

Anticommutator example

Show that

$$\{\Sigma_i, \Sigma_j\} = 2\delta_{ij}$$

where

$$\Sigma_i = \begin{pmatrix} \sigma_i & 0 \\ 0 & \sigma_i \end{pmatrix}$$

and σ_i are the Pauli spin matrices.

Notes on the Eigenmath script:

1. The Σ_i matrices are formed using the **kronecker** product.
2. The vector $\Sigma = (\Sigma_1, \Sigma_2, \Sigma_3)$ is defined so that **for** loops can be used.
3. Indices j and k are used instead of i and j to avoid overriding the imaginary unit i .

Eigenmath script