The equation satisfied by an eigenvector and its corresponding eigenvalue

The eigenvalues for a matrix representing a reflection, and the geometrical significance of its eigenvectors

The eigenvalues for a matrix representing a rotation, and the geometrical significance of its eigenvectors

The result for diagonalising a matrix

The definition of the characteristic equation

The Cayley-Hamilton theorem

The criteria for $(G, *)$ to be a group

The definition of an Abelian group

The definition of a cyclic group

Lagrange's theorem

The meaning of a section and of a contour of a surface

The meaning and significance of **grad** g