



Definition

An *orthonormal* (or *orthogonal*) matrix is a matrix whose columns are an orthonormal family of vectors.

Some authors call these *real orthogonal* or *unitary* matrices.

Notation

Let $A \in \mathbf{F}^{m \times n}$. Something something

$$AA^\top = I.$$

Characterizations

Proposition 1. *A matrix is orthonormal if and only if its transpose product with the matrix is the identity.*

Proposition 2. *A matrix is orthonormal if and only if its transpose is orthonormal.*

