



## Orthogonal Vectors

### 1 Why

### 2 Definition

Two vectors in an inner product space are *orthogonal* if their inner product is zero. An *orthogonal family of vectors* in an inner product space is a family of vectors for which distinct family members are orthogonal. An *orthonormal family of vectors* in an inner product space is a family of vectors with unit norm.

**Proposition 1.** *TODO: orthongal and nonzero can be made orthonormal.*