# Eigenvalues







can not be factored out, must be multiplied with identity matrix first





Note that must not be invertible, i.e. the determinant must be zero.





The determinant is calculated as 









Where , [trace(**M**)] and [determinant(**M**)] and = discriminant(**M**). If the discriminant of **M** < 0, the eigenvalues are complex in the form of two complex conjugates.

# Eigenvectors

# The development of discrete dynamical systems





 